

FIRM FREQUENCY RESPONSE TENDER RULES AND STANDARD CONTRACT TERMS

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**(incorporating amendments made by the Secretary of State
and effective from 1 August 2014 under powers conferred by
sections 26, 37 and 64(8), (9) and (13) of the Energy Act 2013)**

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NATIONAL GRID ELECTRICITY TRANSMISSION plc

FIRM FREQUENCY RESPONSE **TENDER RULES** **AND** **STANDARD CONTRACT TERMS**

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INTRODUCTION TO FIRM FREQUENCY RESPONSE

Introduction

1. This is a general introduction to this **Document**. It includes a description of both dynamic and non-dynamic **Response**, a description of the service of **Firm Frequency Response**, and an explanation of how this **Document** interacts with the **Firm Frequency Response Agreements**.

Status of this Introduction

2. This introduction does not form part of this **Document** and therefore has no legally binding effect. This introduction may be updated by **National Grid** from time to time to reflect any amendments to this **Document** or **Firm Frequency Response Agreements**, or to correct any errors or inaccuracies which may be discovered.

Background to Response

3. **National Grid** has a statutory obligation to maintain **System Frequency** within $\pm 1\%$ of 50Hz, save in abnormal or exceptional circumstances. The **Frequency** is however normally controlled to within $\pm 0.4\%$ of the nominal value of 50Hz (i.e. 49.8 to 50.2 Hz). **System Frequency** is a continuously changing variable that is determined and controlled by the balance between **System Demand** and total **Generation**. If **Demand** is greater than **Generation** then the **Frequency** falls, while if **Generation** is greater than **Demand** then the **Frequency** rises. **National Grid** must therefore ensure that sufficient **Generation** and/or **Demand** is held in automatic readiness to respond to all credible **Frequency** change contingencies.
4. **Response** represents the ability of an **FFR Provider's** equipment to modify its **Active Power** in-feed to the **System** (or **Demand** presented to the **System**) in a time related manner to compensate for changes in **System Frequency**.
5. **National Grid** categorises **Response** as either dynamic or non-dynamic, depending on the precise delivery characteristics. **Response** is dynamic if there is some **Response** delivered for all **Frequency** variations within the normal operating range of 49.8 to 50.2 Hz. **Response** is non-dynamic if there is no **Response** delivered within the operating range 49.8 to 50.2 Hz but a step-change in **Plant** in-feed of **Response** at a defined **Frequency** point(s) - for example **Demand** reduction or **Generation** triggered by a low **Frequency Relay**.
6. Dynamic **Response** is generally delivered by a continuous fast-acting speed governor or **Frequency** control actions from **Generating Plant**. These mechanisms deliver continuous changes in **Active Power** output, in **Response** to second-by-second changes in **System Frequency**, in a direction which assists in the recovery to **Target Frequency**, by operating so as to provide **Rapid Response** and/or **Primary Response** and/or **Secondary Response** and/or **High Frequency Response**. These time related **Responses** are defined in the following manner:
 - (i) **Rapid Response**

The automatic increase in **Active Power** in **Response** to a decrease in **System Frequency**, which effectively increases with time over the period 0 to 5 seconds from the time of the **Frequency** change (and fully available by the latter) and which must be sustainable for at least a further 20 seconds.
 - (ii) **Primary Response**

The automatic increase in **Active Power** in **Response** to a decrease in **System Frequency**, which effectively increases with time over the period 0 to 10 seconds from the time of the **Frequency** change (and fully available by the latter) and which must be sustainable for at least a further 20 seconds. In the event of a **System** in-feed loss the **Primary Response** may be thought of as acting to contain the falling **Frequency**.

(iii) **Secondary Response**

The automatic increase in **Active Power in Response** to a decrease in **System Frequency**, which effectively increases with time over the period 0 to 30 seconds from the time of the **Frequency** change (and fully available by the latter) and which must be sustainable for at least a further 30 minutes. In the event of a **System** in-feed loss the **Secondary Response** may be thought of as acting to restore the **System Frequency** to within operational limits.

(iv) **High Frequency Response**

The automatic reduction in **Active Power in Response** to an increase in **System Frequency**, which effectively increases with time over the period 0 to 10 seconds from the time of the **Frequency** change (and fully available by the latter) and which must be maintained at no lesser reduction thereafter.

(v) **Rapid High Frequency Response**

The automatic reduction in **Active Power in Response** to an increase in the **System Frequency**, which effectively increases with time over the period 0 to 5 seconds from the time of the **Frequency** change (and fully available by the latter) and which must be maintained at no less reduction thereafter.

7. Non-dynamic **Response** is the automatic variation in **Generation** or **Demand in Response** to a pre-determined excursion in **System Frequency**, delivered from **FFR Providers** who can guarantee a firm variation in the level of **Generation** or **Demand** with the operation of one or more **Relays** selectable down to **Settlement Period** resolution. This support is typically required when there has been a sudden and significant mismatch between **Demand** and **Generation** causing the **System Frequency** to increase or decrease rapidly above or below 50Hz and sufficiently to trigger the operation of the **Relay(s)**, i.e. when the **System Frequency** transgresses the selected trip setting(s).

Firm Frequency Response

8. **Firm Frequency Response** is the firm availability of either dynamic or non-dynamic **Response** across pre-determined service windows. Typically, dynamic **Firm Frequency Response** will be provided from a **Production BM Unit** and non-dynamic **Firm Frequency Response** will be provided from **Non-Balancing Mechanism Participants**, although this will not always be the case. **Firm Frequency Response** is procured by **National Grid** using a weekly or monthly tendering process open to prospective service **FFR Providers** across **Great Britain**.

Overview of Structure

9. The structure of this **Document** and **Firm Frequency Response Agreements** is as follows:
- (a) **Overall Structure**
- This **Document** together with the **Firm Frequency Response Agreements** have been designed to create a straightforward and transparent contracting process.
- (b) **This Document**
- This **Document** is a single document incorporating terms of general application to all **FFR Providers**, as well as sections dealing with service delivery from **BM Units** and from **Non-Balancing Mechanism Participants**. This **Document** may be amended or re-issued by **National Grid** from time to time, and any amendment and re-issue of this **Document** shall generally supersede this **Document** and be incorporated in the existing **FFR Contract(s)** as between **National Grid** and that **FFR Provider**.
- (c) **Firm Frequency Response Agreements**
- The **Firm Frequency Response Agreement** gives contractual effect to the relevant provisions of this **Document** as between **National Grid** and the **FFR Provider** and also

contains the **Firm Frequency Response** service data specific to the **FFR Provider's FFR Units** (by reference to which **FFR Providers** submit **FFR Tenders** under this **Document**). Before a potential **FFR Provider** may submit an **FFR Tender** for the provision of **Firm Frequency Response** it shall first accede to the terms of this **Document** by entering into the **Firm Frequency Response Agreement**. There are two types of **Firm Frequency Response Agreement**, each designed for different types of service provider:

- **Balancing Mechanism Participants** delivering **Firm Frequency Response** from **BM Unit(s)** (which may itself have two separate variants, one for dynamic and the other for non-dynamic **Firm Frequency Response**); and
- **Non-Balancing Mechanism Participants** delivering **Firm Frequency Response** from **Plant** and/or **Apparatus** which has not been separately registered by the **FFR Provider** as a **BM Unit** (which may itself have two separate variants, one for dynamic and the other for non-dynamic **Firm Frequency Response**).

This **Document** and each **Firm Frequency Response Agreement** have been designed to apply to both **Firm Frequency Response** provided via an increase or decrease in **Generation** and **Firm Frequency Response** provided via an increase or reduction in **Demand**.

(d) **Acceptance/Rejection of FFR Tender**

After receipt of a **FFR Tender** and following the appropriate assessment period **National Grid** shall either accept or reject the same by issuing notifying the **FFR Provider** of the same. The issuing of an **FFR Tender Acceptance** will constitute a legally binding contract between the **FFR Provider** and **National Grid** for provision by the **FFR Provider** of **Firm Frequency Response**.

SECTION 1 APPLICABILITY OF SECTIONS AND FIRM FREQUENCY RESPONSE AGREEMENTS

1.1 INTRODUCTION

- 1.1.1 This **Document** is divided into different sections, including sections dealing specifically with **Firm Frequency Response** provided from **BM Units** and **Firm Frequency Response** provided by **Non-Balancing Mechanism Participants**, and other sections of more general application.
- 1.1.2 Section 2 sets out the basis upon which **FFR Providers** may tender terms for the provision of **Firm Frequency Response**, and successful tenders will result in a contract for the provision of **Firm Frequency Response** upon the terms set out in the applicable sections of this **Document** and the relevant **Firm Frequency Response Agreement**.
- 1.1.3 Section 3 sets out the terms for provision of dynamic **Firm Frequency Response** where the **FFR Provider** provides **Firm Frequency Response** from **Generating Unit(s)** comprised within **Production BM Unit(s)**, which it has established and registered as such under and in accordance with the **Balancing and Settlement Code**.
- 1.1.4 Section 3A sets out the terms for provision of non-dynamic **Firm Frequency Response** from **Generating Unit(s)** comprised within **Production BM Unit(s)**, which it has established and registered as such under and in accordance with the **Balancing and Settlement Code**.
- 1.1.5 Section 4 sets out the terms for provision of non-dynamic **Firm Frequency Response** from **Non-Balancing Mechanism Participants**.
- 1.1.6 Section 4A sets out the terms for provision of dynamic **Firm Frequency Response** from **Non-Balancing Mechanism Participants**.
- 1.1.7 Section 5 contains general provisions applicable to all providers of **Firm Frequency Response**, whether dynamic or non-dynamic.
- 1.1.8 Section 6 contains defined terms used throughout this **Document**.
- 1.1.9 Finally, Section 7 contains the provisions with respect to **FFR-Pre-Qualification Assessments** and **Reproving Tests**, applicable to both **BM Units** and **Sites**.

1.2 CHANGES TO THIS DOCUMENT

Outline Change Proposal

- 1.2.1 This **Document** shall be reviewed by **National Grid** from time to time, and (without prejudice to sub-paragraph 1.2.22) where at any time **National Grid** wishes to propose one or more amendments to this **Document** then it may at its sole discretion do so by formulating an **Outline Change Proposal**. Each **Outline Change Proposal** shall describe in reasonable but not excessive detail all such amendments and shall specify a single **Proposed Implementation Date**, save that insofar as any such amendments are required as a result of a **Proposed Legal Requirement** or a **Change in Law** then each of such amendments shall be the subject of a separate **Outline Change Proposal**.
- 1.2.2 The contents of an **Outline Change Proposal** shall include without limitation:-
 - (a) the rationale for the amendment(s), including whether or not required as a result of a **Proposed Legal Requirement** or a **Change in Law**;
 - (b) if applicable, details of the **Proposed Legal Requirement** or **Change in Law**; and
 - (c) the **Proposed Implementation Date**.

- 1.2.3 Each **Outline Change Proposal** shall be notified by **National Grid** to all **FFR Providers** in writing.

Comments from FFR Providers

- 1.2.4 **National Grid** shall give all **FFR Providers** a reasonable opportunity and, in any event, not less than 20 **Business Days**, to review and provide **National Grid** with written comments on each **Outline Change Proposal**. **National Grid** shall consider in good faith any written comments submitted by the **FFR Provider** pursuant to this sub-paragraph 1.2.4 and shall, insofar as is reasonably practicable, address such comments in any subsequent **Detailed Change Proposal**.

Withdrawal, Modification and Implementation of Outline Change Proposals

- 1.2.5 Not earlier than the date for receipt of comments from **FFR Providers** specified in sub-paragraph 1.2.4, **National Grid** may, at its sole discretion and having regard to written comments submitted by **FFR Providers**, notify **FFR Providers** in writing of its decision either to:-

- (a) withdraw the **Outline Change Proposal**, which shall be effective upon written notice of the same to all **FFR Providers**; or
- (b) modify the **Outline Change Proposal**, whereupon sub-paragraphs 1.2.2 to 1.2.4 inclusive, and this sub-paragraph 1.2.5, shall apply mutatis mutandis to such modified **Outline Change Proposal**; or
- (c) implement the **Outline Change Proposal** (including any modification thereto pursuant to sub-paragraph (b) above), whereupon the provisions of sub-paragraph 1.2.6 shall apply,

provided always that where **National Grid** fails to take any of the steps outlined above by the date which is 40 **Business Days** after the date of notification of the **Outline Change Proposal** then the same shall be deemed to have been withdrawn with immediate effect.

Detailed Change Proposals

- 1.2.6 If **National Grid** decides to implement an **Outline Change Proposal** (including any modification thereto pursuant to sub-paragraph 1.2.5(b)), then it shall formulate a **Detailed Change Proposal**. Each **Detailed Change Proposal** shall specify a **Final Implementation Date** and shall be accompanied by a copy of this **Document** with the amendments specified in the **Detailed Change Proposal** incorporated.

- 1.2.7 Each **Detailed Change Proposal** shall be notified by **National Grid** to all **FFR Providers** in writing as soon as reasonably practicable and in any event within 20 **Business Days** of notification by **National Grid** pursuant to sub-paragraph 1.2.5(c) of implementation of the **Outline Change Proposal**.

- 1.2.8 Amendments to this **Document** set out in a **Detailed Change Proposal** notified by **National Grid** to **FFR Providers** pursuant to sub-paragraph 1.2.7 shall become effective from the **Final Implementation Date**, whereupon this **Document** as so amended shall automatically be incorporated into each **Firm Frequency Response Agreement** in accordance with (and subject to) sub-paragraph 1.3.3 so as to apply (as may be amended in the future pursuant to this paragraph 1.2) to all subsequent **FFR Tenders** and to all **FFR Contracts** then subsisting, subject always to:-

- (a) all and any accrued rights and liabilities of **National Grid** and **FFR Providers** hereunder and all and any rights and remedies they may have, in each case with respect to **Periods** prior to the **Proposed Implementation Date**; and
- (b) sub-paragraphs 1.2.13, 1.2.15 and 1.2.21.

- 1.2.9 On each occasion that this **Document** is amended in accordance with the foregoing provisions, **National Grid** shall on or before the **Final Implementation Date** publish this **Document** as so amended on the **Industry Information Website** and shall identify the same by issue number and date of publication.

Affected FFR Providers

- 1.2.10 With respect to a **Detailed Change Proposal**, each and any **Affected FFR Provider** may, no later than 15 **Business Days** after notification by **National Grid** of that **Detailed Change Proposal**, elect by notice in writing to **National Grid**, and subject always to sub-paragraph 1.2.11, to either:-
- (a) reject the application of such amendments to each of such **Affected FFR Contracts** provided that such rejection is accompanied by a statement of the reason why, in the reasonable opinion of the **Affected FFR Provider**, such rejection is being made; or
 - (b) where the **Affected FFR Provider** is of the reasonable opinion that the net cost to it of providing **Firm Frequency Response** and/or complying with such **Affected FFR Contract(s)** has increased as a result of such amendments, seek an increase to any or all of the **Contract Prices** in respect of each of such **Affected FFR Contracts**.
- 1.2.11 With respect to any **Detailed Change Proposal** required as a result of a **Proposed Legal Requirement** or a **Change in Law**, the **Affected FFR Provider** may not make an election pursuant to sub-paragraph 1.2.10(a), and furthermore may only make an election pursuant to sub-paragraph 1.2.10(b) if the amendments are required as a result of a **Qualifying Change in Law**, provided always that where the **Affected FFR Provider** disputes that such amendments are required as a result of a **Proposed Legal Requirement** or a **Change in Law** (including a **Qualifying Change in Law**) then it may, within the period of 15 **Business Days** specified in sub-paragraph 1.2.10, refer the matter to **Expert Determination**.
- 1.2.12 Each notice of election by an **Affected FFR Provider** pursuant to sub-paragraph 1.2.10(a) or (b) shall be accompanied by a full and detailed justification.

Rejection of Certain Detailed Change Proposals to Subsisting FFR Contracts

- 1.2.13 Within 20 **Business Days** of receipt by **National Grid** of the **Affected FFR Provider's** notice pursuant to sub-paragraph 1.2.10(a) of its election to reject the application of amendments to this **Document** to the **Affected FFR Contract(s)**, **National Grid** and the **Affected FFR Provider** shall negotiate in good faith amendments to the **Firm Frequency Response Agreement** by way of **Special Condition(s)** in order to negate the impact of the amendments set out in the **Detailed Change Proposal** with respect to each **Affected FFR Contract(s)**, such that the **Affected FFR Provider** is in no better and no worse position after the coming into effect of the **Detailed Change Proposal** than it would have been in had such **Detailed Change Proposal** not come into effect.
- 1.2.14 If by the expiry of such period of 20 **Business Days** **National Grid** and the **Affected FFR Provider** have been unable to reach agreement as to the amendments to the **Firm Frequency Response Agreement** contemplated in sub-paragraph 1.2.13, then either of them may, with the written consent of the other, refer the matter or matters in dispute to **Expert Determination**.
- 1.2.15 Until such time as such amendments to the **Firm Frequency Response Agreement** are agreed or determined (as the case may be), and notwithstanding sub-paragraph 1.2.8, unless otherwise agreed between **National Grid** and the **Affected FFR Provider**, this **Document** (as may subsequently be amended from time to time) shall be deemed incorporated into the **Affected FFR Provider's Firm Frequency Response Agreement** but on the basis that the amendments set out in the relevant **Detailed Change Proposal** shall not apply to the **Affected FFR Contract(s)**.

Increase in Contract Prices

- 1.2.16 Within 20 **Business Days** of receipt by **National Grid** of the **Affected FFR Provider**'s notice pursuant to sub-paragraph 1.2.10(b) of its intention to seek an increase to **Contract Prices**, **National Grid** and the **Affected FFR Provider** shall negotiate in good faith an increase to the **Contract Prices** (or any them) in respect of each **Affected FFR Contract** so as to reflect any increase in net cost demonstrated by the **Affected FFR Provider** to **National Grid**'s reasonable satisfaction and taking into account sub-paragraphs 1.2.17 and 1.2.18 (and for such purpose the **Affected FFR Provider** shall provide to **National Grid** all such evidence as it may reasonably require).
- 1.2.17 The **Affected FFR Provider** shall take all reasonable steps to minimise any such increase in net costs arising from such **Detailed Change Proposal**.
- 1.2.18 The **Contract Prices** or any of them as agreed or determined to be increased pursuant to sub-paragraphs 1.2.16 and 1.2.19 (as the case may be) shall only be effective from the **Final Implementation Date** of the **Detailed Change Proposal**.
- 1.2.19 If by the expiry of the period of 20 **Business Days** referred to in sub-paragraph 1.2.16 **National Grid** and the **Affected FFR Provider** have been unable to agree an increase to the **Contract Prices** contemplated by sub-paragraph 1.2.16, then the **Affected FFR Provider** may either:
- (a) may following not less than 5 **Business Days**' notice in writing to the other, refer the matter or matters in dispute to **Expert Determination**; or
 - (b) where such **Detailed Change Proposal** is not required as a result of a **Qualifying Change in Law**, reject the application of such amendments to this **Document** to the **Affected FFR Contract(s)** by written notice to **National Grid** whereupon the provisions of sub-paragraphs 1.2.13, 1.2.14 and 1.2.15 shall apply mutatis mutandis.
- 1.2.20 **National Grid** may at its sole discretion modify a **Detailed Change Proposal** that is required as a result of a **Proposed Legal Requirement** at any time prior to the coming into effect of the **Change in Law**, provided that:-
- (a) such **Detailed Change Proposal** shall only be amended to the extent that and insofar as is necessary to give effect to any change to the **Proposed Legal Requirement** which comes to **National Grid**'s attention; and
 - (b) insofar as the **Affected FFR Provider** notified **National Grid** pursuant to sub-paragraph 1.2.10(b) of its election to seek an increase to the **Contract Prices**, the **Affected FFR Provider** shall have a further opportunity to do so to take account of any further increase in its net costs referred to therein resulting from the modification to the **Detailed Change Proposal**, provided always that such notice is received by **National Grid** no later than 5 **Business Days** after notification by **National Grid** of the modified **Detailed Change Proposal**.
- 1.2.21 Without prejudice to any provision of this paragraph 1.2, **National Grid** may, at its sole discretion and at any time prior to the latter of (i) the relevant **Final Implementation Date** or, (ii) where sub-paragraphs 1.2.11, 1.2.14 or 1.2.19 apply, the date being 5 **Business Days** after the date of the **Expert**'s written decision, withdraw a **Detailed Change Proposal** by notice in writing to the **FFR Provider**, whereupon the same shall be of no effect and:-
- (a) the **Firm Frequency Response Agreement** of each **Affected FFR Provider** shall be amended so as to remove any **Special Condition(s)** agreed between the **Parties** pursuant to sub-paragraph 1.2.13 in respect of such **Detailed Change Proposal**; or

- (b) any increase in **Contract Prices** agreed or determined pursuant to sub-paragraphs 1.2.16 and 1.2.19 (as the case may be) shall be of no effect and the **Contract Prices** stated in the **Affected FFR Contracts** shall continue to apply.

1.2.22 Nothing in this paragraph 1.2 shall preclude **National Grid** and all other **Parties** at the relevant time from agreeing changes to this **Document** at any time and from time to time otherwise than in accordance with this paragraph 1.2.

1.3 **FIRM FREQUENCY RESPONSE AGREEMENTS**

1.3.1 If the prospective **FFR Provider** wishes to provide **Firm Frequency Response** to **National Grid** from any **FFR Unit(s)**, it may seek to agree the terms of, and enter into, a **Firm Frequency Response Agreement** with **National Grid** in respect of such **FFR Unit(s)** in order to accede to the terms of this **Document**.

1.3.2 By entering into the **Firm Frequency Response Agreement** the **FFR Provider** will, subject always to sub-paragraphs 1.3.5, 1.3.6 and 1.3.7, be permitted to submit **FFR Tender(s)** with respect to such **FFR Unit(s)** for such **Periods** as specified by **National Grid** from time to time.

1.3.3 Each **Firm Frequency Response Agreement** shall, as between **National Grid** and the **FFR Provider**, give contractual effect to this **Document** (as amended from time to time subject to and in accordance with sub-paragraph 1.2) and the provisions of this **Document** shall be deemed to be incorporated therein, save that **National Grid** and the **FFR Provider** may agree, by way of **Special Condition(s)**, to modify, disapply and/or supplement any provision of this **Document** where necessary to accommodate unit specific or **Site** specific technical requirements or as otherwise contemplated by this **Document**, and this **Document** shall be read and construed accordingly.

1.3.4 The terms of the **Firm Frequency Response Agreement** shall remain in force until terminated either:-

- (a) by either or both **Parties** in accordance with this **Document**; or
- (b) in accordance with the terms of the **Firm Frequency Response Agreement**.

1.3.5 Where the provision of **Firm Frequency Response** from any **FFR Unit** is dependent on the carrying out of works to such **FFR Unit**, then the **FFR Provider** may not submit an **FFR Tender** with respect thereto unless and until either the **FFR Provider** shall have agreed the terms of and entered into with **National Grid** a **Firm Frequency Response Agreement** containing the **Mandatory Works Provisions**, or as the case may be an existing **Firm Frequency Response Agreement** shall have been amended in terms to be agreed so as to include the **Mandatory Works Provisions**.

1.3.6 Any **FFR Provider** wishing to submit a **Short Term Monthly Tender** with a **Tendered Service Term** in excess of twelve months comprising a basis for indexation of any or all of the **Contract Prices** must first agree the terms of and enter into with **National Grid** a **Firm Frequency Response Agreement** containing such indexation methodology, or as the case may be an existing **Firm Frequency Response Agreement** shall be amended in terms to be agreed so as to include such indexation methodology.

1.3.7 For the avoidance of doubt, nothing in this **Document** shall create any rights and/or obligations as between two or more **FFR Providers**.

SECTION 2 TENDER RULES

2.1 INTRODUCTION

This Section 2 describes the tendering process by which **National Grid** will procure **Firm Frequency Response** from prospective **FFR Providers**. Only if an **FFR Tender** submitted pursuant to this process is accepted by **National Grid** (or where the context otherwise requires) will the provisions of Section 3, Section 3A, Section 4 or Section 4A (as the case may be) and the remainder of this **Document** apply with respect to the provision of and payment for **Firm Frequency Response** in relation to the **Contracted FFR Unit** in question.

2.2 FFR PRE-QUALIFICATION ASSESSMENT AND REPROVING TESTS

2.2.1 It shall be a pre-condition to participating in any tender process described in this Section 2 that, at the time of submission of an **FFR Tender** and in respect of the **FFR Unit** in question, there subsists a **Firm Frequency Response Agreement** between **National Grid** and the **FFR Provider** relating to that **FFR Unit** and, that, where applicable, that **Firm Frequency Response Agreement** contains the **Mandatory Works Provisions** and indexation methodology as referred to respectively in sub-paragraph 1.3.5 and 1.3.6. It shall be a further pre-condition to participating in any **FFR Tender** in respect of **Additional Response**, that the **Firm Frequency Response Agreement** must be amended to reflect the **Additional Response**, including the methodology to be applied for the calculation of deductions from payments in the event of under-delivery.

2.2.2 Save to the extent the subject of **Mandatory Works Provisions**, **National Grid** shall not enter into a **Firm Frequency Response Agreement** with respect to any **FFR Unit** and/or other **Plant** or **Apparatus** unless that **FFR Unit** and/or other **Plant** or **Apparatus** complies with each of the following mandatory requirements with respect to **Firm Frequency Response**:-

- (a) the capability (demonstrable to **National Grid**'s reasonable satisfaction) to provide **Response** of at least 10MW or, from and including 1st April 2017, the capability (demonstrable to **National Grid**'s reasonable satisfaction) to provide **Response** of at least 1MW (or as may otherwise be advised by **National Grid** from time to time);
- (b) for dynamic **Firm Frequency Response**, the capability to operate in a **Frequency Sensitive Mode** so as to provide **Response** within the **Rapid Response** and/or **Primary Response** and/or **Secondary Response** and/or **High Frequency Response** and/or **Rapid High Frequency Response** timescales;
- (c) for non-dynamic **Firm Frequency Response**, the availability of a constant level of **Demand** or **Generation** and the capability to provide **Response** by automatic operation of a **Relay** following the relevant **Frequency** excursion; and
- (d) for both dynamic and non-dynamic **Firm Frequency Response**, the availability of metering and/or monitoring facilities reasonably acceptable to **National Grid**.

2.2.3 A single **FFR Unit** may comprise two or more **Sites** located (unless otherwise agreed by **National Grid**) at the same **Premises** which together meet the mandatory requirements set out in sub-paragraph 2.2.2 provided that **National Grid** is able to instruct and receive **Firm Frequency Response** in accordance with this **Document** via a single point of contact and control.

2.2.4 For the purposes of verifying compliance with sub-paragraphs 2.2.2 and 2.2.3, and with respect to any **FFR Unit**, **National Grid** reserves the right to require any prospective **FFR Provider** (other than a person to which sub-paragraph 1.3.5 applies) wishing to enter into a **Firm Frequency Response Agreement** or wishing to amend a **Firm Frequency Response Agreement** in order to increase the specified capability of any **FFR Unit** to provide **Response** to submit to (at its own cost), and pass, an **FFR Pre-Qualification Assessment**, and in respect thereof the provisions of paragraphs 7.2 and 7.4 shall apply.

- 2.2.5 Furthermore, with respect to any **FFR Unit** which is the subject of a **Firm Frequency Response Agreement**, and for the purposes of verifying continued compliance with sub-paragraphs 2.2.2 and 2.2.3, **National Grid** reserves the right at any time during the subsistence of that **Firm Frequency Response Agreement** to require the party thereto to submit to (at its own cost) a **Reproving Test** with respect to that **FFR Unit** and in respect thereof the provisions of paragraphs 7.3 and 7.4 shall apply. Failure to submit to, or pass, such **Reproving Test** shall entitle **National Grid** to terminate that **Firm Frequency Response Agreement** in respect of that **FFR Unit** in accordance with sub-paragraph 5.4.3(c).

2.3 **FFR TENDERS**

- 2.3.1 Subject to and in accordance with the following provisions of this paragraph 2.3 and the **FFR Tender Procedure**, an **FFR Provider** may submit an **FFR Tender** by specifying:-

- (a) the identity of the **Tendered FFR Unit** (including from 1st April 2017, where not already provided in a **Firm Frequency Response Agreement**, the related meter point administration number (if available));
- (b) the **Tendered Service Term**;
- (c) the **Tendered Frames**, which may be different for **Working Days**, Saturdays and Sundays/**Bank Holidays**;
- (d) the **Tendered Prices**;
- (e) whether the **Window Revision Facility** is available;
- (f) any **Utilisation Restrictions**;
- (g) where applicable, the identity of, and other details in respect of, any agent appointed or to be appointed under and in accordance with paragraph 5.16 (save to the extent already specified in the relevant **Firm Frequency Response Agreement**);
- (h) whether any of its obligations are to be performed by an **FFR Provider's Agent**;
- (i) where the **FFR Tender** is for dynamic **Firm Frequency Response** set out in Section 3:-
 - (i) a **Minimum MEL** and **Maximum SEL**;
 - (ii) a **Part Load Point** range within the band defined by the **Minimum MEL** and **Maximum SEL**, shown by a **Maximum Part Load Point** and a **Minimum Part Load Point** (which for the avoidance of doubt may be equal so as to infer a single **Part Load Point**);
 - (iii) the applicable **FFR Capability Data Tables** which, in the case of an **FFR Tender** for **Additional Response**, shall provide aggregated data for the **Initial Response** and the **Additional Response**. If the **Tendered Service Term** for the **Additional Response** exceeds the **FFR Contracted Service Term** for the **Initial Response**, the **FFR Provider** shall also provide the **FFR Capability Data Tables** in respect of the **Additional Response** only;
 - (iv) any period(s) in that **Tendered Service Term** in respect of which, in order to provide such **Firm Frequency Response**, the **FFR Provider** would need to apply for additional **Transmission Entry Capacity** and/or **STTEC** and/or **LDTEC** for the relevant **Connection Site** pursuant to sub-paragraph 3.4.6, together with the amount (in MW) of such additional capacity;

- (v) whether or not **Firm Frequency Response** from the **Tendered FFR Unit** is to be treated at all times during that **Tendered Service Term** as an **Applicable Balancing Service** in accordance with the **ABSVD Methodology Statement** and Section Q.6.4 of the **Balancing and Settlement Code**;
 - (j) where the **FFR Tender** is for non-dynamic **Firm Frequency Response** set out in Section 3A:-
 - (i) whether or not **Firm Frequency Response** from the **Tendered FFR Unit** is to be treated at all times during that **Tendered Service Term** as an **Applicable Balancing Service** in accordance with the **ABSVD Methodology Statement** and Section Q.6.4 of the **Balancing and Settlement Code**; and
 - (ii) a single **Pre-Set Level**;
 - (k) where the **FFR Tender** is for provision of non-dynamic **Firm Frequency Response** set out in Section 4, a single **Pre-Set Level**;
 - (l) where the **FFR Tender** is for provision of dynamic **Firm Frequency Response** set out in Section 4A:-
 - (i) the applicable **FFR Capability Data Tables**; and
 - (ii) whether the **Automatic Nomination Facility** is made available;
 - (m) such other data and information as may be specified from time to time in the **FFR Tender Procedure** or in any **Firm Frequency Response Agreement**,
- together the “**Tendered Service Parameters**”.

2.3.2 An **FFR Tender** shall be submitted:-

- (a) in the case of **Weekly Tenders**, by no later than 16.00 hours on the Tuesday immediately preceding the commencement of the **Tendered Service Week**; or
- (b) in the case of **Monthly Tenders**, by no later than the first **Business Day** of the calendar month immediately preceding commencement of the first **Tendered Service Month**.

2.3.3 An **FFR Provider** may:

- (a) submit more than one **FFR Tender** in respect of the same **FFR Unit** where the **Tendered Service Terms** in respect of some or all of such **FFR Tenders** overlap, provided that where such **FFR Tenders** are mutually exclusive the **FFR Provider** shall submit them separately and **National Grid** may only accept one such **FFR Tender** in respect of the **FFR Unit** in question; or
- (b) submit an **FFR Tender** for **Additional Response** in respect of a **Contracted FFR Unit** provided that:
 - (i) the **Tendered Service Parameters** pursuant to sub-paragraph 2.3 for the **Additional Response** shall be the same as the **Tendered Service Parameters** specified for the **Initial Response**, other than the amount of **Response**, **Tendered Prices**, the **FFR Capability Data Tables** and the **Tendered Service Term**; and
 - (ii) where, in the sole judgement of **National Grid**, an **FFR Tender** in respect of **Additional Response** does not comply with the provisions of

sub-paragraph 2.3.3(b)(i), that **FFR Tender** shall be a non-compliant tender and the provisions of sub-paragraph 2.3.8 shall apply.

2.3.4 By submitting an **FFR Tender**, each **FFR Provider** hereby warrants and undertakes to **National Grid** that:-

- (a) with respect to any **Tendered FFR Unit**, at the time of submission of the **FFR Tender** there are no existing or anticipated restrictions in any **Connection Agreement** and/or agreement for the supply of electricity to that **Tendered FFR Unit** and/or for the acceptance of electricity into, and its delivery from, that **Tendered FFR Unit** which would cause the **FFR Provider** to breach at any time during the **Tendered Service Term** the warranty in sub-paragraphs 3.11.1, 3A.11.1, 4.11.1 or 4A11.1 (as applicable); and
- (b) it has neither fixed nor adjusted the **Tendered Prices** under or in accordance with any agreement or arrangement with any other person, and that it has neither communicated to a person (other than its professional advisers) the amount or approximate amount of the **Tendered Prices** (other than in confidence in order to obtain quotations necessary for insurance purposes) nor entered into any agreement or arrangement with any other person to restrain that other person from tendering or to fix or adjust the **Tendered Prices** to be submitted by that other person; and
- (c) where, with respect to any **Tendered FFR Unit** which is a **BM Unit**, it has indicated in the **FFR Tender** that **Firm Frequency Response** is either to be treated, or as the case may be not to be treated, as an **Applicable Balancing Service** for the purposes of the **ABSVD Methodology Statement** and Section Q.6.4 of the **Balancing and Settlement Code**, then if that **FFR Tender** is accepted by **National Grid** in accordance with this Section 2 the **FFR Provider** shall promptly take or desist from taking all actions necessary (without limitation as required by and in accordance with the **ABSVD Methodology Statement**) to ensure that, in accordance with the **FFR Tender**, **Firm Frequency Response** from the **Tendered FFR Unit** is treated, or as the case may be not to be treated, at all times during the **Tendered Service Term** as an **Applicable Balancing Service** for such purpose,

and each **FFR Provider** indemnifies **National Grid** from and against any losses, liabilities, claims, expenses and **Demands** which **National Grid** might suffer as a result of the **FFR Provider** being in breach of any warranty and/or undertaking set out in this sub-paragraph 2.3.4.

2.3.5 An **FFR Provider** may withdraw an **FFR Tender** submitted under sub-paragraph 2.3.1 at any time prior to receiving written notification from **National Grid** confirming the acceptance of such **FFR Tender** pursuant to sub-paragraph 2.5.1. Such withdrawal shall only be effective where sent by first class prepaid post, e-mail or facsimile to **National Grid** at the address, facsimile number or e-mail address stated in the **Firm Frequency Response Agreement** to be received by no later than 11:00 hours on the **Business Day** on which such withdrawal is to be effective. Where such withdrawal is received after 11:00 hours on a **Business Day** or on any day other than a **Business Day** it shall not be effective until 09:00 hours on the next following **Business Day**. **National Grid** may accept an **FFR Tender** at any time until a withdrawal is effective.

2.3.6 All **FFR Tenders** shall:-

- (a) be fully compliant (without any qualification) with the requirements of this **Document**;

- (b) not be accompanied by statements that could be construed by **National Grid** as rendering the **FFR Tender** equivocal and/or prevent its evaluation on an equal basis with other **FFR Tenders**; and
 - (c) subject always to sub-paragraph 2.3.6(a), be submitted by the methods or methods prescribed in the **FFR Tender Procedure** to be received on or by no later than 17.00 hours on the date specified in sub-paragraph 2.3.2 (as the case may be).
- 2.3.7 Notwithstanding sub-paragraph 2.3.6(c), **National Grid** may at any time and by notice in writing to **FFR Providers** on its **Industry Information Website**, prescribe one or more additional or an alternative **FFR Tender Procedure**.
- 2.3.8 If, in the sole judgment of **National Grid**, an **FFR Provider** has failed to submit a compliant **FFR Tender**, **National Grid** reserves the right to:-
- (a) accept that **FFR Tender**; or
 - (b) disqualify that **FFR Tender**; and/or
 - (c) take any other action as it deems appropriate in the circumstances including requesting the **FFR Provider** to amend any information set out in the **FFR Tender** (but not the prices) and resubmit a non-compliant **FFR Tender** so that it is made compliant.
- National Grid**'s decision as to whether or not an **FFR Tender** is compliant shall be final, and the **FFR Provider** may be notified of its decision without prior consultation or explanation.
- 2.3.9 If there are any amendments and/or additions which **FFR Providers** require to be made to Section 3, Section 3A, Section 4 or Section 4A (as the case may be) and/or Section 5, Section 6 and Section 7 of this **Document** and/or the **Pro-Forma Sheets** as a condition of **National Grid**'s acceptance of an **FFR Tender**, these shall be indicated either on a separate sheet or by annotation on a copy of this **Document** or as may otherwise be prescribed by the **FFR Tender Procedure**, and in each case shall accompany the **FFR Tender**.
- 2.3.10 As a condition of accepting any **FFR Tender**, **National Grid** reserves the right at its sole discretion to require amendments and/or additions to Section 3, Section 3A, Section 4 or Section 4A (as the case may be) and/or Section 5, Section 6 and Section 7 of this **Document** and/or the **Pro-Forma Sheets** including without limitation where necessary and/or desirable to take account of or otherwise reflect the technical or other conditions or features of the tendered **FFR Unit**.
- 2.3.11 Amendments and/or additions to Section 3, Section 3A, Section 4 or Section 4A (as the case may be) and/or Section 5, Section 6, and Section 7 of this **Document** or as may be prescribed by the **FFR Tender Procedure**, either indicated by an **FFR Provider** pursuant to sub-paragraph 2.3.9 or required by **National Grid** pursuant to sub-paragraph 2.3.10, shall be incorporated into the relevant **FFR Contract(s)** by way of the inclusion of such amendments and/or additions as **Special Conditions** in Appendix 2 of the relevant **Firm Frequency Response Agreement**, and for the avoidance of doubt such amendments and/or additions shall have effect only with respect to the **FFR Tender** in question, and for the avoidance of doubt shall not thereby be incorporated into the **FFR Contract** between **National Grid** and any other **FFR Provider**.
- 2.3.12 If any further information is required to assist with the preparation of an **FFR Tender**, the **FFR Provider** should request this information from **National Grid**. **National Grid** may consider it necessary to copy any further information given in **Response** to specific enquiries to all other **FFR Providers**. No further information will be issued by **National Grid** after the dates specified in sub-paragraph 2.3.2.

- 2.3.13 No costs or expenses incurred by **FFR Providers** in the course of preparing and/or submitting any **FFR Tender** shall be paid by **National Grid**.
- 2.3.14 The contents of each **FFR Tender** shall be treated as private and confidential. **FFR Providers** must not divulge or release details of the **FFR Tender** to any third party, other than on an “in confidence” basis to those **Parties** having a legitimate need to know, or whom they need to consult for the purpose of preparing a tender.

2.4 TENDER ASSESSMENT

- 2.4.1 As soon as reasonably practicable following receipt of the **FFR Tender**, **National Grid** may request that the **FFR Provider** provides clarification with regard to any one or more items of information contained in the **FFR Tender** for the purpose of enabling **National Grid** to assess that **FFR Tender**, and the **FFR Provider** shall provide such clarification in a timely manner.
- 2.4.2 When assessing **FFR Tenders**, **National Grid** shall take account (in no particular order) of the **Tender Assessment Principles**.
- 2.4.3 Without limiting the generality of sub-paragraph 2.4.2, **National Grid** may decide to reject an **FFR Tender** in the circumstances described in sub-paragraphs 3.12.4, 3A.12.4, 4.12.4 and 4A.12.4.

2.5 ACCEPTANCE AND REJECTION

- 2.5.1 No later than the respective time and date specified in sub-paragraph 2.5.2, **National Grid** shall notify in writing each **FFR Provider** who has submitted an **FFR Tender** whether that **FFR Tender** has been accepted or rejected. **National Grid**'s decision shall be final and binding. Failing such notification by such date **National Grid** shall be deemed to have rejected the **FFR Tender** concerned.
- 2.5.2 For the purposes of sub-paragraph 2.5.1, the respective time and date shall be:-
- (a) in the case of **Weekly Tenders**, 16.00 hours on the Thursday immediately preceding commencement of the **Tendered Service Week**; and
 - (b) in the case of **Monthly Tenders**, the twelfth **Business Day** of the calendar month immediately preceding commencement of the first **Tendered Service Month**.
- 2.5.3 Subject to sub-paragraph 2.5.5, acceptance by **National Grid** of each **FFR Tender** shall constitute formation of a **FFR Contract** in relation to each applicable tendered **FFR Unit** or **Site**, which shall be personal to the **FFR Provider** and may not be assigned otherwise than in accordance with paragraph 5.5 without the consent of **National Grid** (not to be unreasonably withheld or delayed).
- 2.5.4 Upon notification by **National Grid** to the **FFR Provider** of acceptance of the **FFR Tender** in respect of any **Contracted FFR Unit** or **Site** in accordance with sub-paragraph 2.5.3, for the duration of the **Tendered Service Term**:-
- (a) where applicable, the provisions of Section 3 and Section 3A (as the case may be) shall apply in respect of that **Contracted FFR Unit** (and/or, where applicable in accordance with sub-paragraphs 3.8 and 3A.8, any **FFR Contracted Unit** nominated as a substitute thereof); and
 - (b) where applicable, the provisions of Section 4 and Section 4A (as the case may be) shall apply in respect of that **Site** (and/or, where applicable in accordance with sub-paragraphs 4.8 and 4A.8, any **FFR Contracted Unit** nominated as a substitute thereof).

- 2.5.5 Where **National Grid** has accepted an **FFR Tender** in respect of a **Contracted FFR Unit** which is the subject of **Mandatory Works Provisions**, such acceptance shall be conditional upon such **Contracted FFR Unit** successfully completing and commissioning in accordance with such **Mandatory Works Provisions** no later than the **Target Commencement Date** with respect to such **FFR Tender**, provided always that **National Grid** may waive such condition pursuant to paragraph 5.7 of this **Document** and furthermore such acceptance shall be subject to withdrawal by **National Grid** upon the terms (if any) set out in the **Firm Frequency Response Agreement**.
- 2.5.6 Where **National Grid** has accepted an **FFR Tender** in respect of which the **FFR Provider** has indicated the performance of any of its obligations by an **FFR Provider's Agent**, such acceptance shall be conditional upon terms with respect thereof being agreed between the **Parties** and recorded in the **FFR Framework Agreement**.
- 2.5.7 From 1st April 2017, where **National Grid** has accepted an **FFR Tender** in respect of which the **Tendered FFR Unit** is not a **BM Unit**, the **FFR Provider** shall (where not already provided pursuant to paragraph 2.3 or in the **Firm Frequency Response Agreement**) provide to **National Grid** the meter point administration number in respect of that **Contracted FFR Unit** as soon as reasonably practicable following **National Grid's** acceptance of the relevant **FFR Tender**.

2.6 MARKET INFORMATION

2.6.1 To assist **FFR Providers** in the tender process described in this Section 2, **National Grid** shall, but shall be under no obligation to do so, publish on its website such information as it reasonably considers to be relevant and helpful in the preparation of **FFR Tenders**.

2.6.2 Not used.

Post tender reports

2.6.3 Pursuant to sub-paragraph 2.6.1, **National Grid** shall also use reasonable endeavours to publish on its **Industry Information Website**, on the same day that it notifies **FFR Providers** of acceptance or rejection of **FFR Tenders** pursuant to paragraph 2.5.1, a report of **FFR Tenders** received, containing the following information:-

- (a) the identity of each **Tendered FFR Unit** and each **Contracted FFR Unit**;
- (b) the name of each **FFR Provider** for each **Tendered FFR Unit** and each **Contracted FFR Unit**;
- (c) if applicable, an indication of the fuel type used by each **Tendered FFR Unit** and each **Contracted FFR Unit**;
- (d) an indication of which such **Tendered FFR Units** were the subject of an accepted **FFR Tender**, and in respect of such accepted **FFR Tenders** an indication of which **Contracted FFR Units** were the subject of **Works Programmes**;
- (e) the **Tendered Prices**;
- (f) in respect of dynamic **Response**, the volumes of **Response** tendered as follows:
 - (i) **Rapid Response** at 0.2 Hz **Frequency Deviation**;
 - (ii) **Rapid Response** at 0.5 Hz **Frequency Deviation**;
 - (iii) **Primary Response** at 0.2 Hz **Frequency Deviation**;
 - (iv) **Primary Response** at 0.5 Hz **Frequency Deviation**;

- (v) **Primary Response** at 0.8 Hz **Frequency Deviation**;
 - (vi) **Secondary Response** at 0.2/0.2 Hz **Frequency Deviation**;
 - (vii) **Secondary Response** at 0.5/0.5 Hz **Frequency Deviation**;
 - (viii) **High Frequency Response** at 0.2 Hz **Frequency Deviation**;
 - (ix) **High Frequency Response** at 0.5 Hz **Frequency Deviation**;
 - (x) **Rapid High Frequency Response** at 0.2 Hz **Frequency Deviation**;
and
 - (xi) **Rapid High Frequency Response** at 0.5 Hz **Frequency Deviation**;
- (g) in respect of non-dynamic **Response**, the volumes of **Response** tendered as follows:
- (i) **Automatic Response Energy Deliverable** by 5 seconds from **Frequency** transgression of the tendered **Pre-Set Level**;
 - (ii) **Automatic Response Energy Deliverable** by 10 seconds from **Frequency** transgression of the tendered **Pre-Set Level**; and
 - (iii) **Automatic Response Energy Deliverable** by 30 seconds from **Frequency** transgression of the tendered **Pre-Set Level**.

Utilisation reports

- 2.6.4 Pursuant to sub-paragraph 2.6.1, **National Grid** shall also use reasonable endeavours to publish on its **Industry Information Website** reports containing details of **Response** volumes (in MWh) instructed (or deemed instructed) by **National Grid** in respect of each **Service Day** pursuant to sub-paragraphs 3.4.3, 3A.4, 4.4 and 4A.4.2 and by reference to the categorisation of **Response** delivery set out in sub-paragraph 2.6.3(d), and shall use reasonable endeavours to publish such reports by the end of the fifteenth **Business Day** of each calendar month with respect to **Response** volumes instructed (or deemed instructed) during the previous calendar month.
- 2.6.5 For the purposes of paragraph 5.6, each **FFR Provider** consents to the disclosure by **National Grid** of information pursuant to this paragraph 2.6 insofar as related to it and/or the contents of any **FFR Tender** submitted by it and/or any **FFR Contract** to which it is a party.
- 2.6.6 **National Grid** shall not be bound to comply with the provisions of this paragraph 2.6 with respect to the publication of information if and to the extent that to do so would in **National Grid**'s reasonable opinion restrict, distort or prevent competition in the provision of **Firm Frequency Response** or be likely to do so.

SECTION 3 **FIRM FREQUENCY RESPONSE - BALANCING MECHANISM PARTICIPANTS
(DYNAMIC)**

3.1 INTRODUCTION

- 3.1.1 This Section 3 sets out the terms for provision of **Firm Frequency Response** where the **FFR Provider** provides **Firm Frequency Response** from **Generating Unit(s)** comprised within **Production BM Unit(s)** which it has established and registered as such under and in accordance with the **Balancing and Settlement Code**.
- 3.1.2 The provisions of this Section 3 shall apply with respect to an **FFR Provider** who has submitted **FFR Tender(s)** which has been accepted (in whole or in part) in respect of such **BM Unit(s)** by **National Grid** pursuant to sub-paragraph 2.5.1 so as to form an **FFR Contract** or where the context otherwise requires.

3.2 WINDOW NOMINATION

- 3.2.1 In accordance with sub-paragraph 3.2.2, **National Grid** may notify the **FFR Provider** by the method prescribed in the **FFR Service Procedure** of those **Settlement Periods** (if any) comprised within each **FFR Contracted Frames** in respect of which **National Grid** requires **Firm Frequency Response** to be provided from one or more of the **Contracted FFR Units** (“the **FFR Nominated Windows(s)**”).
- 3.2.2 For **FFR Contracts** comprising:-
- (a) **Tendered Service Weeks**, **National Grid** shall notify **FFR Nominated Windows** by no later than 17.00 hours on the Thursday immediately preceding commencement of the relevant **Tendered Service Week**, in respect of the **FFR Contracted Frames** falling in each **Service Day** during the relevant week; and
- (b) **Tendered Service Months**, **National Grid** shall notify **FFR Nominated Windows** by no later than 17.00 hours on the twelfth **Business Day** of the calendar month, in respect of the **FFR Contracted Frames** falling in each **Service Day** during the relevant calendar month.
- 3.2.3 Each notification of **FFR Nominated Windows** shall take account of any relevant **Utilisation Restrictions** in respect of the **Contracted FFR Units**, and any notification of unavailability made by the **FFR Provider** pursuant to sub-paragraph 3.2.5.
- 3.2.4 The **FFR Provider** shall acknowledge receipt of each notification of **FFR Nominated Windows** as soon as reasonably practicable by the method prescribed in the **FFR Service Procedure**, but failure to do so shall not relieve the **FFR Provider** of its obligations set out in this Section 3.
- 3.2.5 The **FFR Provider** shall notify **National Grid** by the method prescribed in the **FFR Service Procedure** forthwith upon becoming aware of any inability (howsoever caused) of any **Contracted FFR Unit** to provide **Firm Frequency Response** in all or any part of any **FFR Contracted Frame**, including a reduction in the level of **Response** below the level set out in the **Tendered Service Parameters** (“**Reduced Availability**”) and, subject to sub-paragraph 3.2.6, with effect from the start of such inability until otherwise notified by the **FFR Provider** by the method prescribed in the **FFR Service Procedure** that the ability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is fully restored, **Firm Frequency Response** shall be deemed to be unavailable from such **Contracted FFR Unit** for the purposes of sub-paragraph 3.5.6.
- 3.2.6 Following receipt of a notice under sub-paragraph 3.2.5 indicating **Reduced Availability**, **National Grid** may, at its sole discretion and provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than 10MW or, from and including 1st April 2017, provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than the greater of one (1) MW and five percent (5%) of the contracted **Response**, agree that the **Contracted FFR Unit**

shall continue to be treated as available, subject to reductions in the **Availability Fee** and the level of **Response** to be provided.

3.3 REVISIONS TO FFR NOMINATED WINDOWS

- 3.3.1 Where the **FFR Provider** has made available in the **FFR Tender** the **Window Revision Facility**, **National Grid** may revise the **FFR Nominated Windows** in respect of any **Service Day** by notice in writing to the **FFR Provider** by the method prescribed in the **FFR Service Procedure** no later than 10.00 hours on the immediately preceding **Service Day** provided always that any revised **FFR Nominated Window** shall constitute one or more **Settlement Periods** comprised within an **FFR Contracted Frame**. For the avoidance of doubt, an **FFR Nominated Window** may be revised in accordance with this sub-paragraph 3.3.1 so as to create two or more **FFR Nominated Windows**.
- 3.3.2 Each notification of a revision to an **FFR Nominated Window** shall take account of any relevant **Utilisation Restrictions** in respect of the **Contracted FFR Units** and any notification of unavailability made by the **FFR Provider** pursuant to sub-paragraph 3.2.5.
- 3.3.3 The **FFR Provider** shall acknowledge receipt of each notification of a revision to an **FFR Nominated Window** as soon as reasonably practicable by the method prescribed in the **FFR Service Procedure**, but failure to do so shall not relieve the **FFR Provider** of its obligations set out in this Section 3.

3.4 PROVISION OF FIRM FREQUENCY RESPONSE

- 3.4.1 Where **National Grid** shall have notified the **FFR Provider** of the **FFR Nominated Windows** in respect of any **Service Day**:-
- (a) subject always to sub-paragraph 3.4.1(d), the **FFR Provider** shall, no later than 11.00 hours on the immediately preceding **Service Day** and by the method prescribed in the **FFR Service Procedure**, specify a single **FFR Confirmed Part Load Point** for all **Settlement Periods** comprised within each such **FFR Nominated Window** as revised pursuant to paragraph 3.3 (being a figure within the **Part Load Point** range defined by the **Maximum Part Load Point** and the **Minimum Part Load Point**), and for the avoidance of doubt the same **FFR Confirmed Part Load Point** need not be specified for each such **FFR Nominated Window** in a **Service Day**;
 - (b) where in respect of any **Service Day** no such notification is made by the **FFR Provider** by such time, then that shall constitute an **Event of Default** for the purposes of paragraph 3.7 (but not so as to relieve the **FFR Provider** of its obligation to provide **Firm Frequency Response** in the **FFR Nominated Window** when instructed by **National Grid** pursuant to sub-paragraph 3.4.3);
 - (c) without prejudice to sub-paragraph 3.7.1, **National Grid** may at its discretion (but shall not be obliged to) notify the **FFR Provider** by the method prescribed in the **FFR Service Procedure** of such **Event of Default** whereupon the **FFR Provider** shall make the notification required by this sub-paragraph 3.4.1 without further delay and in any event within one hour of receipt of such notification from **National Grid**;
 - (d) where after expiry of such one hour period the **FFR Provider** has still not made such notification then that shall constitute an additional **Event of Default** for the purposes of paragraph 3.7 (but not so as to relieve the **FFR Provider** of its obligation to provide **Firm Frequency Response** in the **FFR Nominated Window** when instructed by **National Grid** pursuant to sub-paragraph 3.4.3); and
 - (e) the **FFR Provider** shall not be obliged to make the notification specified in sub-paragraph 3.4.1(a), and sub-paragraphs 3.4.1(a) to (c) inclusive shall not apply, where the relevant **FFR Contract** comprises a single **Part Load Point** tendered

by the **FFR Provider** as a **Maximum Part Load Point** and **Minimum Part Load Point** which are identical, and in such a case such single **Part Load Point** shall constitute the **FFR Confirmed Part Load Point** for the purposes of sub-paragraph 3.4.2.

3.4.2 Where **National Grid** shall have notified the **FFR Provider** of the **FFR Nominated Windows** in respect of any **Service Day**, and in respect of each **Settlement Period** comprised within such **FFR Nominated Windows(s)** as revised pursuant to paragraph 3.3, the **FFR Provider** shall procure the following in respect of the relevant **Contracted FFR Unit**:-

- (a) that the **Physical Notification** prevailing as at **Gate Closure** at all times matches the **FFR Confirmed Part Load Point**;
- (b) that at all times the prevailing **Maximum Export Limit** is not less than the **Minimum MEL** and the prevailing **Stable Export Limit** is not more than the **Maximum SEL**; and
- (c) that the **Contracted FFR Unit** is able to accept an instruction from **National Grid** pursuant to sub-paragraph 3.4.3 to operate in a **Frequency Sensitive Mode**.

3.4.3 At any time prior to or during an **FFR Nominated Window**, **National Grid** may, in respect of any one or more **Settlement Periods** in that **FFR Nominated Window** as revised pursuant to paragraph 3.3, instruct the **FFR Provider** to operate any one or more of the **Contracted FFR Units** in a **Frequency Sensitive Mode** so as to provide the components of **Firm Frequency Response** comprised within the **FFR Contract**, being either **Primary Response** and **High Frequency Response**, or **Primary Response**, **Secondary Response** and **High Frequency Response**, in each case with or without **Rapid Response**.

3.4.4 For the purpose of sub-paragraph 3.4.3:-

- (a) **Firm Frequency Response** without **Rapid Response** shall be referred to as “**Mode D Frequency Response**”, and **Firm Frequency Response** with **Rapid Response** shall be referred to as “**Mode F Frequency Response**”;
- (b) the term “instruction” means a communication by the method prescribed in the **FFR Service Procedure** from **National Grid** to the **FFR Provider** instructing the **FFR Provider** in accordance with this Section 3 to provide either **Mode D** or **Mode F Frequency Response**, and derivations of the term shall be construed accordingly;
- (c) the amendment of an instruction shall be deemed to be a new instruction;
- (d) an instruction will prevail until the first to occur of any of the following (each of which shall constitute a deemed instruction from **National Grid** to cease operating the relevant **Contracted FFR Unit** in a **Frequency Sensitive Mode** in accordance with the original instruction):-
 - (i) the expiry of the **FFR Nominated Window**; or
 - (ii) subject always to sub-paragraph 3.4.4(e), receipt of a subsequent instruction from **National Grid** countermanding the earlier instruction; or
 - (iii) subject always to sub-paragraph 3.4.4(e), the **De-Synchronisation** of the **Contracted FFR Unit** to which the instruction relates (and on each such occasion of **De-Synchronisation** otherwise than on the instruction of **National Grid** the **FFR Provider** shall notify **National**

Grid pursuant to sub-paragraph 3.4.7 of inability to provide **Firm Frequency Response**); and

- (e) an instruction will not be curtailed pursuant to sub-paragraphs 3.4.4(d)(ii) or (iii) solely by reason of the issue by **National Grid** of a **Bid-Offer Acceptance** with respect to the **Contracted FFR Unit** to which the instruction relates unless compliance with that **Bid-Offer Acceptance** would thereby cause the **Contracted FFR Unit** to operate at level of **Output** below its prevailing **Stable Export Limit**.
- 3.4.5 Where the **FFR Provider** is instructed in accordance with sub-paragraph 3.4.3 to operate a **Contracted FFR Unit** so as to provide either **Mode D** or **Mode F Frequency Response**, the **FFR Provider** shall operate that **Contracted FFR Unit** so as to provide, for any **Frequency Deviation**, at least the amount of **Rapid Response** and/or **Primary Response** and/or **Secondary Response** and/or **High Frequency Response** set out respectively in the relevant **FFR Capability Data Tables** for the **De-Load** in question (as such tables are to be interpreted in accordance with paragraph 3.6).
- 3.4.6 The **FFR Provider** shall ensure that the **Transmission Entry Capacity**, and if relevant the **STTEC**, for the relevant **Connection Site** shall be sufficient to enable it to comply with its obligations under this paragraph 3.4 at all times during **FFR Nominated Windows** and in respect of each **Contracted FFR Unit**, and accordingly shall make timely application for sufficient **Transmission Entry Capacity** and/or **STTEC** and/or **LDTEC** as and when required in accordance with the **CUSC**.
- 3.4.7 After the **FFR Provider** has been instructed in accordance with sub-paragraph 3.4.3, the **FFR Provider** shall notify **National Grid** by the method prescribed in the **FFR Service Procedure** forthwith upon becoming aware of the inability (howsoever caused) of any **Contracted FFR Unit** to provide **Firm Frequency Response** in all or any part of any **FFR Nominated Window** as revised pursuant to paragraph 3.3, including any **Reduced Availability** and, subject to sub-paragraph 3.4.8, with effect from the start of such inability until notified by the **FFR Provider** by the method prescribed in the **FFR Service Procedure** that the ability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is fully restored, **Firm Frequency Response** shall be deemed to be unavailable from such **Contracted FFR Unit** for the purposes of sub-paragraph 3.5.6.
- 3.4.8 Following receipt of a notice under sub-paragraph 3.4.7, **National Grid** may, at its sole discretion and provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than 10MW or from and including 1st April 2017, provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than the greater of one (1) MW and five percent (5%) of the contracted **Response**, agree that the **Contracted FFR Unit** shall continue to be treated as available, subject to reductions in the **Availability Fee** and the level of **Response** to be provided.

3.5 PAYMENT

- 3.5.1 In respect of each calendar month and each relevant **Contracted FFR Unit**, and subject always to the following provisions of this paragraph 3.5, paragraph 3.7 and sub-paragraph 5.12.2, **National Grid** shall in accordance with paragraph 5.2 pay to the **FFR Provider** in respect of the **Initial Response** and (where applicable) the **Additional Response**:-
 - (a) a payment (“the **Availability Payment**”) calculated as the **Availability Fee** (subject where applicable to adjustment in accordance with sub-paragraphs 3.2.6 or 3.4.8) multiplied by the aggregate number of hours comprised within **FFR Contracted Frames** during that calendar month; and
 - (b) a payment (“the **Window Initiation Payment**”) calculated as the **Window Initiation Fee** multiplied by the number of individual **FFR Nominated Windows** as revised pursuant to paragraph 3.3 during that calendar month; and

- (c) a payment (“the **Nomination Payment**”) calculated as the **Nomination Fee** multiplied by the aggregate number of hours comprised within **FFR Nominated Windows** as revised pursuant to paragraph 3.3 during that calendar month (for the avoidance of doubt whether or not the subject of an instruction pursuant to sub-paragraph 3.4.3).
- 3.5.2 In addition to sub-paragraph 3.5.1, where the **Window Revision Facility** is made available in the **FFR Tender, National Grid** shall pay to the **FFR Provider**, in respect of each calendar month and each relevant **Contracted FFR Unit**, a payment (“the **Window Revision Payment**”) in respect of the **Initial Response** and (where applicable) the **Additional Response** calculated as the **Window Revision Fee** multiplied by the aggregate number of hours during that calendar month which are the subject of revision by **National Grid** in accordance with paragraph 3.3 (which for this purpose shall comprise **Settlement Periods** originally falling either within or outside of **FFR Nominated Windows** and thereby ceasing to do so).
- 3.5.3 In addition to sub-paragraphs 3.5.1 and 3.5.2, **National Grid** shall pay to the **FFR Provider**, in respect of each calendar month and each relevant **Contracted FFR Unit**, an amount (“the **Response Energy Payment**”) in respect of the **Initial Response** and (where applicable) the **Additional Response** calculated by reference to Paragraph 4.1.3.9A of the **Connection and Use of System Code** and such provisions shall be deemed incorporated herein mutatis mutandis on the basis that all references therein to the **Frequency Response Power Delivery Data** tables set out in the **Mandatory Services Agreements** shall be construed as references to the **FFR Power Delivery Data Tables**, and all references therein to **Mode A** or **Mode F Frequency Response** shall be construed as references to **Mode D Frequency Response**.
- 3.5.4 For the avoidance of doubt:-
- (a) where an **FFR Nominated Window** is revised in accordance with sub-paragraph 3.3.1 so as to create two or more **FFR Nominated Windows**, the **Window Initiation Payment** shall be payable in accordance with sub-paragraph 3.5.1(a) in respect of each **FFR Nominated Window** so created, and the **Nomination Payment** shall be payable in accordance with sub-paragraph 3.5.1(b) in respect of hours comprised within each such **FFR Nominated Window**; and
- (b) where two or more **FFR Nominated Windows** are revised in accordance with sub-paragraph 3.3.1 so as to be consolidated into a reduced number of **FFR Nominated Windows(s)**, the **Window Initiation Payment** shall be payable in accordance with sub-paragraph 3.5.1(a) in respect of such reduced number of **FFR Nominated Windows(s)**, and the **Nomination Payment** shall be payable in accordance with sub-paragraph 3.5.1(b) in respect of hours comprised within such reduced number of **FFR Nominated Windows(s)**.
- 3.5.5 Following **National Grid**’s assessment of under-delivery of **Response** from a **Contracted FFR Unit** during an **FFR Nominated Window** pursuant to sub-paragraph 3.14.2, the payments falling due to the **FFR Provider** pursuant to this paragraph 3.5 in respect thereof shall be subject to a deduction as more particularly specified in sub-paragraph 3.14.2. If a **Contracted FFR Unit** is contracted to provide both **Initial Response** and **Additional Response**, any under-delivery of **Response** from that **Contracted FFR Unit** during an **FFR Nominated Window** pursuant to sub-paragraph 3.14.2 shall be subject to a deduction in payments falling due to the **FFR Provider** by taking into account the aggregate volume and aggregate **Tendered Price** of the **Initial Response** and the **Additional Response**, to be calculated in accordance with the methodology set out in the **Firm Frequency Response Agreement**.
- 3.5.6 No payments shall be made by **National Grid** to the **FFR Provider** pursuant to this paragraph 3.5 in respect of any period or periods during which, in accordance with any provision of this Section 3 and in relation to any **Contracted FFR Unit**, **Firm Frequency Response** is deemed to be unavailable provided always that **National Grid** may at its sole discretion ignore a period of unavailability for the purposes of this paragraph 3.5 where the

period of unavailability is short in duration and the **FFR Provider** has used all reasonable endeavours to restore availability as soon as practicable.

3.6 INTERPRETATION OF TABLES

3.6.1 The figures for **Firm Frequency Response** set out in the **FFR Capability Data Tables** shall be given in relation to specific **Frequency Deviations** and to specific levels of **De-Load** for a **Contracted FFR Unit**. Such tables shall, for the purposes of sub-paragraphs 3.4.5 and 3.5.3, be construed in accordance with this sub-paragraph 3.6.1. Subject to sub-paragraphs (c) and (d) below:-

- (a) for a **Frequency Deviation** at a given time differing from the figures given in a table, the level of **Firm Frequency Response** shall be calculated by linear interpolation from the figures specified in the table in respect of **Frequency Deviations**;
- (b) for a level of **De-Load** at a given time differing from the figures given in a table, the level of **Firm Frequency Response** shall be calculated by linear interpolation from the figures specified in the table in respect of levels of **De-Load**, and for the avoidance of doubt, **Mode D** and **Mode F Frequency Response** shall not be instructed for any **De-Load** greater than the maximum level of **De-Load** given in the relevant **FFR Capability Data Table**;
- (c) in respect of any time in relation to which both paragraphs 3.6.1 (a) and (b) apply, the level of **Firm Frequency Response** shall be calculated by dual linear interpolation from the figures specified in the tables in respect of **Frequency Deviations** and in respect of levels of **De-Load**;
- (d) for any **Frequency Deviation** greater than the greatest **Frequency Deviation** given in the **FFR Capability Data Tables** (whether positive or negative), the level of **Firm Frequency Response** shall be calculated by reference to the greatest **Frequency Deviation** (positive or negative as the case may be) given in that table; and
- (e) for the purposes of calculating levels of **Firm Frequency Response** in respect of **Frequency Deviations** lower than those specified in the **FFR Capability Data Tables**, the relevant **FFR Capability Data Table** shall be deemed to specify a level of zero **Firm Frequency Response** for a **Frequency Deviation** of zero.

3.7 EVENTS OF DEFAULT AND CONSEQUENCES

3.7.1 Each of the occurrences or failures specified in the Annexure to this Section 3 as an **Event of Default** shall result in the consequences set out therein in relation to such occurrence or failure.

3.7.2 For the purposes of sub-paragraph 3.7.1, unless otherwise expressly stated in the Annexure to this Section 3, it is acknowledged that the same occurrence or failure may constitute more than one **Event of Default**.

3.7.3 For the avoidance of doubt, the consequences set out in respect of any **Event of Default** in the Annexure to this Section 3 shall not relieve the **FFR Provider** of any of its obligations pursuant to the **Grid Code** nor relieve either of the **Parties** from any of their obligations pursuant to the **Connection and Use of System Code** or the **Balancing and Settlement Code**.

3.8 SUBSTITUTION OF CONTRACTED FFR UNITS

3.8.1 If the **FFR Provider** anticipates that **Firm Frequency Response** may become unavailable from a **Contracted FFR Unit** during all or any part of any **Service Day**, the **FFR Provider** may, subject always to sub-paragraphs 3.8.2 and 3.8.4 and (unless the unavailability is attributable to the technical capability of the **Contracted FFR Unit**) no later than two

hours prior to **Gate Closure** for the first **Settlement Period** in the affected **FFR Nominated Windows** during that **Service Day**, request by the method prescribed in the **FFR Service Procedure** that **National Grid** agree to the substitution of that **Contracted FFR Unit** (“the **Retired FFR Unit**”) by any other **BM Unit** at the same **Grid Entry Point** (or, as the case may be, **Grid Supply Point**) which may be specified in the relevant **Firm Frequency Response Agreement** as suitable for nomination for such purpose (“the **Substitute FFR Unit**”).

3.8.2 In any notification pursuant to sub-paragraph 3.8.1, the **FFR Provider** shall indicate to **National Grid** the affected **FFR Nominated Windows** during the **Service Day** in question in respect of which such substitution shall apply, provided always that:-

(a) a **BM Unit** may not be nominated as a **Substitute FFR Unit** pursuant to sub-paragraph 3.8.1 in respect of an **FFR Nominated Window** for which it is already a **Contracted FFR Unit**; and

(b) a **BM Unit** may not be nominated as a **Substitute FFR Unit** for more than one **Contracted FFR Unit** at the same time.

3.8.3 **National Grid** shall, as soon as reasonably practicable and by the method prescribed in the **FFR Service Procedure**, at its sole discretion, either to agree to or decline the **FFR Provider**'s request pursuant to sub-paragraph 3.8.1.

3.8.4 The effect of substitution in accordance with this paragraph 3.8 shall be to treat the **Substitute FFR Unit** as the **Contracted FFR Unit** for all purposes of this Section 3 and the **Firm Frequency Response Agreement**, and for the duration of the relevant **FFR Nominated Windows(s)** this Section 3 and the **Firm Frequency Response Agreement** shall be read and construed accordingly. Without limiting the foregoing, with respect to any **Substitute FFR Unit** and for the duration of the relevant **FFR Nominated Windows(s)**, the technical, commercial and other parameters (including without limitation the **Availability Fee**, **Window Initiation Fee**, **Nomination Fee** and **Window Revision Fee** (if any)) applicable to the **Retired FFR Unit** shall continue to apply.

3.9 **GRID CODE**

The provision by the **FFR Provider** of **Firm Frequency Response** shall not relieve it of any of its obligations or affect such obligations (where applicable) set out in the **Grid Code** (including without limitation its obligations (if any) to provide **Mode A Frequency Response** when instructed by **National Grid** pursuant to the **CUSC** and/or the **Grid Code**). For the avoidance of doubt, **National Grid** shall not, in respect of any **FFR Nominated Windows(s)** during which the **FFR Provider** is instructed pursuant to sub-paragraph 3.4.3 to provide **Mode D** or **Mode F Frequency Response**, instruct the **FFR Provider** to provide **Mode A Frequency Response** in accordance with the **CUSC**.

3.10 **MAINTENANCE OF CONTRACTED FFR UNITS**

The **FFR Provider** shall maintain the **Contracted FFR Units** to such a standard that the **FFR Provider** can meet its obligations to provide **Firm Frequency Response** in accordance with the terms of this **Document** and the relevant **Firm Frequency Response Agreement(s)**.

3.11 **WARRANTY AND INDEMNITY**

3.11.1 The **FFR Provider** hereby warrants to **National Grid** that, where any **Contracted FFR Unit** is embedded in a **Distribution System** or **User System**, the availability and delivery of **Response** from that **Contracted FFR Unit** pursuant to and in accordance with this **Document** does not and will not cause the **FFR Provider** to be in breach of or to otherwise be non-compliant with any **Connection Agreement** and/or agreement for the supply of electricity to that **Contracted FFR Unit** and/or for the acceptance of electricity into, and its delivery from, a **User System**.

3.11.2 The **FFR Provider** agrees that it will not accept an instruction from **National Grid** pursuant to paragraph 3.4 if compliance with such instruction would cause the **FFR**

Provider to be in breach or non-compliance as described in sub-paragraph 3.11.1, and if it declines to accept an instruction on such grounds the **FFR Provider** will:-

- (a) notify **National Grid** in accordance with sub-paragraph 3.4.7; and
- (b) provide to **National Grid** to **National Grid's** reasonable satisfaction such written statement and all such supporting evidence as shall be necessary to demonstrate how compliance would cause such breach or non-compliance.

3.11.3 In the event that the **FFR Provider** complies with an instruction from **National Grid** which causes the **FFR Provider** to be in breach or non-compliance as described in sub-paragraph 3.11.1 above, the **FFR Provider** shall indemnify **National Grid** against all and any claims which may be brought against **National Grid** by the **FFR Provider's** host **Public Distribution System Operator** or any other person connected to or using the **Public Distribution System Operator's User System** or any other **User System** or the owner of operator of any **User System** or any other person whatever arising out of or resulting from such breach or non-compliance. Such indemnity shall include any legal costs and expenses reasonably incurred in the contesting of such claims including the court costs and reasonable attorney's fees and other professional advisors' fees. The **Parties** agree and accept that, for the purposes of sub-paragraph 5.3.1, all such legal costs and expenses expressed to be the subject of such indemnity shall be treated as direct losses.

3.12 PROVISION OF OTHER SERVICES

3.12.1 The **FFR Provider** hereby undertakes to **National Grid** that, on the date of submission of each **FFR Tender** and on the date of formation of any **FFR Contract** in respect thereof, it will not be a party to an agreement or arrangement with its host **Public Distribution System Operator** or electricity supplier or other person to provide any service from the **Contracted FFR Unit(s)** the provision of which may impair the **FFR Provider's** ability to provide **Firm Frequency Response** and/or perform its obligations under this **Document** and any **Firm Frequency Response Agreement**, and the **FFR Provider** will indemnify **National Grid** against any losses, liabilities, claims, expenses and demands which **National Grid** might suffer as a result of the **FFR Provider** bring in breach of the provisions of this sub-paragraph 3.12.1.

3.12.2 Where during the term of an **FFR Contract** the **FFR Provider** intends to enter into an agreement or arrangement with its host **Public Distribution System Operator** or electricity supplier or other person to provide any service from the **Contracted FFR Unit(s)** the provision of which may impair the **FFR Provider's** ability to provide **Firm Frequency Response** and/or perform its obligations under this **Document** and/or any **Firm Frequency Response Agreement**, the **FFR Provider** shall notify **National Grid**, in accordance with paragraph 5.8, as soon as reasonably practicable before entering into such agreement or arrangement. Upon and with effect from the entering into of any such agreement or arrangement, **National Grid** may in its absolute discretion terminate the **FFR Contract** in question pursuant to sub-paragraph 3.15.2.

3.12.3 For the avoidance of doubt, the availability in any **Settlement Period** comprised in an **FFR Contracted Frame** of any increase in **Generation** from the **Contracted FFR Unit(s)** or any part thereof for the benefit of any person other than **National Grid** (including without limitation the **FFR Provider's** host **Public Distribution System Operator** or electricity supplier) shall be deemed for the purposes of sub-paragraphs 3.12.1 and 3.12.2 to impair the **FFR Provider's** ability to provide **Firm Frequency Response**.

3.12.4 Where, during any one or more **Settlement Periods** in a **Tendered Service Term**, an **FFR Provider** is required under the terms of any agreement with **National Grid** to provide from a **Contracted FFR Unit** a firm **Ancillary Service** (except with respect to **Reactive Power**) the **Parties** agree and acknowledge that **Firm Frequency Response** cannot be provided simultaneously with any other **Ancillary Service** and to the extent that such service provision either overlaps to any extent with a **Tendered Frame** and/or is otherwise inconsistent or in conflict with the delivery of **Firm Frequency Response**, then the

Contracted FFR Unit shall be deemed unavailable for the purposes of sub-paragraph 3.5.6.

3.13 COMMUNICATIONS

Any communications required by this Section 3 to be given in writing shall be made and deemed to have been received in accordance with paragraph 5.8 save as may be otherwise agreed by the **Parties**. Each of the **Parties** hereby agrees and acknowledges that any reference to a communication by telephone, e-mail or facsimile given by **National Grid** to the **FFR Provider** or vice versa in this Section 3 and the **FFR Service Procedure** shall, where appropriate, be deemed to include a communication given by means of **EDL**. Instructions and confirmations stored on **EDL** shall (except during **Periods** when **EDL** is unavailable for whatever reason in which case communication by telephone, e-mail or facsimile (whichever is appropriate) shall resume with immediate effect) be conclusive evidence of the giving and/or receipt of any communication required to be given pursuant to the terms of this Section 3. The **Parties** consent to the recording of all telephone conversations between them relating in whole or in part to this **Document**, and each **Party** agrees to notify its employees of that consent and obtain their consent to that recording if required by law.

3.14 MONITORING AND TESTING

Monitoring

3.14.1 The availability of **Firm Frequency Response** and the amount of **Response** delivered shall be monitored by **National Grid** from time to time as more particularly described in this paragraph 3.14.

3.14.2 Without prejudice to the generality of sub-paragraph 3.14.1, **National Grid** reserves the right to assess the delivery of **Response** by the **Contracted FFR Unit** during any **Sample Period** in accordance with the methodology set out below:-

(a) the volume of **Response** actually delivered from the **Contracted FFR Unit** during the **Sample Period** shall be ascertained as follows:-

(i) by reference to an operating profile of a sample of **Frequency Sensitive Load Devices** (“the **Monitored Frequency Sensitive Load Sample**”);

(ii) **Response** volumes attributable to the **Monitored Frequency Sensitive Load Sample** shall be calculated as the difference between (1) power consumption at the start of the **Sample Period**, and (2) power consumption at the relevant time; and

(iii) power consumption values shall be taken from the **Frequency Sensitive Load Specification** attributed to those **Frequency Sensitive Load Devices** operating during the **Sample Period** as indicated by **Agreed Operational Monitoring Equipment** connected to each of such **Frequency Sensitive Load Devices**;

(b) the volume of **Response** required to be delivered from the **Contracted FFR Unit** during the **Sample Period** shall be ascertained by reference to an operating profile for the **Monitored Frequency Sensitive Load Sample** derived by linear interpolation from the applicable **FFR Capability Data Tables** (as such tables are to be interpreted in accordance with sub-paragraph 3.6), and that operating profile shall be used to determine second by second spot values of **Response** required to be delivered;

(c) **National Grid** shall derive a percentage performance measure (PPM), where:-

$$\text{PPM} = \text{A/B} * 100$$

and where:-

A is the aggregate of each second by second spot value of **Response** assumed to be delivered by the **Monitored Frequency Sensitive Load Population** over the **Sample Period** as determined pursuant to sub-paragraph 3.14.2(a), and

B is the aggregate of each second by second spot value of **Response** required to be delivered by the **Monitored Frequency Sensitive Load Population** over the **Sample Period** as determined pursuant to sub-paragraph 3.14.2(b);

(d) the percentage performance derived pursuant to this sub-paragraph 3.14.2, shall be used (in accordance with (e) below) to derive a factor (“the **Performance Factor**”), which shall be used for the calendar month or months in which the **Sample Period** falls to calculate the deduction in payments otherwise falling due to the **FFR Provider** pursuant to paragraph 3.5 as referred to in sub-paragraph 3.5.5;

(e) the **Performance Factor** shall be derived as follows:-

Percentage Performance	Performance Factor
<10%	100%
>10%, <60%	50%
>60% <95%	25%
>95%	0%

(f) for the purposes of this sub-paragraph 3.14.2, “**Sample Period**” shall mean any period of 30 minutes commencing upon excursion of **System Frequency** to either above or below 50Hz at a time when **National Grid** has instructed (or is deemed to have instructed) the **FFR Provider** to operate the **Contracted FFR Unit** in a **Firm Frequency Sensitive Mode** as more particularly specified in sub-paragraph 3.4.

3.14.3 The **FFR Provider** shall provide to **National Grid** all information and reasonable assistance necessary for **National Grid** to derive output data for the purposes of sub-paragraphs 3.14.1 and 3.14.2, and shall use all reasonable endeavours to allow **National Grid**, its employees, agents, suppliers, contractors and subcontractors all necessary access to the **Frequency Sensitive Load Devices** and **Customer Premises** at which the same are located in connection therewith. Without limitation the **FFR Provider** hereby grants **National Grid** the right to collect and record data from **Agreed Operational Monitoring Equipment**.

Non-capability

3.14.4 Without prejudice to sub-paragraph 2.2.5, if at any time during an **FFR Contracted Service Term**, **National Grid** has reasonable grounds (subject always to sub-paragraph 3.14.7) for believing that the **Contracted FFR Unit** does not have the capability to provide **Firm Frequency Response** in accordance with this **Document**, then **National Grid** shall so notify the **FFR Provider** in writing together with its reasons therefor, and **Firm Frequency Response** shall thenceforth be deemed to be unavailable from the **Contracted FFR Unit** for the purposes of sub-paragraph 3.5.6 until such time as it is demonstrated to **National Grid**’s reasonable satisfaction that capability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is restored, which may be by **Reproving Test** in accordance with paragraphs 7.3 and 7.4.

3.14.5 Subject to sub-paragraph 3.14.6, if, pursuant to sub-paragraph 3.14.4, the **Contracted FFR Unit** remains unavailable to provide **Firm Frequency Response** for more than two consecutive calendar months, then **National Grid** may in its absolute discretion terminate the **FFR Contract** in question pursuant to sub-paragraph 3.15.2.

- 3.14.6 Where **National Grid** has notified the **FFR Provider** pursuant to sub-paragraph 3.14.4 and the **FFR Provider** can provide sufficient written evidence to satisfy **National Grid** that the **Contracted FFR Unit** was available to provide **Firm Frequency Response** in accordance with this **Document**, then the **FFR Provider** may request in writing that **National Grid** consents to an extension of the time period set out in sub-paragraph 3.14.4 (such consent not to be unreasonably withheld or delayed).
- 3.14.7 For the purposes of sub-paragraph 3.14.4, **National Grid** shall have no reasonable grounds for believing that the **Contracted FFR Unit** does not have the capability to provide **Firm Frequency Response** in accordance with this **Document** if, in the **FFR Nominated Window** in question, **Frequency Response** is delivered by the **Contracted FFR Unit** at not less than 90% of the required amount for at least 95% of the duration of such **FFR Nominated Window**.
- 3.14.8 The **FFR Provider** shall maintain accurate and up to date records relevant to the provision of **Firm Frequency Response** from the **Contracted FFR Unit** pursuant to this **Document**, and shall permit **National Grid** or its authorised personnel and/or agents access on reasonable notice at all reasonable times to such records (including the making of copies and retention of such records) for the purposes of demonstrating to **National Grid**'s reasonable satisfaction that the **FFR Provider** has complied with its obligations hereunder and under the **Firm Frequency Response Agreement**.

3.15 **TERMINATION OF FFR CONTRACTS**

- 3.15.1 All **FFR Contracts** with respect to any **Contracted FFR Unit** shall automatically terminate upon and with effect from termination (for whatever reason) of the **Firm Frequency Response Agreement** with respect to that **Contracted FFR Unit** whether in accordance with paragraph 5.4 or otherwise.
- 3.15.2 Without prejudice to sub-paragraphs 3.15.1 and 3.15.3 and paragraph 5.4, **National Grid** may in its absolute discretion terminate an **FFR Contract** in respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider** in the following circumstances:-
- (a) where the **FFR Provider** persistently fails to make available and/or provide **Firm Frequency Response** from any **Contracted FFR Unit** (including any **Substitute FFR Unit** in respect of **Periods** when that **Contracted FFR Unit** is a **Retired FFR Unit**) and such failure amounts to an intentional or reckless breach or disregard by the **FFR Provider** of its obligations under this Section 3 and the **Firm Frequency Response Agreement**; or
- (b) in the circumstances set out in sub-paragraphs 3.12.2 and 3.14.5.
- 3.15.3 Where in respect of any **FFR Contract** the number of **Events of Default** to which this sub-paragraph 3.15.3 is expressed in the Annexure to this Section 3 to apply (Availability) exceeds three in any calendar month, then **National Grid** shall be entitled (at its sole discretion, but subject always to sub-paragraph 3.15.4) to terminate that **FFR Contract** forthwith by notice in writing to the **FFR Provider**.
- 3.15.4 Before deciding (in its sole discretion) whether to exercise its rights to terminate any **FFR Contract** pursuant to sub-paragraph 3.15.3, **National Grid** shall use reasonable endeavours to discuss with the **FFR Provider** the circumstances giving rise to the relevant **Events of Default** (any such discussion to be confirmed in writing by **National Grid**).
- 3.15.5 For the avoidance of doubt, **National Grid**'s rights pursuant to sub-paragraph 3.15.3 shall arise upon the occurrence of the third and each successive **Event of Default** thereafter.
- 3.15.6 Upon each **Event of Default** to which this sub-paragraph 3.15.6 is expressed in the Annexure to this Section 3 to apply (Failure to apply for sufficient **TEC/STTEC/LDTEC**), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR Contract** in

respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider**.

- 3.15.7 Upon each **Event of Default** to which this sub-paragraph 3.15.7 is expressed in the Annexure to this Section 3 to apply (Notifications of Unavailability and Confirmations of Availability), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR Contract** in respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider**.
- 3.15.8 Upon each **Event of Default** to which this sub-paragraph 3.15.8 is expressed in the Annexure to this Section 3 to apply (Breach of Warranty), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR Contract** in respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider**.
- 3.15.9 Termination of any **FFR Contract** shall not affect any accrued rights or liability of either **Party** or the coming into effect or continuance of any provision thereof which is expressly or by implication intended to come into force or effect after such termination.
- 3.15.10 For the purposes of this sub-paragraph 3.15 and the Annexure to this Section 3, where the **FFR Provider** is subject to an **FFR Contract** in respect of **Additional Response**, then an **Event of Default**, and the corresponding consequences in respect of such **Event of Default**, shall apply to both the **FFR Contract** in respect of the **Initial Response** and the **FFR Contract** in respect of the **Additional Response**.

ANNEXURE TO SECTION 3

EVENTS OF DEFAULT AND CONSEQUENCES

Events of Default	Consequences
<p>A. <u>Availability</u></p> <p>In respect of any Settlement Period comprised in any FFR Nominated Window (as revised), Firm Frequency Response is unavailable or deemed unavailable.</p> <p>For the purposes of sub-paragraph 3.15.3, the occurrence of one or more Events of Default in respect of the same FFR Nominated Window in a Service Day shall constitute a single Event of Default.</p>	<p>National Grid may (at its option):-</p> <p>(a) deem the Availability Fee and Nomination Fee and Window Revision Fee (if applicable) for the Settlement Period(s) in question to be zero; and</p> <p>(b) apply a pro rata deduction to the Window Initiation Fee for the affected FFR Nominated Window by reference to the proportion of Settlement Periods in that FFR Nominated Window which area affected by any one or more of such Events of Default.</p> <p>In addition, in relation to each such affected FFR Nominated Window, the provisions of sub-paragraph 3.5.3 shall apply unless Frequency Response is delivered by the Contracted FFR Unit at not less than 90% of the required amount for at least 95% of the duration of that affected FFR Nominated Window.</p>
<p>B. <u>Notifications of Unavailability</u></p> <p>A failure by the FFR Provider to notify inability to provide Firm Frequency Response as required under and in accordance with sub-paragraph 3.2.5 or 3.4.7 (as the case may be)</p>	<p>The provisions of sub-paragraph 3.15.7 shall apply.</p>
<p>C. <u>Confirmation of Availability (where Automatic Nomination Facility not applicable)</u></p> <p>A failure by the FFR Provider to confirm availability of Firm Frequency Response from the Contracted FFR Unit in the FFR Nominated Windows as required under and in accordance with sub-paragraphs 3.4.1(b) or (d)</p>	<p>The provision of sub-paragraph 3.15.7 shall apply.</p>
<p>D. <u>Breach of Warranty</u></p> <p>A breach by the FFR Provider of the warranty contained in sub-paragraph 3.11.1.</p>	<p>The provisions of sub-paragraph 3.15.8 shall apply.</p>
<p>E. <u>Failure to apply for sufficient TEC/STTEC/LDTEC</u></p> <p>A failure by the FFR Provider to comply with sub-paragraph 3.4.6.</p>	<p>The provisions of sub-paragraph 3.15.6 shall apply.</p>

SECTION 3A FFR - BALANCING MECHANISM PARTICIPANTS (NON-DYNAMIC)

3A.1 INTRODUCTION

- 3A.1.1 This Section 3A sets out the terms for provision of **Firm Frequency Response** where the **FFR Provider** provides **Firm Frequency Response** from **Generating Unit(s)** comprised within **Production BM Unit(s)** which it has established and registered as such under and in accordance with the **Balancing and Settlement Code**.
- 3A.1.2 The provisions of this Section 3A shall apply with respect to an **FFR Provider** who has submitted an **FFR Tender** which has been accepted in respect of such **BM Unit(s)** by **National Grid** pursuant to sub-paragraph 2.5.1 so as to form an **FFR Contract** or where the context otherwise requires.

3A.2 WINDOW NOMINATION

- 3A.2.1 In accordance with sub-paragraph 3A.2.2, **National Grid** shall notify the **FFR Provider** by the method prescribed in the **FFR Service Procedure** of those **Settlement Periods** (if any) comprised within each **FFR Contracted Frames** during each **Service Day** during the following calendar month in respect of which **National Grid** requires **Firm Frequency Response** to be provided from one or more of the **Contracted FFR Units** (“the **FFR Nominated Windows(s)**”).
- 3A.2.2 For **FFR Contracts** comprising:-
- (a) **Tendered Service Weeks, National Grid** shall notify **FFR Nomination Windows** by no later than 17.00 hours on the Thursday immediately preceding commencement of the relevant **Tendered Service Week**, in respect of the **FFR Contracted Frames** falling in each **Service Day** during the relevant week; and
 - (b) **Tendered Service Months, National Grid** shall notify **FFR Nomination Windows** by no later than 17.00 hours on the twelfth **Business Day** of the calendar month, in respect of the **FFR Contracted Frames** falling in each **Service Day** during the relevant calendar month.
- 3A.2.3 Each notification of **FFR Nominated Windows** shall take account of any relevant **Utilisation Restrictions** in respect of the **Contracted FFR Units** and any notification of unavailability made by the **FFR Provider** pursuant to sub-paragraph 3A.2.5.
- 3A.2.4 The **FFR Provider** shall acknowledge receipt of each notification of **FFR Nominated Windows** as soon as reasonably practicable by the method prescribed in the **FFR Service Procedure**, but failure to do so shall not relieve the **FFR Provider** of its obligations set out in this Section 3A.
- 3A.2.5 The **FFR Provider** shall notify **National Grid** by the method prescribed in the **FFR Service Procedure** forthwith upon becoming aware of any inability (howsoever caused) of any **Contracted FFR Unit** to provide **Firm Frequency Response** in all or any part of any **FFR Contracted Frame**, including a reduction in the level of **Response** below the level set out in the **Tendered Service Parameters** (“**Reduced Availability**”) and, subject to sub-paragraph 3A.2.6, with effect from the start of such inability and for the duration of such **FFR Contracted Frame**, or if earlier until otherwise notified by the **FFR Provider** by the method prescribed in the **FFR Service Procedure** that the ability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is fully restored, **Firm Frequency Response** shall be deemed to be unavailable from such **Contracted FFR Unit** for the purposes of sub-paragraph 3A.5.6.
- 3A.2.6 Following receipt of a notice under sub-paragraph 3A.2.5 indicating **Reduced Availability**, **National Grid** may, at its sole discretion and provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than 10MW or from and including 1st April 2017, provided that the availability of **Response** from the

Contracted FFR Unit shall not be reduced to a level less than the greater of one (1) MW and five percent (5)% of the contracted **Response**, agree that the **Contracted FFR Unit** shall continue to be treated as available, subject to reductions in the **Availability Fee** and the level of **Response** to be provided.

3A.3 REVISIONS TO FFR NOMINATED WINDOWS

- 3A.3.1 Where the **FFR Provider** has made available in the **FFR Tender** the **Window Revision Facility**, **National Grid** may revise the **FFR Nominated Windows** in respect of any **Service Day** by notice in writing to the **FFR Provider** by the method prescribed in the **FFR Service Procedure** no later than 10.00 hours on the immediately preceding **Service Day** provided always that any revised **FFR Nominated Windows** shall constitute one or more **Settlement Periods** comprised within an **FFR Contracted Frame**. For the avoidance of doubt, an **FFR Nominated Window** may be revised in accordance with this sub-paragraph 3A.3.1 so as to create two or more **FFR Nominated Windows**.
- 3A.3.2 Each notification of a revision to an **FFR Nominated Window** shall take account of any relevant **Utilisation Restrictions** in respect of the **Contracted FFR Units** and any notification of unavailability made by the **FFR Provider** pursuant to sub-paragraph 3A.2.5.
- 3A.3.3 The **FFR Provider** shall acknowledge receipt of each notification of a revision to an **FFR Nominated Window** as soon as reasonably practicable by the method prescribed in the **FFR Service Procedure**, but failure to do so shall not relieve the **FFR Provider** of its obligations set out in this Section 3A.

3A.4 PROVISION OF FIRM FREQUENCY RESPONSE

- 3A.4.1 Where **National Grid** shall have notified the **FFR Provider** of the **FFR Nominated Windows** in respect of any **Service Day**, and in respect of each **Settlement Period** comprised within such **FFR Nominated Windows(s)** as revised pursuant to sub-paragraph 3A.3, the **FFR Provider** shall procure that the **Contracted FFR Unit** is available to provide **Automatic Response** of an amount equal to the **Automatic Response Energy Deliverable**, initiated by the tripping of the **Relay** following a transgression in **System Frequency** above or below the **Pre-Set Level**.
- 3A.4.2 At the commencement of each **FFR Nominated Window**, as revised pursuant to sub-paragraph 3A.3, the **FFR Provider** shall arm the **Relay** so as to provide **Automatic Response** in accordance with sub-paragraph 3A.4.1 throughout each **FFR Nominated Window**.
- 3A.4.3 The **FFR Provider** shall disarm the **Relay** upon the expiry of each **FFR Nominated Window**.
- 3A.4.4 Where the **Relay** is armed by the **FFR Provider** in accordance with sub-paragraph 3A.4.2 and until the **Relay** is disarmed in accordance with sub-paragraph 3A.4.3, the **FFR Provider** shall, following a transgression in **System Frequency** above or below the **Pre-Set Level**, procure that the **Automatic Response Energy Deliverable** is delivered in accordance with sub-paragraph 3A.4.1 and sustained until the expiry of the **Maximum Response Period** or such longer period as **National Grid** may agree with the **FFR Provider** pursuant to sub-paragraph 3A.4.5.
- 3A.4.5 The **Parties** may from time to time agree in writing that the **FFR Provider** shall sustain **Automatic Response** in accordance with this sub-paragraph 3A.4 for a period longer than that specified in sub-paragraph 3A.4.4 and for the avoidance of doubt any payments due pursuant to sub-paragraph 3A.5 shall be calculated accordingly.
- 3A.4.6 After the **FFR Provider** has been notified as described in sub-paragraph 3A.4.1, the **FFR Provider** shall notify **National Grid** by the method prescribed in the **FFR Service Procedure** forthwith upon becoming aware of any inability (howsoever caused) of any **Contracted FFR Unit** to provide **Firm Frequency Response** in all or any part of any **FFR Nominated Window** as revised pursuant to sub-paragraph 3A.3, including any **Reduced**

Availability and, subject to sub-paragraph 3A.4.7, with effect from the start of such inability and for the duration of such **FFR Nominated Window**, or if earlier until notified by the **FFR Provider** by the method prescribed in the **FFR Service Procedure** that the ability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is fully restored, **Firm Frequency Response** shall be deemed to be unavailable from such **Contracted FFR Unit** for the purposes of sub-paragraph 3A.5.6.

3A.4.7 Following receipt of a notice under sub-paragraph 3A.4.6, **National Grid** may, at its sole discretion and provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than 10MW or from and including 1st April 2017, provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than the greater of one (1) MW and five percent (5%) of the contracted **Response**, agree that the **Contracted FFR Unit** shall continue to be treated as available, subject to reductions in the **Availability Fee** and the level of **Response** to be provided.

3A.5 PAYMENT

3A.5.1 In respect of each calendar month and each relevant **Contracted FFR Unit**, and subject always to the following provisions of this paragraph 3A.5, paragraph 3A.7 and sub-paragraph 5.12.2, **National Grid** shall in accordance with paragraph 5.2 pay to the **FFR Provider** in respect of the **Initial Response** and (where applicable) the **Additional Response**:-

- (a) a payment (“the **Availability Payment**”) calculated as the **Availability Fee** (subject where applicable to adjustment in accordance with sub-paragraphs 3A.2.6 or 3A.4.7) multiplied by the aggregate number of hours comprised within **FFR Contracted Frames** during that calendar month;
- (b) a payment (“the **Window Initiation Payment**”) calculated as the **Window Initiation Fee** multiplied by the number of individual **FFR Nominated Window** as revised pursuant to paragraph 3A.3 during that calendar month; and
- (c) a payment (“the **Nomination Payment**”) calculated as the **Nomination Fee** multiplied by the aggregate number of hours comprised within **FFR Nominated Windows** as revised pursuant to paragraph 3A.3 during that calendar month.

3A.5.2 In addition to sub-paragraph 3A.5.1, where the **Window Revision Facility** is made available in the **FFR Tender**, **National Grid** shall pay to the **FFR Provider**, in respect of each calendar month and each relevant **Contracted FFR Unit**, a payment (“the **Window Revision Payment**”) in respect of the **Initial Response** and (where applicable) the **Additional Response** calculated as the **Window Revision Fee** (if any) multiplied by the aggregate number of hours during that calendar month which are the subject of revision by **National Grid** in accordance with paragraph 3A.3 (which for this purpose shall comprise **Settlement Periods** originally falling either within or outside of **FFR Nominated Windows** and thereby ceasing to do so).

3A.5.3 In addition to sub-paragraphs 3A.5.1 and 3A.5.2, **National Grid** shall pay to the **FFR Provider**, in respect of each **FFR Nominated Window** (aggregated across a calendar month) in relation to a **Contracted FFR Unit**, an amount (“the **Response Energy Payment**”) in respect of the **Initial Response** and (where applicable) the **Additional Response** calculated as the **Response Energy Fee** multiplied by the **Automatic Response Energy Deliverable** by 30 seconds, multiplied by the aggregate number of hours during that **FFR Nominated Window** over which **Automatic Response** is delivered and sustained in accordance with sub-paragraph 3A.4.4, multiplied by a factor X which is:

zero, where **System Frequency** at no time during the relevant **FFR Nominated Window** falls within or below the **Pre-Set Level Tolerance Band**; or

Y/Z, where **Automatic Response** is delivered by reason of a fall in **System Frequency** during the relevant **FFR Nominated Window** to a **Frequency** level

within the Pre-Set Tolerance Band, where Y = the aggregate MW capacity attributable to the **Sub-Sites** in respect of which a **Relay** tripped and Z = the total MW capacity of the **Contracted FFR Unit**, in each case as shown in the **Firm Frequency Response Agreement**; or

one, (but without prejudice to the operation of paragraph 3A.14 of this **Document**), where **System Frequency** at any time during the relevant **FFR Nominated Window** falls below the **Pre-Set Level Tolerance Band**.

3A.5.4 For the avoidance of doubt:-

(a) where an **FFR Nominated Window** is revised in accordance with sub-paragraph 3A.3.1 so as to create two or more **FFR Nominated Windows**, the **Window Initiation Payment** shall be payable in accordance with sub-paragraph 3A.5.1(b) in respect of each **FFR Nominated Window** so created, and the **Nomination Payment** shall be payable in accordance with sub-paragraph 3A.5.1(c) in respect of hours comprised within each such **FFR Nominated Window**; and

(b) where two or more **FFR Nominated Windows** are revised in accordance with sub-paragraph 3A.3.1 so as to be consolidated into a reduced number of **FFR Nominated Windows(s)**, the **Window Initiation Payment** shall be payable in accordance with sub-paragraph 3A.5.1(b) in respect of such reduced number of **FFR Nominated Windows(s)**, and the **Nomination Payment** shall be payable in accordance with sub-paragraph 3A.5.1(c) in respect of hours comprised within such reduced number of **FFR Nominated Windows(s)**.

3A.5.5 Following **National Grid**'s assessment of unavailability of **Firm Frequency Response** or under-delivery of **Automatic Response** from a **Contracted FFR Unit** during an **FFR Nominated Window** pursuant to sub-paragraph 3A.14.2, the payments falling due to the **FFR Provider** pursuant to this paragraph 3A.5 in respect thereof shall be subject to a deduction as more particularly specified in sub-paragraphs 3A.14.2 to 3A.14.4 inclusive. If a **Contracted FFR Unit** is contracted to provide both **Initial Response** and **Additional Response**, any under-delivery of **Response** from that **Contracted FFR Unit** during an **FFR Nominated Window** pursuant to sub-paragraph 3A.14.2 shall be subject to a deduction in payments falling due to the **FFR Provider** by taking into account the aggregate volume and aggregate **Tendered Price** of the **Initial Response** and the **Additional Response**, to be calculated in accordance with the methodology set out in the **Firm Frequency Response Agreement**.

3A.5.6 No payments shall be made by **National Grid** to the **FFR Provider** pursuant to this paragraph 3A.5 in respect of any period or **Periods** during which, in accordance with any provision of this Section 3A and in relation to any **Contracted FFR Unit**, **Firm Frequency Response** is deemed to be unavailable provided always that **National Grid** may at its sole discretion ignore a period of unavailability for the purposes of this paragraph 3A.5 where the period of unavailability is short in duration and the **FFR Provider** has used all reasonable endeavours to restore availability as soon as practicable.

3A.6 NOT USED

3A.7 EVENTS OF DEFAULT AND CONSEQUENCES

3A.7.1 Each of the occurrences or failures specified in the Annexure to this Section 3A as an **Event of Default** shall result in the consequences set out therein in relation to such occurrence or failure.

3A.7.2 For the purposes of sub-paragraph 3A.7.1, unless otherwise expressly stated in the Annexure to this Section 3A, it is acknowledged that the same occurrence or failure may constitute more than one **Event of Default**.

3A.7.3 For the avoidance of doubt, the consequences set out in respect of any **Event of Default** in the Annexure to this Section 3A shall not relieve the **FFR Provider** of its obligations (if any) pursuant to the **Grid Code** nor relieve either of the **Parties** from any of their obligations (if any) pursuant to the **Connection and Use of System Code** or the **Balancing and Settlement Code**.

3A.8 SUBSTITUTION OF CONTRACTED FFR UNITS

3A.8.1 If the **FFR Provider** anticipates that **Firm Frequency Response** may become unavailable from a **Contracted FFR Unit** during all or any part of any **Service Day**, the **FFR Provider** may, subject always to sub-paragraphs 3A.8.2 and 3A.8.4 and (unless the unavailability is attributable to the technical capability of the **Contracted FFR Unit**) no later than two hours prior to **Gate Closure** for the first **Settlement Period** in the affected **FFR Nominated Windows** during that **Service Day**, request by the method prescribed in the **FFR Service Procedure** that **National Grid** agree to the substitution of that **Contracted FFR Unit** (“the **Retired FFR Unit**”) by any other **Site** at the same **Grid Entry Point** (or, as the case may be, **Grid Supply Point**) which may be specified in the relevant **Firm Frequency Response Agreement** as suitable for nomination for such purpose (“the **Substitute FFR Unit**”).

3A.8.2 In any notification pursuant to sub-paragraph 3A.8.1, the **FFR Provider** shall indicate to **National Grid** the affected **FFR Nominated Windows** during the **Service Day** in question in respect of which such substitution shall apply, provided always that:-

- (a) a **Site** may not be nominated as a **Substitute FFR Unit** pursuant to sub-paragraph 3A.8.1 in respect of an **FFR Nominated Window** for which it is already a **Contracted FFR Unit**; and
- (b) a **Site** may not be nominated as a **Substitute FFR Unit** for more than one **Contracted FFR Unit** at the same time.

3A.8.3 **National Grid** shall, as soon as reasonably practicable and by the method prescribed in the **FFR Service Procedure**, at its sole discretion either accede to or decline the **FFR Provider**’s request pursuant to sub-paragraph 3A.8.1.

3A.8.4 The effect of substitution in accordance with this paragraph 3A.8 shall be to treat the **Substitute FFR Unit** as the **Contracted FFR Unit** for all purposes of this Section 3A and the **Firm Frequency Response Agreement**, and for the duration of the relevant **FFR Nominated Windows(s)** this Section 3A and the **Firm Frequency Response Agreement** shall be read and construed accordingly. Without limiting the foregoing, with respect to any **Substitute FFR Unit** and for the duration of the relevant **FFR Nominated Windows(s)**, the technical, commercial and other parameters (including without limitation the **Availability Fee**, **Nomination Fee**, **Window Revision Fee** (if any) and **Response Energy Fee** applicable to the **Retired FFR Unit** shall continue to apply.

3A.9 GRID CODE AND DISTRIBUTION CODE

The provision by the **FFR Provider** of **Firm Frequency Response** shall not relieve it of any of its obligations or affect such obligations (where applicable) set out in the **Grid Code** (including without limitation its obligations (if any) to provide **Demand** control when instructed by **National Grid** pursuant to **Grid Code OC 6**) or in the **Distribution Code** of its host **Public Distribution System Operator**.

3A.10 MAINTENANCE OF CONTRACTED FFR UNITS

The **FFR Provider** shall maintain the **Contracted FFR Units** to such a standard that the **FFR Provider** can meet its obligations to provide **Firm Frequency Response** in accordance with the terms of this **Document** and the relevant **Firm Frequency Response Agreement**.

3A.11 WARRANTY AND INDEMNITY

- 3A.11.1 The **FFR Provider** hereby warrants to **National Grid** that, where any **Contracted FFR Unit** is embedded in a **Distribution System** or **User System**, the availability and delivery of **Response** from that **Contracted FFR Unit** pursuant to and in accordance with this **Document** does not and will not cause the **FFR Provider** to be in breach of or to otherwise be non-compliant with any **Connection Agreement** and/or agreement for the supply of electricity to that **Contracted FFR Unit** and/or for the acceptance of electricity into, and its delivery from, a **User System**.
- 3A.11.2 The **FFR Provider** agrees that it will not accept an instruction from **National Grid** pursuant to paragraph 3A.4 if compliance with such instruction would cause the **FFR Provider** to be in breach or non-compliance as described in sub-paragraph 3A.11.1, and if it declines to accept an instruction on such grounds the **FFR Provider** will:-
- (a) notify **National Grid** in accordance with sub-paragraph 3A.4.6; and
 - (b) provide to **National Grid** to **National Grid**'s reasonable satisfaction such written statement and all such supporting evidence as shall be necessary to demonstrate how compliance would cause such breach or non-compliance.
- 3A.11.3 In the event that the **FFR Provider** complies with an instruction from **National Grid** which causes the **FFR Provider** to be in breach or non-compliance as described in sub-paragraph 3A.11.1 above, the **FFR Provider** shall indemnify **National Grid** against all and any claims which may be brought against **National Grid** by the **FFR Provider**'s host **Public Distribution System Operator** or any other person connected to or using the **Public Distribution System Operator**'s **User System** or any other **User System** or the owner of operator of any **User System** or any other person whatever arising out of or resulting from such breach or non-compliance. Such indemnity shall include any legal costs and expenses reasonably incurred in the contesting of such claims including the court costs and reasonable attorney's fees and other professional advisors' fees. The **Parties** agree and accept that, for the purposes of sub-paragraph 5.3.1, all such legal costs and expenses expressed to be the subject of such indemnity shall be treated as direct losses.

3A.12 PROVISION OF OTHER SERVICES

- 3A.12.1 The **FFR Provider** hereby undertakes to **National Grid** that, on the date of submission of each **FFR Tender** and on the date of formation of each **FFR Contract** in respect thereof, it will not be a party to an agreement or arrangement with its host **Public Distribution System Operator** or electricity supplier or other person to provide any service from the **Contracted FFR Unit(s)** the provision of which may impair the **FFR Provider**'s ability to provide **Firm Frequency Response** and/or perform its obligations under this **Document** and any **Firm Frequency Response Agreement**, and the **FFR Provider** will indemnify **National Grid** against any losses, liabilities, claims, expenses and demands which **National Grid** might suffer as a result of the **FFR Provider** being breach of the undertaking set out in this sub-paragraph 3A.12.1.
- 3A.12.2 Where during the term of an **FFR Contract** the **FFR Provider** intends to enter into an agreement or arrangement with its host **Public Distribution System Operator** or electricity supplier or other person to provide any service from the **Contracted FFR Unit(s)** the provision of which may impair the **FFR Provider**'s ability to provide **Firm Frequency Response** and/or perform its obligations under this **Document** and/or any **Firm Frequency Response Agreement**, the **FFR Provider** shall notify **National Grid**, in accordance with paragraph 5.8, as soon as reasonably practicable before entering into such agreement or arrangement. Upon and with effect from the entering into of any such agreement or arrangement, **National Grid** shall have the right to terminate the **FFR Contract** in question pursuant to sub-paragraph 3A.15.2.
- 3A.12.3 For the avoidance of doubt, the availability in any **Settlement Period** comprised in an **FFR Contracted Frame** of any increase or reduction in **Demand** or **Generation** from the **Contracted FFR Unit(s)** or any part thereof for the benefit of any person other than

National Grid (including without limitation the **FFR Provider's** host **Public Distribution System Operator** or electricity supplier) shall be deemed for the purposes of sub-paragraphs 3A.12.1 and 3A.12.2 to impair the **FFR Provider's** ability to provide **Firm Frequency Response**.

3A.12.4 Where, during any one or more **Settlement Periods** in a **Tendered Service Term**, the **FFR Provider** is required under the terms of any agreement with **National Grid** to provide from a **Contracted FFR Unit** a firm **Ancillary Service** or similar service (except with respect to **Reactive Power**) the **Parties** agree and acknowledge that **Firm Frequency Response** cannot be provided simultaneously with any other **Ancillary Service** and to the extent that such service provision either overlaps to any extent with a **Tendered Frame** and/or is otherwise inconsistent or in conflict with the delivery of **Firm Frequency Response**, then the **FFR Contracted Unit** shall be deemed unavailable for the purposes of sub-paragraph 3A.5.6.

3A.13 COMMUNICATIONS

Each of the **Parties** hereby agrees and acknowledges that any reference to a communication by telephone, e-mail or facsimile given by **National Grid** to the **FFR Provider** or vice versa in this Section 3A and the **FFR Service Procedure** shall, where appropriate, be deemed to include a communication given by means of an **Automatic Logging Device**, such mode of communication to commence within a date five **Business Days** following notification to the **FFR Provider** by **National Grid** to this effect. From the date on which such notification becomes effective, instructions and confirmations stored on the **Automatic Logging Device** shall (except during **Periods** when the **Automatic Logging Device** is unavailable for whatever reason in which case communication by telephone, e-mail or facsimile (whichever is appropriate) shall resume with immediate effect) be conclusive evidence of the giving and/or receipt of any communication required to be given pursuant to the terms of this Section 3A. The **Parties** consent to the recording of all telephone conversations between them relating in whole or in part to this **Document**, and each **Party** agrees to notify its employees of that consent and obtain their consent to that recording if required by law.

3A.14 MONITORING AND TESTING

Monitoring

3A.14.1 The availability of **Firm Frequency Response** and the amount of **Response** delivered shall be monitored by **National Grid** from time to time.

3A.14.2 Without prejudice to the generality of sub-paragraph 3A.14.1, **National Grid** reserves the right to assess the availability of **Firm Frequency Response** from a **Contracted FFR Unit** in accordance with the following provisions:-

- (a) the **Demand** or **Generation** profile of the **Contracted FFR Unit** from time to time shall be ascertained by reference to a combination of second by second output data;
- (b) where the **Contracted FFR Unit** provides low **Frequency Response** by automatic reduction of **Demand**, then **National Grid** shall, using its analysis software, derive a percentage performance measure for the **Contracted FFR Unit** for the **FFR Nominated Window** in question, based on the difference between (1) the **Automatic Response Energy Deliverable** by 30 seconds and (2) the lowest point in the **Demand** profile ascertained pursuant to sub-paragraph 3A.14.2(a) (or, in the case of an applicable **Part Load Point** to which **Demand** is reduced, the difference between such lowest point in the **Demand** profile and such **Part Load Point**);
- (c) where the **Contracted FFR Unit** provides low **Frequency Response** by automatic increase of **Generation**, then **National Grid** shall, using its analysis software, derive a percentage performance measure for the **Contracted FFR**

Unit for the **FFR Nominated Window** in question, based on the difference between (1) the **Automatic Response Energy Deliverable** by 30 seconds and (2) the difference between the highest point in the **Generation** profile ascertained pursuant to sub-paragraph 3A.14.2(a) and the **Maximum Available Output**;

- (d) where the **Contracted FFR Unit** provides **High Frequency Response** by automatic increase of **Demand**, then **National Grid** shall, using its analysis software, derive a percentage performance measure for the **Contracted FFR Unit** for the **FFR Nominated Window** in question, based on the difference between (1) the **Automatic Response Energy Deliverable** by 30 seconds and (2) the difference between the highest point in the **Demand** profile ascertained pursuant to sub-paragraph 3A.14.2(a) and the **Maximum Available Demand**;
- (e) where the **Contracted FFR Unit** provides **High Frequency Response** by automatic reduction of **Generation**, then **National Grid** shall, using its analysis software, derive a percentage performance measure for the **Contracted FFR Unit** for the **FFR Nominated Window** in question, based on the difference between (1) the **Automatic Response Energy Deliverable** by 30 seconds and (2) the lowest point in the **Generation** profile ascertained pursuant to sub-paragraph 3A.14.2(a) (or, in the case of an applicable **Part Load Point** to which **Generation** is reduced, the difference between such lowest point in the **Demand** profile and such **Part Load Point**); and
- (f) where, in respect of any **FFR Nominated Window**, the delivery of **Automatic Response** is assessed by **National Grid** pursuant to sub-paragraph 3A.14.3, then any deduction in the **Nomination Fee** attributable to each **Settlement Period** in such **FFR Nominated Window** pursuant to sub-paragraph 3A.14.4 shall be in lieu of any deductions to the **Nomination Fee** otherwise required to be made in respect of such **Settlement Period** pursuant to this sub-paragraph 3A.14.2.

3A.14.3 Without prejudice to the generality of sub-paragraph 3A.14.1, **National Grid** also reserves the right to assess the delivery of **Automatic Response** from a **Contracted FFR Unit** in respect of any period during which the **Relay** is armed by the **FFR Provider** in accordance with an instruction (or deemed instruction) from **National Grid** pursuant to sub-paragraph 3A.4.2 and at any time during that period the **System Frequency** transgresses the **Pre-Set Level** (in this sub-paragraph 3A.14.3 “a **Relevant Frequency Incident**”), in accordance with the following methodology:-

- (a) the level of **Demand** or **Generation** (as the case may be) immediately prior to, and for the remainder of the **FFR Nominated Window** after, the **Relevant Frequency Incident** shall be derived from the **Demand** or **Generation** profile (as the case may be) ascertained pursuant to sub-paragraph 3A.14.2(a), in order to ascertain the **Automatic Response** delivered and sustained;
- (b) using its analysis software **National Grid** shall derive a percentage performance measure (PPM), where:

$$\text{PPM} = \text{C/D} * 100$$

and where:

C is the difference between the level of **Demand** or **Generation** (as the case may be) immediately prior to the **Relevant Frequency Incident** and a level being (i) in the case of low **Frequency Response**, the lowest level of **Generation** or the highest level of **Demand** (as the case may be) or (ii) in the case of **High Frequency Response**, the highest level of **Generation** or the lowest level of **Demand** (as the case may be), in each case during the period over which **Automatic Response** is required pursuant to sub-paragraph 3A.4.4 to be sustained and derived from the operating profile ascertained pursuant to sub-paragraph 3A.14.2(a), and

D is the **Automatic Response Energy Deliverable**.

3A.14.4 The percentage performance measure derived pursuant to sub-paragraphs 3A.14.2 and 3A.14.3 shall be used to determine a percentage deduction in the **Nomination Fee** attributable to all **Settlement Periods** in the **FFR Nominated Window** in question, the **Window Initiation Fee** for that **FFR Nominated Window** and the **Availability Fee** attributable to the duration of that **FFR Nominated Window**, using the following table:-

Percentage Performance Measure	Percentage Deduction in Fees
<10%	100%
≥10%, <60%	50%
≥60%, <95%	25%
≥95%	0%

3A.14.5 The **FFR Provider** shall provide to **National Grid** all information and reasonable assistance necessary for **National Grid** to derive output data for the purposes of sub-paragraph 3A.5.3 and sub-paragraphs 3A.14.2 to 3A.14.4 inclusive, and shall allow **National Grid**, its employees, agents, suppliers, contractors and sub-contractors necessary access to the **Contracted FFR Unit(s)** and such other parts of the **Premises** in connection therewith. Without limitation the **FFR Provider** hereby grants to **National Grid** the right to collect and record data from any **On-Site Monitoring Equipment**.

Testing

3A.14.6 Without prejudice to the sub-paragraph 2.2.5 and the preceding provisions of this paragraph 3A.14, if at any time during an **FFR Contracted Service Term National Grid** has reasonable grounds for believing that a **Contracted FFR Unit** does not have the capability to provide **Firm Frequency Response** in accordance with this **Document**, then **National Grid** shall so notify the **FFR Provider** in writing together with its reason therefor, and **Firm Frequency Response** shall thenceforth be deemed to be unavailable from such **Contracted FFR Unit** for the purposes of sub-paragraph 3A.5.5 until such time as it is demonstrated to **National Grid**'s reasonable satisfaction that capability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is restored, which may be by **Reproving Test** in accordance with paragraphs 7.3 and 7.4.

3A.14.7 If, pursuant to sub-paragraph 3A.14.6, a **Contracted FFR Unit** remains unavailable to provide **Firm Frequency Response** for more than two consecutive calendar months, then **National Grid** may in its absolute discretion terminate the **FFR Contract** in question pursuant to sub-paragraph 3A.15.2.

3A.15 TERMINATION OF FFR CONTRACTS

3A.15.1 All **FFR Contracts** with respect to any **Contracted FFR Unit** shall automatically terminate upon and with effect from termination (for whatever reason) of the **Firm Frequency Response Agreement** with respect to that **Contracted FFR Unit** whether in accordance with paragraph 5.4 or otherwise.

3A.15.2 Without prejudice to sub-paragraphs 3A.15.1 and 3A.15.3 and paragraph 5.4, **National Grid** may in its absolute discretion terminate an **FFR Contract** in respect of the **Contracted FFR Unit(s)** in question forthwith by notice in writing to the **FFR Provider** in the following circumstances:-

- (a) where the **FFR Provider** persistently fails to make available and/or provide **Firm Frequency Response** from any **Contracted FFR Unit** (including any **Substitute FFR Unit** in respect of **Periods** when that **Contracted BM Unit** is a **Retired FFR Unit**) and such failure amounts to an intentional or reckless breach or disregard by the **FFR Provider** of its obligations under this Section 3A and the **Firm Frequency Response Agreement**; or
- (b) in the circumstances set out in sub-paragraphs 3A.12.2 and 3A.14.7.

- 3A.15.3 Where in respect of any **FFR Contract** the number of **Events of Default** to which this sub-paragraph 3A.15.3 is expressed in the Annexure to this Section 3A to apply (Unavailability) exceeds three in any calendar month, then **National Grid** shall be entitled (at its sole discretion, but subject always to sub-paragraph 3A.15.4) to terminate the **FFR Contract** in question forthwith by notice in writing to the **FFR Provider**.
- 3A.15.4 Before deciding (in its sole discretion) whether to exercise its rights to terminate any **FFR Contract** pursuant to sub-paragraph 3A.15.3, **National Grid** shall use reasonable endeavours to discuss with the **FFR Provider** the circumstances giving rise to the relevant **Events of Default** (any such discussion to be confirmed in writing by **National Grid**).
- 3A.15.5 For the avoidance of doubt, **National Grid**'s rights pursuant to sub-paragraph 3A.15.3 shall arise upon the occurrence of the third and each successive such **Event of Default** thereafter.
- 3A.15.6 Upon each **Event of Default** to which this sub-paragraph 3A.15.6 is expressed in the Annexure to this Section 3A to apply (Arming/Disarming), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR Contract** in respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider**.
- 3A.15.7 Upon each **Event of Default** to which this sub-paragraph 3A.15.7 is expressed in the Annexure to this Section 3A to apply (Notification of Unavailability), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR Contract** in respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider**.
- 3A.15.8 Upon each **Event of Default** to which this sub-paragraph 3A.15.8 is expressed in the Annexure to this Section 3A to apply (Response Delivery), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR Contract** in respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider**.
- 3A.15.9 Termination of any **FFR Contract** shall not affect any accrued rights or liability of either **Party** or the coming into effect or continuance of any provision thereof which is expressly or by implication intended to come into force or effect after such termination.
- 3A.15.10 For the purposes of this sub-paragraph 3A.15 and the Annexure to this Section 3A, where the **FFR Provider** is subject to an **FFR Contract** in respect of **Additional Response**, then an **Event of Default**, and the corresponding consequences in respect of such **Event of Default**, shall apply to both the **FFR Contract** in respect of the **Initial Response** and the **FFR Contract** in respect of the **Additional Response**.

ANNEXURE TO SECTION 3A

EVENTS OF DEFAULT AND CONSEQUENCES

Events of Default	Consequences
<p>A. <u>Unavailability</u> In respect of any Settlement Period comprised in any FFR Nominated Window (as revised), and in respect of any Contracted FFR Unit, Firm Frequency Response is unavailable (whether as shown by monitoring pursuant to sub-paragraph 3A.14.2 or otherwise).</p> <p>For the purposes of sub-paragraph 3A.15.3, the occurrence of one or more Events of Default in respect of the same FFR Nominated Window in a Service Day shall constitute a single Event of Default.</p>	<p>In relation to each affected FFR Nominated Window, the provisions of sub-paragraph 3A.15.3 shall apply.</p>
<p>B. <u>Arming/Disarming</u></p> <p>The FFR Provider fails to arm or disarm the Relay under and in accordance with sub-paragraph 3A.4.2 or 3A.4.3 (as the case may be).</p> <p>For the purposes of sub-paragraph 3A.15.6, the occurrence of one or more Events of Default in respect of the same FFR Nominated Window in a Service Day shall constitute a single Event of Default.</p>	<p>For the purposes of paragraph 3A.5, National Grid may (at its option) in respect of that Contracted FFR Unit:-</p> <p>(a) deem the Availability Fee, the Nomination Fee and the Window Revision Fee (if applicable) for the whole of the FFR Nominated Window in question to be zero; and</p> <p>(b) deem the Window Initiation Fee for the FFR Nominated Window in question to be zero</p> <p>In addition, in relation to affected FFR Nominated Windows in a Service Day, the provisions of sub-paragraph 3A.15.6 shall apply.</p>
<p>C. <u>Notification of Unavailability</u> A failure by the FFR Provider to notify inability to provide Firm Frequency Response in respect of any Contracted FFR Unit forthwith in accordance with sub-paragraph 3A.2.5 or 3A.4.6 (as the case may be).</p>	<p>The provisions of sub-paragraph 3A.15.7 shall apply.</p>
<p>D. <u>Response Delivery</u></p> <p>A failure (for whatever reason) of the Relay(s) to trip and/or Automatic Response to be provided as required by paragraph 3A.4.</p>	<p>The provisions of sub-paragraph 3A.15.8 shall apply.</p>

SECTION 4 FIRM FREQUENCY RESPONSE - NON-BALANCING MECHANISM PARTICIPANTS (NON-DYNAMIC)

4.1 INTRODUCTION

4.1.1 Section 4 sets out the terms for provision of **Firm Frequency Response** where the **FFR Provider** provides **Firm Frequency Response** either:-

- (a) as a **Non-Balancing Mechanism Participant**; or
- (b) from **Generating Unit(s)** and/or other **Plant** and **Apparatus** which are established and registered as a **BM Unit(s)** under and in accordance with the **Balancing and Settlement Code** but which do not and will not for the duration of any **FFR Contract** actively participate in the **Balancing Mechanism** during **FFR Nominated Windows** (as revised pursuant to paragraph 4.3).

4.1.2 The provisions of this Section 4 shall apply with respect to an **FFR Provider** who has submitted an **FFR Tender** which has been accepted in respect of such **Generating Unit(s)** and/or other **Plant** and **Apparatus** by **National Grid** pursuant to sub-paragraph 2.5.1 so as to form an **FFR Contract** or where the context otherwise requires.

4.2 WINDOW NOMINATION

4.2.1 In accordance with sub-paragraph 4.2.2, **National Grid** shall notify the **FFR Provider** by the method prescribed in the **FFR Service Procedure** of those **Settlement Periods** (if any) comprised within each **FFR Contracted Frame** during each **Service Day** during the following calendar month in respect of which **National Grid** requires **Firm Frequency Response** to be provided from one or more of the **Contracted FFR Units** (“the **FFR Nominated Windows(s)**”).

4.2.2 For **FFR Contracts** comprising:-

- (a) **Tendered Service Weeks**, **National Grid** shall notify **FFR Nomination Windows** by no later than 17.00 hours on the Thursday immediately preceding commencement of the relevant **Tendered Service Week**, in respect of the **FFR Contracted Frames** falling in each **Service Day** during the relevant week; and
- (b) **Tendered Service Months**, **National Grid** shall notify **FFR Nomination Windows** by no later than 17.00 hours on the twelfth **Business Day** of the calendar month, in respect of the **FFR Contracted Frames** falling in each **Service Day** during the relevant calendar month.

4.2.3 Each notification of **FFR Nominated Windows** shall take account of any relevant **Utilisation Restrictions** in respect of the **Contracted FFR Units** and any notification of unavailability made by the **FFR Provider** pursuant to sub-paragraph 4.2.5.

4.2.4 The **FFR Provider** shall acknowledge receipt of each notification of **FFR Nominated Windows** as soon as reasonably practicable by the method prescribed in the **FFR Service Procedure**, but failure to do so shall not relieve the **FFR Provider** of its obligations set out in this Section 4.

4.2.5 The **FFR Provider** shall notify **National Grid** by the method prescribed in the **FFR Service Procedure** forthwith upon becoming aware of any inability (howsoever caused) of any **Contracted FFR Unit** to provide **Firm Frequency Response** in all or any part of any **FFR Contracted Frame**, including a reduction in the level of **Response** below the level set out in the **Tendered Service Parameters** (“**Reduced Availability**”) and, subject to sub-paragraph 4.2.6, with effect from the start of such inability and for the duration of such **FFR Contracted Frame**, or if earlier until otherwise notified by the **FFR Provider** by the method prescribed in the **FFR Service Procedure** that the ability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is fully restored, **Firm Frequency Response**

shall be deemed to be unavailable from such **Contracted FFR Unit** for the purposes of sub-paragraph 4.5.6.

- 4.2.6 Following receipt of a notice under sub-paragraph 4.2.5 indicating **Reduced Availability, National Grid** may, at its sole discretion and provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than 10MW or from and including 1st April 2017, provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than the greater of one (1) MW and five percent (5%) of the contracted **Response**, agree that the **Contracted FFR Unit** shall continue to be treated as available, subject to reductions in the **Availability Fee** and the level of **Response** to be provided.

4.3 REVISIONS TO FFR NOMINATED WINDOWS

- 4.3.1 Where the **FFR Provider** has made available in the **FFR Tender** the **Window Revision Facility, National Grid** may revise the **FFR Nominated Windows** in respect of any **Service Day** by notice in writing to the **FFR Provider** by the method prescribed in the **FFR Service Procedure** no later than 10.00 hours on the immediately preceding **Service Day** provided always that any revised **FFR Nominated Windows** shall constitute one or more **Settlement Periods** comprised within an **FFR Contracted Frame**. For the avoidance of doubt, an **FFR Nominated Window** may be revised in accordance with this sub-paragraph 4.3.1 so as to create two or more **FFR Nominated Windows**.
- 4.3.2 Each notification of a revision to an **FFR Nominated Window** shall take account of any relevant **Utilisation Restrictions** in respect of the **Contracted FFR Units** and any notification of unavailability made by the **FFR Provider** pursuant to sub-paragraph 4.2.5.
- 4.3.3 The **FFR Provider** shall acknowledge receipt of each notification of a revision to an **FFR Nominated Window** as soon as reasonably practicable by the method prescribed in the **FFR Service Procedure**, but failure to do so shall not relieve the **FFR Provider** of its obligations set out in this Section 4.

4.4 PROVISION OF FIRM FREQUENCY RESPONSE

- 4.4.1 Where **National Grid** shall have notified the **FFR Provider** of the **FFR Nominated Windows** in respect of any **Service Day**, and in respect of each **Settlement Period** comprised within such **FFR Nominated Windows(s)** as revised pursuant to paragraph 4.3, the **FFR Provider** shall procure that the **Contracted FFR Unit** is available to provide **Automatic Response** of an amount equal to the **Automatic Response Energy Deliverable**, initiated by the tripping of the **Relay** following a transgression in **System Frequency** above or below the **Pre-Set Level**.
- 4.4.2 At the commencement of each **FFR Nominated Window**, as revised pursuant to paragraph 4.3, the **FFR Provider** shall arm the **Relay** so as to provide **Automatic Response** in accordance with sub-paragraph 4.4.1 throughout each **FFR Nominated Window**.
- 4.4.3 The **FFR Provider** shall disarm the **Relay** upon the expiry of each **FFR Nominated Window**.
- 4.4.4 Where the **Relay** is armed by the **FFR Provider** in accordance with sub-paragraph 4.4.2 and until the **Relay** is disarmed in accordance with sub-paragraph 4.4.3, the **FFR Provider** shall, following a transgression in **System Frequency** above or below the **Pre-Set Level**, procure that the **Automatic Response Energy Deliverable** is delivered in accordance with sub-paragraph 4.4.1 and sustained until the expiry of the **Maximum Response Period** or such longer period as **National Grid** may agree with the **FFR Provider** pursuant to sub-paragraph 4.4.5.
- 4.4.5 The **Parties** may from time to time agree in writing that the **FFR Provider** shall sustain **Automatic Response** in accordance with this sub-paragraph 4.4 for a period longer than that specified in sub-paragraph 4.4.4 and for the avoidance of doubt any payments due pursuant to sub-paragraph 4.5 shall be calculated accordingly.

- 4.4.6 After the **FFR Provider** has been notified as described in sub-paragraph 4.4.1, the **FFR Provider** shall notify **National Grid** by the method prescribed in the **FFR Service Procedure** forthwith upon becoming aware of any inability (howsoever caused) of any **Contracted FFR Unit** to provide **Firm Frequency Response** in all or any part of any **FFR Nominated Window** as revised pursuant to sub-paragraph 4.3, including any **Reduced Availability** and, subject to sub-paragraph 4.4.7, and with effect from the start of such inability and for the duration of such **FFR Nominated Window**, or if earlier until notified by the **FFR Provider** by the method prescribed in the **FFR Service Procedure** that the ability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is restored, **Firm Frequency Response** shall be deemed to be unavailable from such **Contracted FFR Unit** for the purposes of sub-paragraph 4.5.6.
- 4.4.7 Following receipt of a notice under sub-paragraph 4.4.6, **National Grid** may, at its sole discretion and provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than 10MW or from and including 1st April 2017, provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than the greater of one (1) MW and five percent (5%) of the contracted **Response**., agree that the **Contracted FFR Unit** shall continue to be treated as available, subject to reductions in the **Availability Fee** and the level of **Response** to be provided.

4.5 PAYMENT

- 4.5.1 In respect of each calendar month and each relevant **Contracted FFR Unit**, and subject always to the following provisions of this paragraph 4.5, paragraph 4.7 and sub-paragraph 5.12.2, **National Grid** shall in accordance with paragraph 5.2 pay to the **FFR Provider** in respect of the **Initial Response** and (where applicable) the **Additional Response**:-
- (a) a payment (“the **Availability Payment**”) calculated as the **Availability Fee** subject where applicable to adjustment in accordance with sub-paragraphs 4.2.6 or 4.4.7) multiplied by the aggregate number of hours comprised within **FFR Contracted Frames** during that calendar month;
 - (b) a payment (“the **Window Initiation Payment**”) calculated as the **Window Initiation Fee** multiplied by the number of individual **FFR Nominated Window** as revised pursuant to paragraph 4.3 during that calendar month; and
 - (c) a payment (“the **Nomination Payment**”) calculated as the **Nomination Fee** multiplied by the aggregate number of hours comprised within **FFR Nominated Windows** as revised pursuant to paragraph 4.3 during that calendar month (for the avoidance of doubt whether or not the **Relay** has been instructed to be armed in all or part of any **FFR Nominated Window**).
- 4.5.2 In addition to sub-paragraph 4.5.1, where the **Window Revision Facility** is made available in the **FFR Tender**, **National Grid** shall pay to the **FFR Provider**, in respect of each calendar month and each relevant **Contracted FFR Unit**, a payment (“the **Window Revision Payment**”) in respect of the **Initial Response** and (where applicable) the **Additional Response** calculated as the **Window Revision Fee** (if any) multiplied by the aggregate number of hours during that calendar month which are the subject of revision by **National Grid** in accordance with paragraph 4.3 (which for this purpose shall comprise **Settlement Periods** originally falling either within or outside of **FFR Nominated Windows** and thereby ceasing to do so).
- 4.5.3 Not Used.
- 4.5.4 For the avoidance of doubt:-
- (a) where an **FFR Nominated Window** is revised in accordance with sub-paragraph 4.3.1 so as to create two or more **FFR Nominated Windows**, the **Window Initiation Payment** shall be payable in accordance with sub-paragraph 4.5.1(a)

in respect of each **FFR Nominated Window** so created, and the **Nomination Payment** shall be payable in accordance with sub-paragraph 4.5.1(b) in respect of hours comprised within each such **FFR Nominated Window**; and

- (b) where two or more **FFR Nominated Windows** are revised in accordance with sub-paragraph 4.3.1 so as to be consolidated into a reduced number of **FFR Nominated Windows(s)**, the **Window Initiation Payment** shall be payable in accordance with sub-paragraph 4.5.1(a) in respect of such reduced number of **FFR Nominated Windows(s)**, and the **Nomination Payment** shall be payable in accordance with sub-paragraph 4.5.1(b) in respect of hours comprised within such reduced number of **FFR Nominated Windows(s)**.

4.5.5 Following **National Grid**'s assessment of unavailability of **Firm Frequency Response** or under-delivery of **Automatic Response** from a **Contracted FFR Unit** during an **FFR Nominated Window** pursuant to sub-paragraph 4.14.2, the payments falling due to the **FFR Provider** pursuant to this paragraph 4.5 in respect thereof shall be subject to a deduction as more particularly specified in sub-paragraphs 4.14.2 to 4.14.4 inclusive. If a **Contracted FFR Unit** is contracted to provide both **Initial Response** and **Additional Response**, any under-delivery of **Response** from that **Contracted FFR Unit** during an **FFR Nominated Window** pursuant to sub-paragraph 4.14.2 shall be subject to a deduction in payments falling due to the **FFR Provider** by taking into account the aggregate volume and aggregate **Tendered Price** of the **Initial Response** and the **Additional Response**, to be calculated in accordance with the methodology set out in the **Firm Frequency Response Agreement**.

4.5.6 No payments shall be made by **National Grid** to the **FFR Provider** pursuant to this paragraph 4.5 in respect of any period or periods during which, in accordance with any provision of this Section 4 and in relation to any **Contracted FFR Unit**, **Firm Frequency Response** is deemed to be unavailable provided always that **National Grid** may at its sole discretion ignore a period of unavailability for the purposes of this paragraph 4.5 where the period of unavailability is short in duration and the **FFR Provider** has used all reasonable endeavours to restore availability as soon as practicable.

4.6 **NOT USED**

4.7 **EVENTS OF DEFAULT AND CONSEQUENCES**

4.7.1 Each of the occurrences or failures specified in the Annexure to this Section 4 as an **Event of Default** shall result in the consequences set out therein in relation to such occurrence or failure.

4.7.2 For the purposes of sub-paragraph 4.7.1, unless otherwise expressly stated in the Annexure to this Section 4, it is acknowledged that the same occurrence or failure may constitute more than one **Event of Default**.

4.7.3 For the avoidance of doubt, the consequences set out in respect of any **Event of Default** in the Annexure to this Section 4 shall not relieve the **FFR Provider** of its obligations (if any) pursuant to the **Grid Code** nor relieve either of the **Parties** from any of their obligations (if any) pursuant to the **Connection and Use of System Code** or the **Balancing and Settlement Code**.

4.8 **SUBSTITUTION OF CONTRACTED FFR UNITS**

4.8.1 If the **FFR Provider** anticipates that **Firm Frequency Response** may become unavailable from a **Contracted FFR Unit** during all or any part of any **Service Day**, the **FFR Provider** may, subject always to sub-paragraphs 4.8.2 and 4.8.4 and (unless the unavailability is attributable to the technical capability of the **Contracted FFR Unit**) no later than two hours prior to **Gate Closure** for the first **Settlement Period** in the affected **FFR Nominated Windows** during that **Service Day**, request by the method prescribed in the **FFR Service Procedure** that **National Grid** agree to the substitution of that **Contracted FFR Unit** ("the **Retired FFR Unit**") by any other **Site** at the same **Grid Entry Point** (or,

as the case may be, **Grid Supply Point**) which may be specified in the relevant **Firm Frequency Response Agreement** as suitable for nomination for such purpose (“the **Substitute FFR Unit**”).

4.8.2 In any notification pursuant to sub-paragraph 4.8.1, the **FFR Provider** shall indicate to **National Grid** the affected **FFR Nominated Windows** during the **Service Day** in question in respect of which such substitution shall apply, provided always that:-

- (a) a **Site** may not be nominated as a **Substitute FFR Unit** pursuant to sub-paragraph 4.8.1 in respect of an **FFR Nominated Window** for which it is already a **Contracted FFR Unit**; and
- (b) a **Site** may not be nominated as a **Substitute FFR Unit** for more than one **Contracted FFR Unit** at the same time.

4.8.3 **National Grid** shall, as soon as reasonably practicable and by the method prescribed in the **FFR Service Procedure**, at its sole discretion either accede to or decline the **FFR Provider**'s request pursuant to sub-paragraph 4.8.1.

4.8.4 The effect of substitution in accordance with this paragraph 4.8 shall be to treat the **Substitute FFR Unit** as the **Contracted FFR Unit** for all purposes of this Section 4 and the **Firm Frequency Response Agreement**, and for the duration of the relevant **FFR Nominated Windows(s)** this Section 4 and the **Firm Frequency Response Agreement** shall be read and construed accordingly. Without limiting the foregoing, with respect to any **Substitute FFR Unit** and for the duration of the relevant **FFR Nominated Windows(s)**, the technical, commercial and other parameters (including without limitation the **Availability Fee**, **Nomination Fee** and **Window Revision Fee** (if any) applicable to the **Retired FFR Unit** shall continue to apply.

4.9 **GRID CODE AND DISTRIBUTION CODE**

The provision by the **FFR Provider** of **Firm Frequency Response** shall not relieve it of any of its obligations or affect such obligations (where applicable) set out in the **Grid Code** (including without limitation its obligations (if any) to provide **Demand** control when instructed by **National Grid** pursuant to **Grid Code OC 6**) or in the **Distribution Code** of its host **Public Distribution System Operator**.

4.10 **MAINTENANCE OF CONTRACTED FFR UNITS**

The **FFR Provider** shall maintain the **Contracted FFR Units** to such a standard that the **FFR Provider** can meet its obligations to provide **Firm Frequency Response** in accordance with the terms of this **Document** and the relevant **Firm Frequency Response Agreement**.

4.11 **WARRANTY AND INDEMNITY**

4.11.1 The **FFR Provider** hereby warrants to **National Grid** that, where any **Contracted FFR Unit** is embedded in a **Distribution System** or **User System**, the availability and delivery of **Response** from that **Contracted FFR Unit** pursuant to and in accordance with this **Document** does not and will not cause the **FFR Provider** to be in breach of or to otherwise be non-compliant with any **Connection Agreement** and/or agreement for the supply of electricity to that **Contracted FFR Unit** and/or for the acceptance of electricity into, and its delivery from, a **User System**.

4.11.2 The **FFR Provider** agrees that it will not accept an instruction from **National Grid** pursuant to paragraph 4.4 if compliance with such instruction would cause the **FFR Provider** to be in breach or non-compliance as described in sub-paragraph 4.11.1, and if it declines to accept an instruction on such grounds the **FFR Provider** will:-

- (a) notify **National Grid** in accordance with sub-paragraph 4.4.6; and
 - (b) provide to **National Grid** to **National Grid's** reasonable satisfaction such written statement and all such supporting evidence as shall be necessary to demonstrate how compliance would cause such breach or non-compliance.
- 4.11.3 In the event that the **FFR Provider** complies with an instruction from **National Grid** which causes the **FFR Provider** to be in breach or non-compliance as described in sub-paragraph 4.11.1 above, the **FFR Provider** shall indemnify **National Grid** against all and any claims which may be brought against **National Grid** by the **FFR Provider's** host **Public Distribution System Operator** or any other person connected to or using the **Public Distribution System Operator's User System** or any other **User System** or the owner of operator of any **User System** or any other person whatever arising out of or resulting from such breach or non-compliance. Such indemnity shall include any legal costs and expenses reasonably incurred in the contesting of such claims including the court costs and reasonable attorney's fees and other professional advisors' fees. The **Parties** agree and accept that, for the purposes of sub-paragraph 5.3.1, all such legal costs and expenses expressed to be the subject of such indemnity shall be treated as direct losses.

4.12 **PROVISION OF OTHER SERVICES**

- 4.12.1 The **FFR Provider** hereby undertakes to **National Grid** that, on the date of submission of each **FFR Tender** and on the date of formation of each **FFR Contract** in respect thereof, it will not be a party to an agreement or arrangement with its host **Public Distribution System Operator** or electricity supplier or other person to provide any service from the **Contracted FFR Unit(s)** the provision of which may impair the **FFR Provider's** ability to provide **Firm Frequency Response** and/or perform its obligations under this **Document** and any **Firm Frequency Response Agreement**, and the **FFR Provider** will indemnify **National Grid** against any losses, liabilities, claims, expenses and demands which **National Grid** might suffer as a result of the **FFR Provider** being breach of the undertaking set out in this sub-paragraph 4.12.1.
- 4.12.2 Where during the term of an **FFR Contract** the **FFR Provider** intends to enter into an agreement or arrangement with its host **Public Distribution System Operator** or electricity supplier or other person to provide any service from the **Contracted FFR Unit(s)** the provision of which may impair the **FFR Provider's** ability to provide **Firm Frequency Response** and/or perform its obligations under this **Document** and/or any **Firm Frequency Response Agreement**, the **FFR Provider** shall notify **National Grid**, in accordance with paragraph 5.8, as soon as reasonably practicable before entering into such agreement or arrangement. Upon and with effect from the entering into of any such agreement or arrangement, **National Grid** shall have the right to terminate the **FFR Contract** in question pursuant to sub-paragraph 4.15.2.
- 4.12.3 For the avoidance of doubt, the availability in any **Settlement Period** comprised in an **FFR Contracted Frame** of any increase or reduction in **Demand** or **Generation** from the **Contracted FFR Unit(s)** or any part thereof for the benefit of any person other than **National Grid** (including without limitation the **FFR Provider's** host **Public Distribution System Operator** or electricity supplier) shall be deemed for the purposes of sub-paragraphs 4.12.1 and 4.12.2 to impair the **FFR Provider's** ability to provide **Firm Frequency Response**.
- 4.12.4 Where, during any one or more **Settlement Periods** in a **Tendered Service Term**, the **FFR Provider** is required under the terms of any agreement with **National Grid** to provide from a **Contracted FFR Unit** a firm **Ancillary Service** (except with respect to **Reactive Power**) the **Parties** agree and acknowledge that **Firm Frequency Response** cannot be provided simultaneously with any other **Ancillary Service** and to the extent that such service provision either overlaps to any extent with a **Tendered Frame** and/or is otherwise inconsistent or in conflict with the delivery of **Firm Frequency Response**, then the **Contracted FFR Unit** shall be deemed unavailable for the purposes of sub-paragraph 4.5.6.

4.13 COMMUNICATIONS

Each of the **Parties** hereby agrees and acknowledges that any reference to a communication by telephone, e-mail or facsimile given by **National Grid** to the **FFR Provider** or vice versa in this Section 4 and the **FFR Service Procedure** shall, where appropriate, be deemed to include a communication given by means of an **Automatic Logging Device**, such mode of communication to commence within a date five **Business Days** following notification to the **FFR Provider** by **National Grid** to this effect. From the date on which such notification becomes effective, instructions and confirmations stored on the **Automatic Logging Device** shall (except during **Periods** when the **Automatic Logging Device** is unavailable for whatever reason in which case communication by telephone, e-mail or facsimile (whichever is appropriate) shall resume with immediate effect) be conclusive evidence of the giving and/or receipt of any communication required to be given pursuant to the terms of this Section 4. The **Parties** consent to the recording of all telephone conversations between them relating in whole or in part to this **Document**, and each **Party** agrees to notify its employees of that consent and obtain their consent to that recording if required by law.

4.14 MONITORING AND TESTING

Monitoring

- 4.14.1 The availability of **Firm Frequency Response** and the amount of **Response** delivered shall be monitored by **National Grid** from time to time.
- 4.14.2 Without prejudice to the generality of sub-paragraph 4.14.1, **National Grid** reserves the right to assess the availability of **Firm Frequency Response** from a **Contracted FFR Unit** in accordance with the following provisions:-
- (a) the **Demand** or **Generation** profile of the **Contracted FFR Unit** from time to time shall be ascertained by reference to a combination of second by second output data;
 - (b) where the **Contracted FFR Unit** provides low **Frequency Response** by automatic reduction of **Demand**, then **National Grid** shall, using its analysis software, derive a percentage performance measure for the **Contracted FFR Unit** for the **FFR Nominated Window** in question, based on the difference between (1) the **Automatic Response Energy Deliverable** by 30 seconds and (2) the lowest point in the **Demand** profile ascertained pursuant to sub-paragraph 4.14.2(a) (or, in the case of an applicable **Part Load Point** to which **Demand** is reduced, the difference between such lowest point in the **Demand** profile and such **Part Load Point**);
 - (c) where the **Contracted FFR Unit** provides low **Frequency Response** by automatic increase of **Generation**, then **National Grid** shall, using its analysis software, derive a percentage performance measure for the **Contracted FFR Unit** for the **FFR Nominated Window** in question, based on the difference between (1) the **Automatic Response Energy Deliverable** by 30 seconds and (2) the difference between the highest point in the **Generation** profile ascertained pursuant to sub-paragraph 4.14.2(a) and the **Maximum Available Output**;
 - (d) where the **Contracted FFR Unit** provides **High Frequency Response** by automatic increase of **Demand**, then **National Grid** shall, using its analysis software, derive a percentage performance measure for the **Contracted FFR Unit** for the **FFR Nominated Window** in question, based on the difference between (1) the **Automatic Response Energy Deliverable** by 30 seconds and (2) the difference between the highest point in the **Demand** profile ascertained pursuant to sub-paragraph 4.14.2(a) and the **Maximum Available Demand**;
 - (e) where the **Contracted FFR Unit** provides **High Frequency Response** by automatic reduction of **Generation**, then **National Grid** shall, using its analysis software, derive a percentage performance measure for the **Contracted FFR**

Unit for the **FFR Nominated Window** in question, based on the difference between (1) the **Automatic Response Energy Deliverable** by 30 seconds and (2) the lowest point in the **Generation** profile ascertained pursuant to sub-paragraph 4.14.2(a) (or, in the case of an applicable **Part Load Point** to which **Generation** is reduced, the difference between such lowest point in the **Demand** profile and such **Part Load Point**); and

- (f) where, in respect of any **FFR Nominated Window**, the delivery of **Automatic Response** is assessed by **National Grid** pursuant to sub-paragraph 4.14.3, then any deduction in the **Nomination Fee** attributable to each **Settlement Period** in such **FFR Nominated Window** pursuant to sub-paragraph 4.14.4 shall be in lieu of any deductions to the **Nomination Fee** otherwise required to be made in respect of such **Settlement Period** pursuant to this sub-paragraph 4.14.2.

4.14.3 Without prejudice to the generality of sub-paragraph 4.14.1, **National Grid** also reserves the right to assess the delivery of **Automatic Response** from a **Contracted FFR Unit** in respect of any period during which the **Relay** is armed by the **FFR Provider** in accordance with sub-paragraph 4.4.2 and at any time during that period the **System Frequency** transgresses the **Pre-Set Level** (in this sub-paragraph 4.14.3 “a **Relevant Frequency Incident**”), in accordance with the following methodology:-

- (a) the level of **Demand** or **Generation** (as the case may be) immediately prior to, and for the remainder of the **FFR Nominated Window** after, the **Relevant Frequency Incident** shall be derived from the **Demand** or **Generation** profile (as the case may be) ascertained pursuant to sub-paragraph 4.14.2(a), in order to ascertain the **Automatic Response** delivered and sustained;
- (b) using its analysis software **National Grid** shall derive a percentage performance measure (PPM), where:

$$\text{PPM} = \text{C/D} * 100$$

and where:

C is the difference between the level of **Demand** or **Generation** (as the case may be) immediately prior to the **Relevant Frequency Incident** and a level being (i) in the case of low **Frequency Response**, the lowest level of **Generation** or the highest level of **Demand** (as the case may be) or (ii) in the case of **High Frequency Response**, the highest level of **Generation** or the lowest level of **Demand** (as the case may be), in each case during the period over which **Automatic Response** is required pursuant to sub-paragraph 4.4.4 to be sustained and derived from the operating profile ascertained pursuant to sub-paragraph 4.14.2(a), and

D is the **Automatic Response Energy Deliverable**.

4.14.4 The percentage performance measure derived pursuant to sub-paragraphs 4.14.2 and 4.14.3 shall be used to determine a percentage deduction in the **Nomination Fee** attributable to all **Settlement Periods** in the **FFR Nominated Window** in question, the **Window Initiation Fee** for that **FFR Nominated Window** and the **Availability Fee** attributable to the duration of that **FFR Nominated Window**, using the following table:-

Percentage Performance Measure	Percentage Deduction in Fees
<10%	100%
≥10%, <60%	50%
≥60%, <95%	25%
≥95%	0%

- 4.14.5 The **FFR Provider** shall provide to **National Grid** all information and reasonable assistance necessary for **National Grid** to derive output data for the purposes of sub-paragraph 4.5.3 and sub-paragraphs 4.14.2 to 4.14.4 inclusive, and shall allow **National Grid**, its employees, agents, suppliers, contractors and sub-contractors necessary access to the **Contracted FFR Unit(s)** and such other parts of the **Premises** in connection therewith. Without limitation the **FFR Provider** hereby grants to **National Grid** the right to collect and record data from any **On-Site Monitoring Equipment**.

Testing

- 4.14.6 Without prejudice to the sub-paragraph 2.2.5 and the preceding provisions of this paragraph 4.14, if at any time during an **FFR Contracted Service Term National Grid** has reasonable grounds for believing that a **Contracted FFR Unit** does not have the capability to provide **Firm Frequency Response** in accordance with this **Document**, then **National Grid** shall so notify the **FFR Provider** in writing together with its reason therefor, and **Firm Frequency Response** shall thenceforth be deemed to be unavailable from such **Contracted FFR Unit** for the purposes of sub-paragraph 4.5.5 until such time as it is demonstrated to **National Grid**'s reasonable satisfaction that capability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is restored, which may be by **Reproving Test** in accordance with paragraphs 7.3 and 7.4.
- 4.14.7 If, pursuant to sub-paragraph 4.14.6, a **Contracted FFR Unit** remains unavailable to provide **Firm Frequency Response** for more than two consecutive calendar months, then **National Grid** may in its absolute discretion terminate the **FFR Contract** in question pursuant to sub-paragraph 4.15.2.

4.15 **TERMINATION OF FFR CONTRACTS**

- 4.15.1 All **FFR Contracts** with respect to any **Contracted FFR Unit** shall automatically terminate upon and with effect from termination (for whatever reason) of the **Firm Frequency Response Agreement** with respect to that **Contracted FFR Unit** whether in accordance with paragraph 5.4 or otherwise.
- 4.15.2 Without prejudice to sub-paragraphs 4.15.1 and 4.15.3 and paragraph 5.4, **National Grid** may in its absolute discretion terminate an **FFR Contract** in respect of the **Contracted FFR Unit(s)** in question forthwith by notice in writing to the **FFR Provider** in the following circumstances:-
- (a) where the **FFR Provider** persistently fails to make available and/or provide **Firm Frequency Response** from any **Contracted FFR Unit** (including any **Substitute FFR Unit** in respect of **Periods** when that **Contracted BM Unit** is a **Retired FFR Unit**) and such failure amounts to an intentional or reckless breach or disregard by the **FFR Provider** of its obligations under this Section 4 and the **Firm Frequency Response Agreement**; or
 - (b) in the circumstances set out in sub-paragraphs 4.12.2 and 4.14.7.
- 4.15.3 Where in respect of any **FFR Contract** the number of **Events of Default** to which this sub-paragraph 4.15.3 is expressed in the Annexure to this Section 4 to apply (Unavailability) exceeds three in any calendar month, then **National Grid** shall be entitled (at its sole discretion, but subject always to sub-paragraph 4.15.4) to terminate the **FFR Contract** in question forthwith by notice in writing to the **FFR Provider**.
- 4.15.4 Before deciding (in its sole discretion) whether to exercise its rights to terminate any **FFR Contract** pursuant to sub-paragraph 4.15.3, **National Grid** shall use reasonable endeavours to discuss with the **FFR Provider** the circumstances giving rise to the relevant **Events of Default** (any such discussion to be confirmed in writing by **National Grid**).
- 4.15.5 For the avoidance of doubt, **National Grid**'s rights pursuant to sub-paragraph 4.15.3 shall arise upon the occurrence of the third and each successive **Event of Default** thereafter.

- 4.15.6 Upon each **Event of Default** to which this sub-paragraph 4.15.6 is expressed in the Annexure to this Section 4 to apply (Arming/Disarming), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR Contract** in respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider**.
- 4.15.7 Upon each **Event of Default** to which this sub-paragraph 4.15.7 is expressed in the Annexure to this Section 4 to apply (Notification of Unavailability), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR Contract** in respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider**.
- 4.15.8 Upon each **Event of Default** to which this sub-paragraph 4.15.8 is expressed in the Annexure to this Section 4 to apply (Response Delivery), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR Contract** in respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider**.
- 4.15.9 Termination of any **FFR Contract** shall not affect any accrued rights or liability of either **Party** or the coming into effect or continuance of any provision thereof which is expressly or by implication intended to come into force or effect after such termination.
- 4.15.10 For the purposes of this sub-paragraph 4.15 and the Annexure to this Section 4, where the **FFR Provider** is subject to an **FFR Contract** in respect of **Additional Response**, then an **Event of Default**, and the corresponding consequences in respect of such **Event of Default**, shall apply to both the **FFR Contract** in respect of the **Initial Response** and the **FFR Contract** in respect of the **Additional Response**.

ANNEXURE TO SECTION 4

EVENTS OF DEFAULT AND CONSEQUENCES

Events of Default	Consequences
<p>A. <u>Unavailability</u> In respect of any Settlement Period comprised in any FFR Nominated Window (as revised), and in respect of any Contracted FFR Unit, Firm Frequency Response is unavailable (whether as shown by monitoring pursuant to sub-paragraph 4.14.2 or otherwise).</p> <p>For the purposes of sub-paragraph 4.15.3, the occurrence of one or more Events of Default in respect of the same FFR Nominated Window in a Service Day shall constitute a single Event of Default.</p>	<p>In relation to each affected FFR Nominated Window, the provisions of sub-paragraph 4.15.3 shall apply.</p>
<p>B. <u>Arming/Disarming</u></p> <p>The FFR Provider fails to arm or disarm the Relay under and in accordance with sub-paragraph 4.4.2 or 4.4.3 (as the case may be).</p> <p>For the purposes of sub-paragraph 4.15.6, the occurrence of one or more Events of Default in respect of the same FFR Nominated Window in a Service Day shall constitute a single Event of Default.</p>	<p>For the purposes of paragraph 4.5, National Grid may (at its option) in respect of that Contracted FFR Unit:-</p> <p>(a) deem the Availability Fee, the Nomination Fee and the Window Revision Fee (if applicable) for the whole of the FFR Nominated Window in question to be zero; and</p> <p>(b) deem the Window Initiation Fee for the FFR Nominated Window in question to be zero</p> <p>In addition, in relation to affected FFR Nominated Windows in a Service Day, the provisions of sub-paragraph 4.15.6 shall apply.</p>
<p>C. <u>Notification of Unavailability</u></p> <p>A failure by the FFR Provider to notify inability to provide Firm Frequency Response in respect of any Contracted FFR Unit forthwith in accordance with sub-paragraph 4.2.5 or 4.4.6 (as the case may be).</p>	<p>The provisions of sub-paragraph 4.15.7 shall apply.</p>
<p>D. <u>Response Delivery</u></p> <p>A failure (for whatever reason) of the Relay(s) to trip and/or Automatic Response to be provided as required by paragraph 4.4</p>	<p>The provisions of sub-paragraph 4.15.8 shall apply.</p>

SECTION 4A FIRM FREQUENCY RESPONSE - NON-BALANCING MECHANISM PARTICIPANTS (DYNAMIC)

4A.1 INTRODUCTION

4A.1.1 This Section 4A sets out the terms for provision of **Firm Frequency Response** where the **FFR Provider** provides **Firm Frequency Response** either:-

- (a) from **Dynamic Demand** as a **Non-Balancing Mechanism Participant**; or
- (b) from **Generating Units** and/or **Plant** and **Apparatus** as a **Non-Balancing Mechanism Participant**; or
- (c) from **Generating Unit(s)** and/or other **Plant** and **Apparatus** which are established and registered as a **BM Unit(s)** under and in accordance with the **Balancing and Settlement Code** but which do not and will not for the duration of any **FFR Contract** actively participate in the **Balancing Mechanism** during **FFR Nominated Windows** (as revised pursuant to paragraph 4A.3) .

4A.1.2 The provisions of this Section 4A shall apply with respect to an **FFR Provider** who has submitted an **FFR Tender** which has been accepted in respect of such **Dynamic Demand** and/or or in respect of such **Generating Unit(s)** and/or other **Plant** and **Apparatus** by **National Grid** pursuant to sub-paragraph 2.5.1 so as to form an **FFR Contract** or where the context otherwise requires, including where **Firm Frequency Response is to be** provided by the **Provider** on the basis that delivery will be triggered by a **Relay** initiated by a transgression in **System Frequency** above or below the applicable **Pre-Set Level** (“**FFR Relay**”).

4A.2 WINDOW NOMINATIONS

4A.2.1 In accordance with sub-paragraph 4A.2.2, **National Grid** shall notify the **FFR Provider** by the method prescribed in the **FFR Service Procedure** of those **Settlement Periods** (if any) comprised within each **FFR Contracted Frame** during each **Service Day** during the following calendar month in respect of which **National Grid** requires **Firm Frequency Response** to be provided from one or more of the **Contracted FFR Units** (“the **FFR Nominated Windows(s)**”).

4A.2.2 For **FFR Contracts** comprising:-

- (a) **Tendered Service Weeks**, **National Grid** shall notify **FFR Nominated Windows** by no later than 17.00 hours on the Thursday immediately preceding commencement of the relevant **Tendered Service Week**, in respect of the **FFR Contracted Frames** falling in each **Service Day** during the relevant week; and
- (b) **Tendered Service Months**, **National Grid** shall notify **FFR Nominated Windows** by no later than 17.00 hours on the twelfth **Business Day** of the calendar month, in respect of the **FFR Contracted Frames** falling in each **Service Day** during the relevant calendar month.

4A.2.3 Each notification of **FFR Nominated Windows** shall take account of any relevant **Utilisation Restrictions** in respect of the **Contracted FFR Unit**, and any notification of unavailability made by the **FFR Provider** pursuant to sub-paragraph 4A.2.5.

4A.2.4 The **FFR Provider** shall acknowledge receipt of each notification of **FFR Nominated Windows** as soon as reasonably practicable by the method prescribed in the **FFR Service Procedure**, but failure to do so shall not relieve the **FFR Provider** of its obligations set out in this Section 4A.

4A.2.5 The **FFR Provider** shall notify **National Grid** by the method prescribed in the **FFR Service Procedure** forthwith upon becoming aware of any temporary technical and/or

operational inability of the **Contracted FFR Unit** to provide **Firm Frequency Response** in all or any part of any **FFR Contracted Frame**, including a reduction in the level of **Response** below the level set out in the **Tendered Service Parameters** (“**Reduced Availability**”) and, subject to sub-paragraph 4A.2.6, with effect from the start of such inability until otherwise notified by the **FFR Provider** by the method prescribed in the **FFR Service Procedure** that the ability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is fully restored, **Firm Frequency Response** shall be deemed to be unavailable from the **Contracted FFR Unit** for the purposes of sub-paragraph 4A.5.6.

4A.2.6 Following receipt of a notice under sub-paragraph 4A.2.5 indicated **Reduced Availability**, **National Grid** may, at its sole discretion and provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than 10MW or from and including 1st April 2017, provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than the greater of one (1) MW and five percent (5%) of the contracted **Response**, agree that the **Contracted FFR Unit** shall continue to be treated as available, subject to reductions in the **Availability Fee** and the level of **Response** to be provided.

4A.2.7 Where the **FFR Provider** has made available in the **FFR Contract** an **Automatic Nomination Facility**, **National Grid** shall be deemed to have notified **FFR Nominated Windows** for the entirety of each **FFR Contracted Frame** save to the extent **Firm Frequency Response** is deemed to be unavailable pursuant to sub-paragraph 4A.2.5.

4A.3 REVISIONS TO FFR NOMINATED WINDOWS

4A.3.1 Where the **FFR Provider** has made available in the **FFR Tender** the **Window Revision Facility**, **National Grid** may revise the **FFR Nominated Windows** in respect of any **Service Day** by notice in writing to the **FFR Provider** by the method prescribed in the **FFR Service Procedure** no later than 10.00 hours on the immediately preceding **Service Day** provided always that any revised **FFR Nominated Window** shall constitute one or more **Settlement Periods** comprised within an **FFR Contracted Frame**. For the avoidance of doubt, an **FFR Nominated Window** may be revised in accordance with this sub-paragraph 4A.3.1 so as to create two or more **FFR Nominated Windows**.

4A.3.2 Each notification of a revision to an **FFR Nominated Window** shall take account of any relevant **Utilisation Restrictions** in respect of the **Contracted FFR Unit** and any notification of unavailability made by the **FFR Provider** pursuant to sub-paragraph 4A.2.4.

4A.3.3 The **FFR Provider** shall acknowledge receipt of each notification of a revision to an **FFR Nominated Window** as soon as reasonably practicable by the method prescribed in the **FFR Service Procedure**, but failure to do so shall not relieve the **FFR Provider** of its obligations set out in this Section 4A.

4A.4 PROVISION OF FIRM FREQUENCY RESPONSE

4A.4.1 Where **National Grid** shall have notified (or deemed to have notified) the **FFR Provider** of the **FFR Nominated Windows** in respect of any **Service Day**, and unless the **FFR Contract** incorporates the **Automatic Nomination Facility**:-

(a) the **FFR Provider** shall, no later than 11.00 hours on the immediately preceding **Service Day** and by the method prescribed in the **FFR Service Procedure**, confirm availability of **Firm Frequency Response** from the **Contracted FFR Unit** in the **FFR Nominated Windows**;

(b) where in respect of any **Service Day** no such notification is made by the **FFR Provider** by such time, then that shall constitute an **Event of Default** for the purposes of paragraph 4A.7 (but not so as to relieve the **FFR Provider** of its obligation to provide **Firm Frequency Response** in the **FFR Nominated Window** when instructed by **National Grid** pursuant to sub-paragraph 4A.4.2);

- (c) without prejudice to sub-paragraph 4A.7.1, **National Grid** may at its discretion (but shall not be obliged to) notify the **FFR Provider** by the method prescribed in the **FFR Service Procedure** of such **Event of Default** whereupon the **FFR Provider** shall make the notification required by this sub-paragraph 4A.4.1 without further delay and in any event within one hour of receipt of such notification from **National Grid**; and
 - (d) where after expiry of such one hour period the **FFR Provider** has still not made such notification then that shall constitute an additional **Event of Default** for the purposes of paragraph 4A.7 (but not so as to relieve the **FFR Provider** of its obligation to provide **Firm Frequency Response** in the **FFR Nominated Window** when instructed by **National Grid** pursuant to sub-paragraph 4A.4.2).
- 4A.4.2 At any time prior to or during an **FFR Nominated Window**, **National Grid** may, in respect of any one or more **Settlement Periods** in that **FFR Nominated Window** as revised pursuant to paragraph 4A.3, instruct the **FFR Provider** to operate the **Contracted FFR Unit** in a **Firm Frequency Sensitive Mode** so as to provide the components of **Firm Frequency Response** comprised within the **FFR Contract**. If the **Provider's FFR Tender** specifies that **Firm Frequency Response** is to be triggered by an **FFR Relay**, an instruction by **National Grid** shall be an instruction to arm the **Relay** so that the **FFR Unit** is available to provide **Firm Frequency Response** on the tripping of the **Relay** following a transgression of the **System Frequency** above or below the **Pre-Set Level** ("**Relevant Transgression**"), the **Relay** to be disarmed upon expiry of the **FFR Nominated Window**.
- 4A.4.3 For the purpose of sub-paragraphs 4A.4.1 and 4A.4.2:-
- (a) **Firm Frequency Response** without **Rapid Response** shall be referred to as "**Mode D Frequency Response**" and **Firm Frequency Response** with **Rapid Response** shall be referred to as "**Mode F Frequency Response**";
 - (b) the term "instruction" means a communication whether by telephone, e-mail, **Automatic Logging Device** or facsimile from **National Grid** to the **FFR Provider** instructing the **FFR Provider** in accordance with this Section 4A to provide **Mode D** and **Mode F Frequency Response**, and derivations of the term shall be construed accordingly;
 - (c) the amendment of an instruction shall be deemed to be a new instruction;
 - (d) where the **FFR Provider** has made available in the **FFR Contract** the **Automatic Nomination Facility**:-
 - (i) the **FFR Provider** shall be deemed to have confirmed availability of **Firm Frequency Response** from the **Contracted FFR Unit** for the entirety of the **FFR Nominated Windows** save to the extent **Firm Frequency Response** is deemed to be unavailable pursuant to sub-paragraph 4A.2.4; and
 - (ii) **National Grid** shall be deemed to have instructed the **FFR Provider** to operate the **Contracted FFR Unit** in a **Firm Frequency Sensitive Mode** as more particularly described in sub-paragraph 4A.4.2 in respect of all **Settlement Periods** in such **FFR Nominated Windows**;
 - (e) an instruction will prevail until the first to occur of any of the following (each of which shall constitute a deemed instruction from **National Grid** to cease operating the **Contracted FFR Unit** in a **Firm Frequency Sensitive Mode** in accordance with the original instruction):-
 - (i) the expiry of the **FFR Nominated Window**; or
 - (ii) receipt of a subsequent instruction from **National Grid** countermanding the earlier instruction.

4A.4.4 Where the **FFR Provider** is instructed (or deemed instructed) in accordance with sub-paragraph 4A.4.2 to operate the **Contracted FFR Unit** so as to provide either **Mode D** or **Mode F Frequency Response**, the **FFR Provider** shall operate the **Contracted FFR Unit** so as to provide, for any **Frequency Deviation**, at least the amount of **Rapid Response** and/or **Primary Response** and/or **Secondary Response** and/or **High Frequency Response** and/or **Rapid High Frequency Response** set out respectively in the relevant **FFR Capability Data Tables** (as such tables are to be interpreted in accordance with sub-paragraph 4A.6). If the **Provider's FFR Tender** specifies that **Firm Frequency Response** is to be triggered by an **FFR Relay**, **Firm Frequency Response** shall be provided from the **Contracted FFR Unit** for any **Relevant Transgression** either:

- (a) by responding proportionately to the change in **System Frequency** and sustaining such response for a period of thirty (30) minutes or until the earlier return of the **System Frequency** to the **Target Frequency** and thereafter, for the remainder of that thirty (30) minutes period, the **Contracted FFR Unit** shall continue to be capable of responding on a proportionate basis to a subsequent **Relevant Transgression**;
- (b) by responding proportionately to the change in the **System Frequency** and sustaining such response until the **System Frequency** returns to the **Target Frequency** or until the earlier expiry of the **Maximum Response Period**; or
- (c) by operation at the **Maximum Available Output** or **Maximum Available Demand** until the **System Frequency** returns to the **Target Frequency** or until the earlier expiry of the **Maximum Response Period**,

provided that, in each case, the **Contracted FFR Unit** shall be capable of providing **Firm Frequency Response** following a further **Relevant Transgression** occurring at any time after the expiry of the, the minimum period of time following the cessation of **Firm Frequency Response** in response to a **Relevant Transgression** that must elapse before the **FFR Unit** is capable of responding to a further **Relevant Transgression** and which has been specified in the **Provider's FFR Tender** as a **Utilisation Restriction**.

4A.4.5 After the **FFR Provider** has been instructed by **National Grid** (or deemed instructed) in accordance with sub-paragraph 4A.4.4, the **FFR Provider** shall notify **National Grid** by the method prescribed in the **FFR Service Procedure** forthwith upon becoming aware of the inability (howsoever caused) of the **Contracted FFR Unit** to provide **Firm Frequency Response** from **Dynamic Demand** and/or **Generating Units** and/or **Plant** and **Apparatus** in all or any part of any **FFR Nominated Window** as revised pursuant to paragraph 4A.3, including any **Reduced Availability** and, subject to sub-paragraph 4A.4.6, with effect from the start of such inability until notified by the **FFR Provider** by the method prescribed in the **FFR Service Procedure** that the ability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is restored, **Firm Frequency Response** shall be deemed to be unavailable from the **Contracted FFR Unit** for the purposes of sub-paragraph 4A.5.6.

4A.4.6 Following receipt of a notice under sub-paragraph 4A.4.5, **National Grid** may, at its sole discretion and provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than 10MW or from and including 1st April 2017, provided that the availability of **Response** from the **Contracted FFR Unit** shall not be reduced to a level less than the greater of one (1) MW and five percent (5%) of the contracted **Response**, agree that the **Contracted FFR Unit** shall continue to be treated as available, subject to reductions in the **Availability Fee** and the level of **Response** to be provided.

4A.4.7 Where the **FFR Provider** has not made available in the **FFR Tender** the **Automatic Nomination Facility**, then confirmation from the **FFR Provider** of availability of **Response** pursuant to sub-paragraph 4A.4.1(a) or (c) shall mean that the **FFR Provider** is able to accept an instruction from **National Grid** pursuant to sub-paragraph 4A.4.4 for the **Contracted FFR Unit** to operate in a **Firm Frequency Sensitive Mode**.

4A.5 PAYMENT

- 4A.5.1 In respect of each calendar month, and subject always to the following provisions of this paragraph 4A.5, paragraph 4A.7 and sub-paragraph 5.12.2, **National Grid** shall in accordance with paragraph 5.2 pay to the **FFR Provider** in respect of the **Initial Response** and (where applicable) the **Additional Response**:-
- (a) a payment (“the **Availability Payment**”) calculated as the **Availability Fee** (subject where applicable to adjustment in accordance with sub-paragraphs 4A.2.6 or 4A.4.6) multiplied by the aggregate number of hours comprised within **FFR Contracted Frames** during that calendar month; and
 - (b) a payment (“the **Window Initiation Payment**”) calculated as the **Window Initiation Fee** multiplied by the number of individual **FFR Nominated Windows** as revised pursuant to paragraph 4A.3 during that calendar month; and
 - (c) a payment (“the **Nomination Payment**”) calculated as the **Nomination Fee** multiplied by the aggregate number of hours comprised within **FFR Nominated Windows** as revised pursuant to paragraph 4A.3 during that calendar month.
- 4A.5.2 In addition to sub-paragraph 4A.5.1, where the **Window Revision Facility** is made available in the **FFR Tender**, **National Grid** shall pay to the **FFR Provider**, in respect of each calendar month, a payment (“the **Window Revision Payment**”) in respect of the **Initial Response** and (where applicable) the **Additional Response** calculated as the **Window Revision Fee** multiplied by the aggregate number of hours during that calendar month which are the subject of revision by **National Grid** in accordance with paragraph 4A.3 (which for this purpose shall comprise **Settlement Periods** originally falling either within or outside of **FFR Nominated Windows** and thereby ceasing to do so).
- 4A.5.3 Not Used.
- 4A.5.4 For the avoidance of doubt:-
- (a) where an **FFR Nominated Window** is revised in accordance with sub-paragraph 4A.3.1 so as to create two or more **FFR Nominated Windows**, the **Window Initiation Payment** shall be payable in accordance with sub-paragraph 4A.5.1(b) in respect of each **FFR Nominated Window** so created, and the **Nomination Payment** shall be payable in accordance with sub-paragraph 4A.5.1(c) in respect of hours comprised within each such **FFR Nominated Window**; and
 - (b) where two or more **FFR Nominated Windows** are revised in accordance with sub-paragraph 4A.3.1 so as to be consolidated into a reduced number of **FFR Nominated Windows(s)**, the **Window Initiation Payment** shall be payable in accordance with sub-paragraph 4A.5.1(b) in respect of such reduced number of **FFR Nominated Windows(s)**, and the **Nomination Payment** shall be payable in accordance with sub-paragraph 4A.5.1(c) in respect of hours comprised within such reduced number of **FFR Nominated Windows(s)**.
- 4A.5.5 Following **National Grid**’s assessment of under-delivery of **Response** from the **Contracted FFR Unit** during an **FFR Nominated Window** pursuant to sub-paragraph 4A.14.2, the payments falling due to the **FFR Provider** pursuant to this paragraph 4A.5 in respect thereof shall be subject to a deduction as more particularly specified in sub-paragraph 4A.14.2. If a **Contracted FFR Unit** is contracted to provide both **Initial Response** and **Additional Response**, any under-delivery of **Response** from that **Contracted FFR Unit** during an **FFR Nominated Window** pursuant to sub-paragraph 4A.14.2 shall be subject to a deduction in payments falling due to the **FFR Provider** by taking into account the aggregate volume and aggregate **Tendered Price** of the **Initial Response** and the **Additional Response**, to be calculated in accordance with the methodology set out in the **Firm Frequency Response Agreement**.

4A.5.6 No payments shall be made by **National Grid** to the **FFR Provider** pursuant to this paragraph 4A.5 in respect of any period or **Periods** during which, in accordance with any provision of this Section 4A, **Firm Frequency Response** is deemed to be unavailable from the **Contracted FFR Unit** provided always that **National Grid** may at its sole discretion ignore a period of unavailability for the purposes of this paragraph 4A.5 where the period of unavailability is short in duration and the **FFR Provider** has used all reasonable endeavours to **restore** availability as soon as practicable.

4A.6 INTERPRETATION OF TABLES

4A.6.1 The figures for **Firm Frequency Response** set out in the **FFR Capability Data Tables** shall be given in relation to specific **Frequency Deviations**, and shall be construed as follows:-

- (a) subject to sub-paragraphs 4A.6.1(b) and (c) below, for a **Frequency Deviation** at a given time differing from the figures given in a table, the level of **Firm Frequency Response** shall be calculated by linear interpolation from the figures specified in the table in respect of **Frequency Deviations**;
- (b) for any **Frequency Deviation** greater than the greatest **Frequency Deviation** given in the **FFR Capability Data Tables** (whether positive or negative), the level of **Firm Frequency Response** shall be calculated by reference to the greatest **Frequency Deviation** (positive or negative as the case may be) given in that table; and
- (c) for the purposes of calculating levels of **Firm Frequency Response** in respect of **Frequency Deviations** lower than those specified in the **FFR Capability Data Tables**, the relevant **FFR Capability Data Table** shall be deemed to specify a level of zero **Firm Frequency Response** for a **Frequency Deviation** of zero.

4A.7 EVENTS OF DEFAULT AND CONSEQUENCES

4A.7.1 Each of the occurrences or failures specified in the Annexure to this Section 4A as an **Event of Default** shall result in the consequences set out therein in relation to such occurrence or failure.

4A.7.2 For the purposes of sub-paragraph 4A.7.1, unless otherwise expressly stated in the Annexure to this Section 4A, it is acknowledged that the same occurrence or failure may constitute more than one **Event of Default**.

4A.7.3 For the avoidance of doubt, the consequences set out in respect of any **Event of Default** in the Annexure to this Section 4A shall not relieve the **FFR Provider** of any of its obligations pursuant to the **Grid Code** nor relieve either of the **Parties** from any of their obligations pursuant to the **Connection and Use of System Code** or the **Balancing and Settlement Code**.

4A.8 SUBSTITUTION OF CONTRACTED FFR UNITS

4A.8.1 If the **FFR Provider** anticipates that **Firm Frequency Response** may become unavailable from a **Contracted FFR Unit** during all or any part of any **Service Day**, the **FFR Provider** may, subject always to sub-paragraphs 4A.8.2 and 4A.8.4 and (unless the unavailability is attributable to the technical capability of the **Contracted FFR Unit**) no later than two hours prior to **Gate Closure** for the first **Settlement Period** in the affected **FFR Nominated Windows** during that **Service Day**, request by the method prescribed in the **FFR Service Procedure** that **National Grid** agree to the substitution of that **Contracted FFR Unit** (“the **Retired FFR Unit**”) by any other **Contracted FFR Unit** at the same **Grid Entry Point** (or, as the case may be, **Grid Supply Point**) which may be specified in the relevant **Firm Frequency Response Agreement** as suitable for nomination for such purpose (“the **Substitute FFR Unit**”).

- 4A.8.2 In any notification pursuant to sub-paragraph 4A.8.1, the **FFR Provider** shall indicate to **National Grid** the affected **FFR Nominated Windows** during the **Service Day** in question in respect of which such substitution shall apply, provided always that:-
- (a) a **Site** may not be nominated as a **Substitute FFR Unit** pursuant to sub-paragraph 4A.8.1 in respect of an **FFR Nominated Window** for which it is already a **Contracted FFR Unit**; and
 - (b) a **Site** may not be nominated as a **Substitute FFR Unit** for more than one **Contracted FFR Unit** at the same time.
- 4A.8.3 **National Grid** shall, as soon as reasonably practicable and by the method prescribed in the **FFR Service Procedure**, at its sole discretion either accede to or decline the **FFR Provider's** request pursuant to sub-paragraph 4A.8.1.
- 4A.8.4 The effect of substitution in accordance with this paragraph 4A.8 shall be to treat the **Substitute FFR Unit** as the **Contracted FFR Unit** for all purposes of this Section 4A and the **Firm Frequency Response Agreement**, and for the duration of the relevant **FFR Nominated Windows(s)** this Section 4A and the **Firm Frequency Response Agreement** shall be read and construed accordingly. Without limiting the foregoing, with respect to any **Substitute FFR Unit** and for the duration of the relevant **FFR Nominated Windows(s)**, the technical, commercial and other parameters (including without limitation the **Availability Fee, Window Initiation Fee, Nomination Fee** and **Window Revision Fee** (if any) applicable to the **Retired FFR Unit** shall continue to apply.

4A.9 GRID CODE

The provision by the **FFR Provider** of **Firm Frequency Response** shall not relieve it of any of its obligations or affect such obligations (where applicable) set out in the **Grid Code** (including without limitation its obligations (if any) to provide **Mode D** or **Mode F Frequency Response** when instructed by **National Grid** pursuant to the **CUSC** and/or the **Grid Code**).

4A.10 MAINTENANCE OF CONTRACTED FFR UNITS

The **FFR Provider** shall maintain the **Contracted FFR Unit** to such a standard that the **FFR Provider** can meet its obligations to provide **Firm Frequency Response** in accordance with the terms of this **Document** and the relevant **Firm Frequency Response Agreement(s)**.

4A.11 WARRANTIES AND INDEMNITY

- 4A.11.1 The **FFR Provider** hereby warrants to **National Grid** that, where any **Frequency Sensitive Load Device** is embedded in a **Distribution System** or **User System**, the availability and delivery of **Response** from that **Frequency Sensitive Load Device** pursuant to and in accordance with this **Document** does not and will not cause the **FFR Provider** to be in breach of or to otherwise be non-compliant with any **Connection Agreement** and/or agreement for the supply of electricity to that **Frequency Sensitive Load Device** and/or for the acceptance of electricity into, and its delivery from, a **User System**.
- 4A.11.2 The **FFR Provider** agrees that it will not accept an instruction from **National Grid** pursuant to paragraph 4A.4 if compliance with such instruction would cause the **FFR Provider** to be in breach or non-compliance as described in sub-paragraph 4A.11.1, and if it declines to accept an instruction on such grounds the **FFR Provider** will:-
- (a) notify **National Grid** in accordance with sub-paragraph 4A.4.5; and
 - (b) provide to **National Grid** to **National Grid's** reasonable satisfaction such written statement and all such supporting evidence as shall be necessary to demonstrate how compliance would cause such breach or non-compliance.

4A.11.3 In the event that the **FFR Provider** complies with an instruction from **National Grid** which causes the **FFR Provider** to be in breach or non-compliance as described in sub-paragraph 4A.11.1 above, the **FFR Provider** shall indemnify **National Grid** against all and any claims which may be brought against **National Grid** by any **Public Distribution System Operator** or any other person connected to or using the **User System** of a **Public Distribution System Operator** or any other **User System** or the owner of operator of any **User System** or any other person whatever arising out of or resulting from such breach or non-compliance. Such indemnity shall include any legal costs and expenses reasonably incurred in the contesting of such claims including the court costs and reasonable attorney's fees and other professional advisors' fees. The **Parties** agree and accept that, for the purposes of sub-paragraph 5.3.1, all such legal costs and expenses expressed to be the subject of such indemnity shall be treated as direct losses.

4A.12 PROVISION OF OTHER SERVICES

4A.12.1 The **FFR Provider** hereby undertakes to **National Grid** that, on the date of submission of each **FFR Tender** and on the date of formation of any **FFR Contract** in respect thereof, it will not be a party to an agreement or arrangement with any **Public Distribution System Operator** or electricity supplier or other person to provide any service from any **Frequency Sensitive Load Device** the provision of which may impair the **FFR Provider's** ability to provide **Firm Frequency Response** and/or perform its obligations under this **Document** and any **Firm Frequency Response Agreement**, and the **FFR Provider** will indemnify **National Grid** against any losses, liabilities, claims, expenses and demands which **National Grid** might suffer as a result of the **FFR Provider** bring in breach of the provisions of this sub-paragraph 4A.12.1.

4A.12.2 Where during the term of an **FFR Contract** the **FFR Provider** intends to enter into an agreement or arrangement with any **Public Distribution System Operator** or electricity supplier or other person to provide any service from any **Frequency Sensitive Load Device** the provision of which may impair the **FFR Provider's** ability to provide **Firm Frequency Response** and/or perform its obligations under this **Document** and/or any **Firm Frequency Response Agreement**, the **FFR Provider** shall notify **National Grid**, in accordance with paragraph 5.8, as soon as reasonably practicable before entering into such agreement or arrangement. Upon and with effect from the entering into of any such agreement or arrangement, **National Grid** may in its absolute discretion terminate the **FFR Contract** in question pursuant to sub-paragraph 4A.15.2.

4A.12.3 For the avoidance of doubt, the availability in any **Settlement Period** comprised in an **FFR Contracted Frame** of any increase or reduction in **Demand** from any **Frequency Sensitive Load Device** or any part thereof or increase or reduction in **Generation** from the **Contracted FFR Unit(s)** for the benefit of any person other than **National Grid** (including without limitation any **Public Distribution System Operator** or electricity supplier) shall be deemed for the purposes of sub-paragraphs 4A.12.1 and 4A.12.2 to impair the **FFR Provider's** ability to provide **Firm Frequency Response**.

4A.12.4 Where, during any one or more **Settlement Periods** in a **Tendered Service Term**, an **FFR Provider** is required under the terms of any agreement with **National Grid** to provide from a **Tendered Unit** a firm **Ancillary Service** (except with respect to **Reactive Power**) the **Parties** agree and acknowledge that **Firm Frequency Response** cannot be provided simultaneously with any other **Ancillary Service** and to the extent that such service provision either overlaps to any extent with a **Tendered Frame** and/or is otherwise inconsistent or in conflict with the delivery of **Firm Frequency Response**, then the **Contracted FFR Unit** shall be deemed unavailable for the purposes of sub-paragraph 4A.5.6.

4A.13 COMMUNICATIONS

Any communications required by this Section 4A to be given in writing shall be made and deemed to have been received in accordance with paragraph 5.8 save as may be otherwise agreed by the **Parties**. Each of the **Parties** hereby agrees and acknowledges that any reference to a communication by telephone, e-mail or facsimile given by **National Grid** to the **FFR Provider** or vice versa in this

Section 4A and the **FFR Service Procedure** shall, where appropriate, be deemed to include a communication given by means of an **Automatic Logging Device**, such mode of communication to commence within a date five **Business Days** following notification to the **FFR Provider** by **National Grid** to this effect. From the date on which such notification becomes effective, instructions and confirmations stored on the **Automatic Logging Device** shall (except during **Periods** when the **Automatic Logging Device** is unavailable for whatever reason in which case communication by telephone, e-mail or facsimile (whichever is appropriate) shall resume with immediate effect) be conclusive evidence of the giving and/or receipt of any communication required to be given pursuant to the terms of this Section 4A. The **Parties** consent to the recording of all telephone conversations between them relating in whole or in part to this **Document**, and each **Party** agrees to notify its employees of that consent and obtain their consent to that recording if required by law.

4A.14 MONITORING AND TESTING

Monitoring

4A.14.1 The availability of **Firm Frequency Response** and the amount of **Response** delivered shall be monitored by **National Grid** from time to time as more particularly described in this paragraph 4A.14.

4A.14.2 Without prejudice to the generality of sub-paragraph 4A.14.1, **National Grid** reserves the right to assess the delivery of **Response** by the **Contracted FFR Unit** during any **Sample Period** in accordance with the methodology set out below:-

(a) the volume of **Response** actually delivered from the **Contracted FFR Unit** during the **Sample Period** shall be ascertained as follows:-

(i) by reference to an operating profile of a sample of **Frequency Sensitive Load Devices** (“the **Monitored Frequency Sensitive Load Sample**”);

(ii) **Response** volumes attributable to the **Monitored Frequency Sensitive Load Sample** shall be calculated as the difference between (1) power consumption at the start of the **Sample Period**, and (2) power consumption at the relevant time; and

(iii) power consumption values shall be taken from the **Frequency Sensitive Load Specification** attributed to those **Frequency Sensitive Load Devices** operating during the **Sample Period** as indicated by **Agreed Operational Monitoring Equipment** connected to each of such **Frequency Sensitive Load Devices**;

(b) the volume of **Response** required to be delivered from the **Contracted FFR Unit** during the **Sample Period** shall be ascertained by reference to an operating profile for the **Monitored Frequency Sensitive Load Sample** derived by linear interpolation from the applicable **FFR Capability Data Tables** (as such tables are to be interpreted in accordance with sub-paragraph 4A.6), and that operating profile shall be used to determine second by second spot values of **Response** required to be delivered;

(c) **National Grid** shall derive a percentage performance measure (PPM), where:-

$$\text{PPM} = \text{A/B} * 100$$

and where:-

A is the aggregate of each second by second spot value of **Response** assumed to be delivered by the **Monitored Frequency Sensitive Load Population** over the **Sample Period** as determined pursuant to sub-paragraph 4A.14.2(a), and

B is the aggregate of each second by second spot value of **Response** required to be delivered by the **Monitored Frequency Sensitive Load Population** over the **Sample Period** as determined pursuant to sub-paragraph 4A.14.2(b);

- (d) the percentage performance derived pursuant to this sub-paragraph 4A.14.2, shall be used (in accordance with (e) below) to derive a factor (“the **Performance Factor**”), which shall be used for the calendar month or months in which the **Sample Period** falls to calculate the deduction in payments otherwise falling due to the **FFR Provider** pursuant to paragraph 4A.5 as referred to in sub-paragraph 4A.5.5;
- (e) the **Performance Factor** shall be derived as follows:-

Percentage Performance	Performance Factor
<10%	100%
>10%, <60%	50%
>60% <95%	25%
>95%	0%

- (f) for the purposes of this sub-paragraph 4A.14.2, “**Sample Period**” shall mean any period of 30 minutes commencing upon excursion of **System Frequency** to either above or below 50Hz at a time when **National Grid** has instructed (or is deemed to have instructed) the **FFR Provider** to operate the **Contracted FFR Unit** in a **Firm Frequency Sensitive Mode** as more particularly specified in sub-paragraph 4A.4.

4A.14.3 The **FFR Provider** shall provide to **National Grid** all information and reasonable assistance necessary for **National Grid** to derive output data for the purposes of sub-paragraphs 4A.14.1 and 4A.14.2, and shall use all reasonable endeavours to allow **National Grid**, its employees, agents, suppliers, contractors and subcontractors all necessary access to the **Frequency Sensitive Load Devices** and **Customer Premises** at which the same are located in connection therewith. Without limitation the **FFR Provider** hereby grants **National Grid** the right to collect and record data from **Agreed Operational Monitoring Equipment**.

Non-capability

4A.14.4 Without prejudice to sub-paragraph 2.2.5, if at any time during an **FFR Contracted Service Term National Grid** has reasonable grounds (subject always to sub-paragraph 4A.14.7) for believing that the **Contracted FFR Unit** does not have the capability to provide **Firm Frequency Response** in accordance with this **Document**, then **National Grid** shall so notify the **FFR Provider** in writing together with its reasons therefor, and **Firm Frequency Response** shall thenceforth be deemed to be unavailable from the **Contracted FFR Unit** for the purposes of sub-paragraph 4A.5.6 until such time as it is demonstrated to **National Grid**’s reasonable satisfaction that capability of the **Contracted FFR Unit** to provide **Firm Frequency Response** is restored, which may be by **Reproving Test** in accordance with paragraphs 7.3 and 7.4.

4A.14.5 Subject to sub-paragraph 4A.14.6, if, pursuant to sub-paragraph 4A.14.4, the **Contracted FFR Unit** remains unavailable to provide **Firm Frequency Response** for more than two consecutive calendar months, then **National Grid** may in its absolute discretion terminate the **FFR Contract** in question pursuant to sub-paragraph 4A.15.2.

4A.14.6 Where **National Grid** has notified the **FFR Provider** pursuant to sub-paragraph 4A.14.4 and the **FFR Provider** can provide sufficient written evidence to satisfy **National Grid** that the **Contracted FFR Unit** was available to provide **Firm Frequency Response** in

accordance with this **Document**, then the **FFR Provider** may request in writing that **National Grid** consents to an extension of the time period set out in sub-paragraph 4A.14.5 (such consent not to be unreasonably withheld or delayed).

- 4A.14.7 For the purposes of sub-paragraph 4A.14.4, **National Grid** shall have no reasonable grounds for believing that the **Contracted FFR Unit** does not have the capability to provide **Firm Frequency Response** in accordance with this **Document** if, in the **FFR Nominated Window** in question, **Frequency Response** is delivered by the **Contracted FFR Unit** at not less than 90% of the required amount for at least 95% of the duration of such **FFR Nominated Window**.
- 4A.14.8 The **FFR Provider** shall maintain accurate and up to date records relevant to the provision of **Firm Frequency Response** from the **Contracted FFR Unit** pursuant to this **Document**, and shall permit **National Grid** or its authorised personnel and/or agents access on reasonable notice at all reasonable times to such records (including the making of copies and retention of such records) for the purposes of demonstrating to **National Grid**'s reasonable satisfaction that the **FFR Provider** has complied with its obligations hereunder and under the **Firm Frequency Response Agreement**.

4A.15 TERMINATION OF FFR CONTRACTS

- 4A.15.1 All **FFR Contracts** with respect to the **Contracted FFR Unit** shall automatically terminate upon and with effect from termination (for whatever reason) of the **Firm Frequency Response Agreement** with respect thereto, whether in accordance with paragraph 5.4 or otherwise.
- 4A.15.2 Without prejudice to sub-paragraphs 4A.15.1, 4A.15.3 and 5.4, **National Grid** may in its absolute discretion terminate an **FFR Contract** in respect of the **Contracted FFR Unit** in question forthwith by notice in writing to the **FFR Provider** in the following circumstances:-
- (a) where the **FFR Provider** persistently fails to make available and/or provide **Firm Frequency Response** from the **Contracted FFR Unit** and such failure amounts to an intentional or reckless breach or disregard by the **FFR Provider** of its obligations under this Section 4A and the **Firm Frequency Response Agreement**; or
 - (b) in the circumstances set out in sub-paragraphs 4A.12.2 and 4A.14.5.
- 4A.15.3 Where in respect of any **FFR Contract** the number of **Events of Default** to which this sub-paragraph 4A.15.3 is expressed in the Annexure to this Section 4A to apply (Availability) exceeds three in any calendar month, then **National Grid** shall be entitled (at its sole discretion, but subject always to sub-paragraph 4A.15.4) to terminate the **FFR Contract** in question forthwith by notice in writing to the **FFR Provider**.
- 4A.15.4 Before deciding (in its sole discretion) whether to exercise its rights to terminate any **FFR Contract** pursuant to sub-paragraph 4A.15.3, **National Grid** shall use reasonable endeavours to discuss with the **FFR Provider** the circumstances giving rise to the relevant **Events of Default** (any such discussion to be confirmed in writing by **National Grid**).
- 4A.15.5 For the avoidance of doubt, **National Grid**'s rights pursuant to sub-paragraph 4A.15.3 shall arise upon the occurrence of the third and each successive **Event of Default** thereafter.
- 4A.15.6 Upon each **Event of Default** to which this sub-paragraph 4A.15.6 is expressed in the Annexure to this Section 4A to apply (Breach of Warranty (4A.11.1)), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR Contract** in respect of the **Contracted FFR Unit** forthwith by notice in writing to the **FFR Provider**.
- 4A.15.7 Upon each **Event of Default** to which this sub-paragraph 4A.15.7 is expressed in the Annexure to this Section 4A to apply (Notifications of Unavailability and Confirmations of Availability), **National Grid** shall be entitled (at its sole discretion) to terminate the **FFR**

Contract in respect of the **Contracted FFR Unit** forthwith by notice in writing to the **FFR Provider**.

4A.15.8 Not Used.

4A.15.9 Termination of any **FFR Contract** shall not affect any accrued rights or liability of either **Party** or the coming into effect or continuance of any provision thereof which is expressly or by implication intended to come into force or effect after such termination.

4A.15.10 For the purposes of this sub-paragraph 4A.15 and the Annexure to this Section 4A, where the **FFR Provider** is subject to an **FFR Contract** in respect of **Additional Response**, then an **Event of Default**, and the corresponding consequences in respect of such **Event of Default**, shall apply to both the **FFR Contract** in respect of the **Initial Response** and the **FFR Contract** in respect of the **Additional Response**.

ANNEXURE TO SECTION 4A

EVENTS OF DEFAULT AND CONSEQUENCES

Events of Default	Consequences
<p>A. <u>Availability</u></p> <p>In respect of any Settlement Period comprised in any FFR Nominated Window (as revised), Firm Frequency Response is unavailable or deemed unavailable</p> <p>For the purposes of sub-paragraph 4A.15.3, the occurrence of one or more Events of Default in respect of the same FFR Nominated Window in a Service Day shall constitute a single Event of Default.</p>	<p>National Grid may (at its option):-</p> <p>(a) deem the Availability Fee and Nomination Fee and Window Revision Fee (if applicable) for the Settlement Period(s) in question to be zero; and</p> <p>(b) apply a pro rata deduction to the Window Initiation Fee for the affected FFR Nominated Window by reference to the proportion of Settlement Periods in that FFR Nominated Window which area affected by any one or more of such Events of Default.</p> <p>In addition, in relation to each such affected FFR Nominated Window, the provisions of sub-paragraph 4A.15.3 shall apply unless Frequency Response is delivered by the Contracted FFR Unit at not less than 90% of the required amount for at least 95% of the duration of that affected FFR Nominated Window.</p>
<p>B. <u>Notifications of Unavailability</u></p> <p>A failure by the FFR Provider to notify inability to provide Firm Frequency Response as required under and in accordance with sub-paragraph 4A.2.5, 4A.2.6, 4A.4.5 or 4A.4.6 (as the case may be)</p>	<p>The provisions of sub-paragraph 4A.15.7 shall apply.</p>
<p>C. <u>Confirmation of Availability (where Automatic Nomination Facility not applicable)</u></p> <p>A failure by the FFR Provider to confirm availability of Firm Frequency Response from the Contracted FFR Unit in the FFR Nominated Windows as required under and in accordance with sub-paragraphs 4A.4.1(b) or (d)</p>	<p>The provision of sub-paragraph 4A.15.7 shall apply.</p>
<p>D. <u>Breach of Warranty (4A.11.1)</u></p> <p>A breach by the FFR Provider of the warranty contained in sub-paragraph 4A.11.1.</p>	<p>The provisions of sub-paragraph 4A15.6 shall apply.</p>

SECTION 5 GENERAL PROVISIONS

5.1 INTRODUCTION

This Section 5 contains those provisions which are generic to all **FFR Providers** and apply to each of the other Sections.

5.2 PAYMENTS

5.2.1 On the eighth **Business Day** of each calendar month **National Grid** shall send to the **FFR Provider** a statement ("the **Provisional Monthly Statement**") setting out details of the following (to the extent applicable) in respect of the preceding calendar month:-

- (a) the aggregate number of hours comprised within **FFR Contracted Frames**;
- (b) the number of, and aggregate number of hours comprised within, **FFR Nominated Windows** and any revisions thereto;
- (c) the number and category of **Events of Default** described in the Annexure to Section 3, Section 3A, Section 4 or Section 4A (as the case may be);
- (d) any unavailability of **Firm Frequency Response** or under-delivery of **Response** identified by **National Grid** pursuant to metering and monitoring in accordance with paragraphs 3.14, 3A.14, 4.14 or 4A.14 (as the case may be); and
- (e) the resulting **Availability Payment, Window Initiation Payment, Nomination Payment, Window Revision Payment** (if applicable) and **Response Energy Payment** (where applicable) in respect of each of the **Initial Response** and (where applicable) the **Additional Response**.

5.2.2 On the eighteenth **Business Day** of each calendar month, **National Grid** shall send to the Provider a statement ("the **Final Monthly Statement**") in respect of the previous calendar month consisting of a statement ("the **Final Statement**") incorporating:-

- (a) in the case of an undisputed **Provisional Monthly Statement** (or where any dispute has been resolved and no changes have been effected to the calculations contained in the **Provisional Monthly Statement**) a further monthly summary of the **Firm Frequency Response** provided together with an invoice for the amount shown as being due to the **FFR Provider** or **National Grid** (as the case may be);
or
- (b) in the case of a disputed **Provisional Monthly Statement** such that changes are required as a result thereof, a revised monthly summary of the **Firm Frequency Response** provided and an invoice for the amount shown as being due to the **FFR Provider** or **National Grid** (as the case may be).

5.2.3 If the **FFR Provider** disagrees with any dates, times, facts or calculations set out in the **Provisional Monthly Statement**, it shall produce to **National Grid** the evidence upon which it relies in support of such disagreement. The **Parties** shall discuss and endeavour to resolve the matter prior to **National Grid** sending out the **Final Monthly Statement** but if it cannot be resolved the dates, times, facts and calculations set out in the **Provisional Monthly Statement** shall be binding upon the **Parties** until such time as they are reversed or revised by agreement between the **Parties** or by an arbitrator appointed pursuant to paragraph 5.9.

5.2.4 Where:-

- (a) **National Grid** discovers that any previous **Provisional Monthly Statement** or **Final Monthly Statement** contains an arithmetic error or omission;

- (b) **National Grid** becomes aware of any facts (other than facts falling within sub-paragraph 5.2.4(a)) which show that the **FFR Provider** was not entitled to receive a payment already made; or
- (c) any change is made to a previous final run (if any) of a settlement calculation which includes a change in any of the facts or matters upon which the final settlement run was based which facts or matters formed the basis upon which any previous **Provisional Monthly Statement** or **Final Monthly Statement**, was prepared,

National Grid shall adjust the account between itself and the **FFR Provider** accordingly in the next **Provisional Monthly Statement** which it issues, setting out the reason why the adjustment has been made, and the provisions of sub-paragraph 5.2.3 shall apply mutatis mutandis to such adjustments. In the absence of fraud, **National Grid** may not invoke the provisions of this sub-paragraph 5.2.4 with respect to the contents of any **Provisional Monthly Statement** or **Final Monthly Statement** after the period of 12 months commencing at the start of the month of issue of such **Provisional Monthly Statement**, or **Final Monthly Statement**, after which date such **Provisional Monthly Statement** or **Final Monthly Statement** shall be final and conclusive as to the amounts payable with respect thereto.

- 5.2.5 The due date of payment for the purposes of sub-paragraph 5.2.8 in respect of any disputed amount subsequently determined or agreed to be payable to the **FFR Provider** shall be the date for payment of the relevant **Final Monthly Statement** from which the dispute arises.
- 5.2.6 **National Grid** shall pay to the **FFR Provider** the amount shown as due from **National Grid** in a **Final Monthly Statement** within three **Business Days** of the date on which the **Final Monthly Statement** is or should be received. The **FFR Provider** shall pay to **National Grid** the amount shown as due from the **FFR Provider** in a **Final Monthly Statement** within three **Business Days** of the date on which the **Final Monthly Statement** is issued.
- 5.2.7 If either **Party** ("the **Defaulting Party**") in good faith and/or with reasonable cause fails to pay under sub-paragraph 5.2.6 any amount properly due under this **Document**, such **Defaulting Party** shall pay to the other **Party** interest on such overdue amount from and including the due date of such payment to (but excluding) the date of actual payment (as well after as before judgement) at the **Base Rate** provided that should the **Defaulting Party** otherwise fail to pay any amount properly due under this **Document** on the due date then the **Defaulting Party** shall pay to the other **Party** interest on such overdue amount at the **Enhanced Rate** from the due date on which such payment was properly due to (but excluding) the date of actual payment. Interest shall accrue from day to day.
- 5.2.8 If, following a dispute or by virtue of sub-paragraphs 5.2.2, 5.2.3 or 5.2.4:
 - (a) it is determined or agreed that the **FFR Provider** was entitled to a further payment from **National Grid**; and
 - (b) such further payment is not paid by **National Grid** to the **FFR Provider** by the payment date of the settlement month that immediately follows the date of such determination or agreement,the **FFR Provider** shall be entitled to interest at the **Base Rate** on the amount of such further payment from the due date calculated in accordance with sub-paragraph 5.2.5 until the date of actual payment.
- 5.2.9 If following a dispute or by virtue of the provisions of sub-paragraphs 5.2.3 or 5.2.4:
 - (a) it is determined or agreed that the **FFR Provider** was not entitled to any payment it has received;

- (b) and such payment is not repaid by the **FFR Provider** to **National Grid** (or reclaimed by **National Grid** by virtue of payment netting) by the payment due date of the settlement month that immediately follows the date of such determination or agreement,

National Grid shall be entitled to interest at the **Base Rate** on the amount so paid from the date of payment until the date of repayment or the date when **National Grid** makes a payment to the **FFR Provider** which takes such payment into account.

- 5.2.10 Notwithstanding any other provision of this **Document**, the **Parties** shall not be limited in any way as to the evidence upon which they may rely in any **Proceedings** arising out of or in connection with payment for making available or providing **Firm Frequency Response** under this **Document** and/or any **Firm Frequency Response Agreement**, and the **Parties** agree that, in the event and to the extent that either **Party** succeeds in proving in any such **Proceedings** that **Firm Frequency Response** was or was not made available or provided, the successful **Party** shall (without prejudice to any liquidated damages provision of this **Document**) be entitled to repayment of the sums already paid or payment of sums not paid as the case may be in respect of **Firm Frequency Response** or its availability together with interest (if any).
- 5.2.11 Save as otherwise expressly provided in this **Document** or in any **Firm Frequency Response Agreement**, sums payable by one **Party** to the other pursuant to this **Document** or any **Firm Frequency Response Agreement** whether by way of charges, interest or otherwise, shall (except to the extent otherwise required by law) be paid in full, free and clear of and without deduction, set-off or deferment in respect of any disputes or claims whatsoever provided that either **Party** shall be entitled to set off any payment due and payable by the other **Party** under this **Document** or in any **Firm Frequency Response Agreement** or in any other agreement to which they are both a **Party** for the provision of **Balancing Services** against any payment it makes to that **Party**.
- 5.2.12 **National Grid** represents and warrants to the **FFR Provider** that it enters into each **Firm Frequency Response Agreement** as principal and not as agent for any other person.
- 5.2.13 All amounts specified in the relevant **FFR Tender** shall be exclusive of any **Value Added Tax** or other similar tax and **National Grid** shall pay to the **FFR Provider** **Value Added Tax** at the rate for the time being and from time to time properly chargeable in respect of the making available and/or provision of **Firm Frequency Response** under this **Document** and all **Firm Frequency Response Agreements**.
- 5.2.14 The **FFR Provider** hereby warrants and represents to **National Grid** that it consents to the operation of a self-billing **System** by **National Grid** with regard to the payment for **Firm Frequency Response** to be provided and made available pursuant to this **Document** and all **Firm Frequency Response Agreements**, and will at all times throughout the term of each **FFR Contract** maintain such consent. The **FFR Provider** hereby undertakes to do (at **National Grid's** cost) all acts and things reasonably necessary to enable **National Grid** to comply with the regulations of HM Customs and Excise as regards such self billing.
- 5.2.15 The submission of all **Monthly Statements** and facts and other evidence in support thereof and any questions in connection therewith from **National Grid** to the **FFR Provider** and vice versa in accordance with this paragraph 5.2 must be made, in the absence of agreement to the contrary between the **Parties**, by 19.00 hours on the **Business Day** concerned.
- 5.2.16 All payments to be made by **National Grid** to the **FFR Provider** under this **Document** will be made by payment to the **FFR Provider's** bank account details of which are notified by the **FFR Provider** from time to time in accordance with paragraph 5.8.
- 5.2.17 The provisions of this paragraph 5.2 shall survive the termination of any **FFR Contract** and/or **Firm Frequency Response Agreement**.

5.3 LIMITATION OF LIABILITY

5.3.1 Subject to sub-paragraph 5.3.2 and save where any provision of this **Document** or any **Firm Frequency Response Agreement** provides for an indemnity or the payment of liquidated damages, the **Parties** agree and acknowledge that neither **Party** (the “**Party Liable**”) nor any of its officers, employees or agents shall be liable to the other **Party** for loss arising from any breach of this **Document** or any **Firm Frequency Response Agreement** other than for loss directly resulting from such breach and which at the date of the **FFR Contract** concerned was reasonably foreseeable as not unlikely to occur in the ordinary course of events from such breach in respect of:

- (a) physical damage to the property of the other **Party**, its officers, employees or agents; and/or
- (b) the liability of such other **Party** to any other person for loss in respect of physical damage to the property of any person, subject, for the avoidance of doubt, to the requirement that the amount of such liability claimed by such other **Party** should be mitigated in accordance with general law,

provided further that the liability of any **Party** in respect of all claims for such loss shall not exceed £5 million per incident or series of related incidents.

5.3.2 Nothing in this **Document** or in any **Firm Frequency Response Agreement** shall exclude or limit the liability of the **Party Liable** for death or personal injury resulting from the negligence of the **Party Liable** or any of its officers, employees or agents and the **Party Liable** shall indemnify and keep indemnified the other **Party**, its officers, employees or agents, from and against all such and any loss or liability which such other **Party** may suffer or incur by reason of any claim on account of death or personal injury resulting from the negligence of the **Party Liable** or any of its officers, employees or agents.

5.3.3 Subject to sub-paragraph 5.3.2, and save where any provision of this **Document** or any **Firm Frequency Response Agreement** provides for an indemnity or the payment of liquidated damages, neither the **Party Liable** nor any of its officers, employees or agents shall in any circumstances whatsoever be liable to the other **Party** for:-

- (a) any loss of profit, loss of revenue, loss of use, loss of contract or loss of goodwill; or
- (b) any indirect or consequential loss; or
- (c) loss resulting from the liability of the other **Party** to any other person howsoever and whensoever arising save as provided in sub-paragraph 5.3.1(a) and sub-paragraph 5.3.2.

5.3.4 Each **Party** acknowledges and agrees that the other **Party** holds the benefit of sub-paragraphs 5.3.1, 5.3.2 and 5.3.3 for itself and as trustee and agent for its officers, employees and agents.

5.3.5 The rights and remedies provided by this **Document** and any **Firm Frequency Response Agreement** to the **Parties** are exclusive and not cumulative and exclude and are in place of all substantive (but not procedural) rights or remedies express or implied and provided by common law or statute in respect of the subject matter of this **Document** and any **Firm Frequency Response Agreement**, including (without limitation) any rights either **Party** may possess in tort which shall include actions brought in negligence and/or nuisance. Accordingly, each of the **Parties** hereby waives to the fullest extent possible such rights and remedies provided by common law or statute and releases the other **Party**, its officers, employees and agents to the same extent from all duties, liabilities, responsibilities or obligations provided by common law or statute in respect of the matters dealt with in this **Document** and any **Firm Frequency Response Agreement** and undertakes not to enforce any of the same except as expressly provided herein.

- 5.3.6 For the avoidance of doubt, the **Parties** acknowledge and agree that nothing in this **Document** or in any **Firm Frequency Response Agreement** shall exclude or restrict or otherwise prejudice or affect any of the rights, powers, privileges, remedies, duties and obligations of the Secretary of State or the **Authority** under the **Act**, any **Licence** or otherwise howsoever.
- 5.3.7 Each of sub-paragraphs 5.3.1, 5.3.2, 5.3.3 and 5.3.4 shall:-
- (a) be construed as a separate and severable contract term, and if one or more of such sub-paragraphs is held to be invalid, unlawful or otherwise unenforceable the other or others of such sub-paragraphs shall remain in full force and effect and shall continue to bind the **Parties**; and
 - (b) survive termination of the **FFR Contract** and/or **Firm Frequency Response Agreement** concerned.
- 5.3.8 For the avoidance of doubt, nothing in this paragraph 5.3 shall prevent or restrict any **Party** enforcing any obligation (including suing for a debt) owed to it under or pursuant to this **Document** or any **Firm Frequency Response Agreement**.
- 5.3.9 Each **Party** acknowledges and agrees that the provisions of this paragraph 5.3 have been the subject of discussion and negotiation and are fair and reasonable having regard to the circumstances as at the date of submission of the relevant **FFR Tender**.

5.4 **TERMINATION OF FIRM FREQUENCY RESPONSE AGREEMENTS**

Termination by the FFR Provider

- 5.4.1 In the event that:-
- (a) **National Grid** shall fail to pay (other than by inadvertent error in funds transmission which is discovered by the **FFR Provider**, notified to **National Grid** and corrected within five **Business Days** following such notification) any amount properly due or owing from it pursuant to this **Document** or any **Firm Frequency Response Agreement** according to its terms, and such non-payment continues unremedied and not disputed in good faith and upon reasonable grounds at the expiry of seven **Business Days** immediately following receipt by **National Grid** of written notice from the **FFR Provider** of such non-payment; or
 - (b) in respect of **National Grid**:-
 - (i) an order of the High Court is made or an effective resolution passed for its insolvent winding-up or dissolution; or
 - (ii) a receiver (which expression shall include (where relevant) an administrative receiver within the meaning of Section 29 of the Insolvency Act 1986) of the whole or any material part of its assets or undertaking is appointed; or
 - (iii) an administration order under Section 8 of the Insolvency Act 1986 is made or any other steps are taken to appoint an administrator or a voluntary arrangement is proposed under Section 1 of that Act; or
 - (iv) it enters into any scheme of arrangement (other than for the purpose of reconstruction or amalgamation upon terms and within such period as may previously have been approved in writing by the **Authority**); or
 - (v) it is unable to pay its debts within the meaning of Section 123 (1) or (2) of the Insolvency Act 1986 save that such section shall have effect as if for £750.00 there was inserted £250,000 (and **National Grid**

shall not be deemed to be unable to pay its debts if any demand for payment is being contested in good faith by it with recourse to all appropriate measures and procedures),

and in any such case within twenty-eight days of appointment of the liquidator, receiver, administrative receiver, administrator, nominee or other similar officer, such person has not provided to the **FFR Provider** a guarantee of future performance by **National Grid** of all **FFR Contracts** in such form and amount as the **FFR Provider** may reasonably require or

- (c) a **Detailed Change Proposal** is implemented in respect of which the **FFR Provider** is not entitled to seek an increase in **Contract Prices** pursuant to sub-paragraph 1.2.10(b) (as a result of the application of sub-paragraph 1.2.11) which has a significant detrimental effect on the business of the **FFR Provider**,

the **FFR Provider** may declare by notice in writing to **National Grid** that such event or events has become a termination event. Once the **FFR Provider** has given notice of a termination event, all **Firm Frequency Response Agreements** to which the **FFR Provider** is a party shall terminate, but for the avoidance of doubt in the case of sub-paragraph 5.4.1(c) on the basis that no payment shall be due from **National Grid** to the **FFR Provider** as a consequence of such termination save as expressly provided in this **Document**.

Termination by National Grid

5.4.2 In the event that:-

- (a) the **FFR Provider** shall fail to pay (other than by inadvertent error in funds transmission which is discovered by **National Grid**, notified to the **FFR Provider** and corrected within five **Business Days** thereafter) any amount properly due or owing from the **FFR Provider** to **National Grid** pursuant to this **Document** or any **Firm Frequency Response Agreement** according to its terms, and such non-payment continues unremedied and not disputed in good faith and upon reasonable grounds at the expiry of seven **Business Days** immediately following receipt by the **FFR Provider** of written notice from **National Grid** of such non-payment; or
- (b) in respect of the **FFR Provider**:-
 - (i) an order of the High Court is made or an effective resolution passed for its insolvent winding up or dissolution; or
 - (ii) a receiver (which expression shall include (where relevant) an administrative receiver within the meaning of Section 29 Insolvency Act 1986) of the whole or any material part of its assets or undertaking is appointed; or
 - (iii) an administration order under Section 8 of the Insolvency Act 1986 is made or any other steps are taken to appoint an administrator or a voluntary arrangement is proposed under Section 1 of that Act; or
 - (iv) it enters into any scheme of arrangement (other than for the purpose of a reconstruction or amalgamation upon terms and within such period as may previously have been approved in writing by the **Authority**); or
 - (v) it is unable to pay its debts (within the meaning of Section 123(1) or (2) of the Insolvency Act 1986 save that such sections shall have effect as if for £750.00 there was inserted £250,000 and the **FFR Provider** shall not be deemed to be unable to pay its debts if any

demand for payment is being contested in good faith by the **FFR Provider** with recourse to all appropriate measures and procedures),

and in any such case within twenty-eight days of appointment of the liquidator, receiver, administrative receiver, administrator, nominee or other similar officer, such person has not provided to **National Grid** a guarantee of future performance by the **FFR Provider** of all **FFR Contracts** in such form and amount as **National Grid** may reasonably require,

National Grid may declare by notice in writing to the **FFR Provider** that such event or events has become a termination event. Once **National Grid** has given notice of a termination event all **Firm Frequency Response Agreements** to which the **FFR Provider** is a party shall terminate.

5.4.3 In the event that, in respect of any **Contracted FFR Unit**:-

- (a) the **FFR Provider** at any time ceases to be a **Party** to an agreement for connection to and, where required, use of a **System**; or
- (b) the **FFR Provider** ceases to be the **Lead Party** for the purposes of the **Balancing and Settlement Code**; or
- (c) the **FFR Provider** fails to submit to or pass a **Reproving Test** pursuant to sub-paragraph 2.2.5; or
- (d) **National Grid** exercises its right to terminate an **FFR Contract** pursuant to the provisions of this **Document** on more than 3 occasions in any rolling 12 month period,

National Grid may declare by notice in writing to the **FFR Provider** that such event or events has become a partial termination event. Once **National Grid** has given notice of a partial termination event the relevant **Firm Frequency Response Agreement** shall terminate with respect to the **Contracted FFR Unit(s)** in question.

5.4.3A Without prejudice to sub-paragraphs 5.4.1 to 5.4.3 inclusive, any **Firm Frequency Response Agreements** and any subsisting **FFR Contracts** shall also terminate in the circumstances specified in sub-paragraphs 5.12.6 and 5.17.2.

5.4.4 Termination of any **Firm Frequency Response Agreement** (in whole or in part) shall be without prejudice to the rights and remedies to which a **Party** may be entitled thereunder and shall not affect any accrued rights or liabilities of either **Party** nor the coming into or continuance in force of any provision thereof which is expressly or by implication intended to come into force on or after such termination.

5.5 ASSIGNMENT

5.5.1 The **FFR Provider** shall not assign or transfer nor purport to assign or transfer the benefit or burden of any **FFR Contract** and/or **Firm Frequency Response Agreement** save in the following circumstances:-

- (a) the **FFR Provider** may assign or charge its benefit under an **FFR Contract** and/or **Firm Frequency Response Agreement** in whole or in part by way of security; or
- (b) upon the disposal of the whole or any part of the **FFR Provider's** business or undertaking of which a **Contracted FFR Unit** forms part, the **FFR Provider** may transfer its rights and obligations under the relevant **Firm Frequency Response Agreement** to the purchaser thereof with the prior written consent of **National Grid** (which shall not be unreasonably withheld or delayed), and all

extant **FFR Contracts** with respect to that **Contracted FFR Unit** shall thereupon be deemed to be transferred to such purchaser.

5.5.2 **National Grid** shall not assign or transfer nor purport to assign or transfer the benefit or burden of any **FFR Contract** and/or **Firm Frequency Response Agreement** save to a person required by a **Licence** granted under Section 6(1)(b) of the Act to contract for **Balancing Services**.

5.6 CONFIDENTIALITY AND ANNOUNCEMENTS

5.6.1 General Restrictions

- (a) Subject to the exceptions provided in sub-paragraph 5.6.2, and to the extent otherwise expressly permitted or otherwise contemplated by this **Document** and/or any **Firm Frequency Response Agreement**, neither **Party** shall, at any time, whether before or after the expiry or sooner termination of any **FFR Contract** and/or **Firm Frequency Response Agreement**, without the prior consent of the other **Party** in writing, divulge or suffer or permit its officers, employees, agents or contractors to divulge to any person or permit use by any person (other than disclosure to or use by any of its or their respective officers or employees to the extent that such disclosure and use is required to enable such persons properly to carry out their duties in connection with any **FFR Contract** and/or **Firm Frequency Response Agreement**) of:-
- (i) any of the contents of any **FFR Tender** or any **Firm Frequency Response Agreement**;
 - (ii) any commercially confidential information relating to the negotiations concerning the entering into of any **Firm Frequency Response Agreement**;
 - (iii) any commercially confidential information which may come to a **Party's** knowledge in the course of such negotiations; or
 - (iv) any commercially confidential information concerning the operations, contracts, commercial or financial arrangements or affairs of the other **Party**.
- (b) Each **Party** undertakes to use information referred to in sub-paragraph 5.6.1(a) and disclosed to it by the other **Party** solely for the purposes of any **FFR Contract** and/or **Firm Frequency Response Agreement** and shall not use it for any other purpose or for the purposes of any third party.

5.6.2 Exceptions

- (a) The restrictions imposed by sub-paragraph 5.6.1 shall not apply to the disclosure of any information:-
- (i) which now or hereafter comes into the public domain otherwise than as a result of a breach of a confidentiality obligation or which either **Party** can show was in its written records prior to the date of disclosure of the same by the other **Party** or which it received from a third party independently entitled to disclose it;
 - (ii) which is required by law or pursuant to the rules of the **Electricity Supply Industry Arbitration Association** in **Great Britain** or pursuant to the rules or regulations of the Financial Conduct Authority to be disclosed to any person who is authorised by law or pursuant to the rules of the **Electricity Supply Industry Arbitration Association** in **Great Britain** or pursuant to the rules or regulations of the Financial Conduct Authority to receive the same;

- (iii) which is required to be disclosed by the regulations of any recognised exchange upon which the share capital of the **Party** making the disclosure (or its parent undertaking) is or is proposed to be from time to time listed or dealt in, or is required to be disclosed by the Panel on Takeovers and Mergers;
 - (iv) to a court, arbitrator or administrative tribunal in the course of **Proceedings** before it to which the disclosing **Party** is a party;
 - (v) in accordance with the provisions of the **Balancing and Settlement Code** or pursuant to any **Licence** of the **Party** concerned;
 - (vi) to any parent, subsidiary or fellow subsidiary undertaking on a "need to know" basis only;
 - (vii) to any authorised consultants, banks, financiers, insurers or professional advisers to the disclosing **Party**; or
 - (viii) required or expressly permitted to be disclosed under the terms of any agreement or arrangement (including this **Document**, the **Grid Code**, the **Connection and Use of System Code**, the **Distribution Code** and the **Fuel Security Code** (if any)) to which the **Parties** have agreed to be bound.
- (b) From and including 1st April 2017, the restrictions imposed by sub-paragraph 5.6.1 shall, subject to sub-paragraph 5.6.4, also not apply to the disclosure by **National Grid** of the following information (or as may be otherwise agreed between **National Grid** and the **FFR Provider** in a **Firm Frequency Response Agreement**) to the **FFR Provider's** host **Public Distribution System Operator**:-
- (i) the meter point administration number associated with the **FFR Unit**; and
 - (ii) all operational data (including, without limitation, service type, volume and call-off instructions) ; and
- (c) In this sub-paragraph 5.6.2, the words "parent", "subsidiary" and "undertaking" shall have the meanings as provided in Sections 1161 and 1162 of the Companies Act 2006.
- (d) If the **FFR Provider** does not want **National Grid** to disclose any information described in sub-paragraph 5.6.2(b), it must notify **National Grid** in writing by giving not less than twenty (20) **Business Days** notice stating the contract log number(s) of the relevant **Firm Frequency Response Agreement**.

5.6.3 **Third Parties**

Before either **Party** discloses any information in any of the circumstances described in sub-paragraph 5.6.2(a)(vi) and (vii) or, in the case of **National Grid**, any of the information described in sub-paragraph 5.6.2(b) (other than to its authorised professional advisers), it shall notify the other **Party** of its intention to make such disclosure and procure the execution and delivery to that **Party** of an undertaking executed by the person to whom the disclosure is proposed to be made being in the same terms mutatis mutandis as the undertakings contained in this paragraph 5.6.

5.6.4 **Public announcements**

- (a) Subject to sub-paragraph 5.6.4(a), no public announcement or statement regarding the signature, performance or termination of any **FFR Contract** and/or **Firm Frequency Response Agreement** shall be issued or made unless before it

is issued or made both the **Parties** have been furnished with a copy of it and have approved it (such approval not to be unreasonably withheld or delayed).

- (b) Neither **Party** shall be prohibited from issuing or making any such public announcement or statement to the extent expressly permitted or otherwise contemplated by this **Document** and/or any **Firm Frequency Response Agreement** or if it is necessary to do so in order to comply with any applicable law or the regulations of any recognised stock exchange upon which the share capital of such **Party** is from time to time listed or dealt in.

5.6.5 **Procedures**

With respect to the information referred to in sub-paragraph 5.6.1(a), both **Parties** shall ensure that:-

- (a) such information is disseminated within their respective organisations on a “need to know” basis only;
- (b) employees, directors, agents, consultants and professional advisers who are in receipt of such information are made fully aware of the **Party**’s obligations of confidence in relation thereto; and
- (c) any copies of such information, whether in hard copy or computerised form, will clearly identify the information as confidential.

5.6.6 **Termination**

Notwithstanding any other provision of this **Document** and/or any **Firm Frequency Response Agreement**, the provisions of this paragraph 5.6 shall continue to bind a person after termination of any **FFR Contract** and/or **Firm Frequency Response Agreement**, in whole or in part, for whatever reason.

5.7 **WAIVER**

No delay by or omission of any **Party** in exercising any right, power, privilege or remedy under this **Document** or any **Firm Frequency Response Agreement** shall operate to impair such right, power, privilege or remedy or be construed as a waiver thereof. Any single or partial exercise of any such right, power, privilege or remedy shall not preclude any other or further exercise thereof or the exercise of any other right, power, privilege or remedy. Payment of any sum or the submission of any **Monthly Statement** by **National Grid** to the **FFR Provider** under this **Document** or any **Firm Frequency Response Agreement** shall not operate to impair or be construed as a waiver of any right, power, privilege or remedy **National Grid** may have against the **FFR Provider** under this **Document** and/or any **Firm Frequency Response Agreement** or otherwise whatsoever and howsoever arising or arisen.

5.8 **NOTICES**

5.8.1 Any notice or other communication to be given by one **Party** to the other under, or in connection with the matters contemplated by this **Document** or any **Firm Frequency Response Agreement**, shall unless otherwise expressly agreed herein be addressed to the recipient and sent to the address, e-mail address or facsimile number of such other **Party** set out in the relevant **Firm Frequency Response Agreement** for the purpose and marked for the attention of the person so given or to such other address, e-mail address or facsimile number and/or marked for such other attention as such other **Party** may from time to time specify by notice given in accordance with this paragraph 5.8 to the **Party** giving the relevant notice or other communication to it.

5.8.2 Any notice or other communication to be given by one **Party** to the other **Party** under, or in connection with the matters contemplated by, this **Document** or any **Firm Frequency Response Agreement** shall unless otherwise expressly agreed herein be in writing and

shall be given by letter delivered by hand or sent by first class prepaid post (airmail if overseas), e-mail or facsimile, and shall be deemed to have been received:-

- (a) in the case of delivery by hand, when delivered; or
- (b) in the case of first class prepaid post, on the second day following the day of posting or (if sent airmail from overseas) on the fifth day following the day of posting;
- (c) in the case of facsimile, on acknowledgement by the addressee's facsimile receiving equipment (where such acknowledgement occurs before 17.00 hours on the day of acknowledgement and in any other case on the day following the day of acknowledgement); or
- (d) in the case of e-mail, on acknowledgement that the e-mail has been delivered to the addressee's inbox by way of a delivery receipt (where such acknowledgement occurs before 17:00 hours on the day of acknowledgement) and in any other case on the day following the day of acknowledgement).

5.9 DISPUTE RESOLUTION

- 5.9.1 Save where expressly stated in this **Document** or in any **Firm Frequency Response Agreement** to the contrary and subject to any contrary provision of the **Act** or any **Licence**, and subject always to sub-paragraph 5.9.3, any dispute or difference of whatever nature howsoever arising under, out of or in connection with this **Document** or any **Firm Frequency Response Agreement** between the **Parties** shall be and is hereby referred to arbitration pursuant to the arbitration rules of the **Electricity Supply Industry Arbitration Association** in force from time to time.
- 5.9.2 Whatever the nationality, residence or domicile of either **Party** and wherever the dispute or difference or any part thereof arose, the laws of England and Wales shall be the proper law of any reference to arbitration hereunder and in particular (but not so as to derogate from the generality of the foregoing) the provisions of the Arbitration Act 1996 (notwithstanding anything in Section 108 thereof) shall apply to any such arbitration wherever the same or any part of it shall be conducted.
- 5.9.3 Where a provision of this **Document** expressly provides for the referral by **National Grid** or an **FFR Provider** of any matter or matters in dispute to **Expert Determination**, the following provisions shall apply:-
 - (a) the **Expert** shall act as an expert and not as an arbitrator and shall decide those matters referred to him using his skill, experience and knowledge, and with regard to all such other matters as he in his sole discretion considers appropriate;
 - (b) if **National Grid** or the **FFR Provider** cannot agree upon the selection of an **Expert**, the **Expert** shall be determined by the President for the time being of the Law Society of England and Wales;
 - (c) all references to the **Expert** shall be made in writing by either **National Grid** or the **FFR Provider** with notice to the other being given contemporaneously, and **National Grid** and the **FFR Provider** shall promptly supply the **Expert** with such **Documents** and information as he may request when considering any referral;
 - (d) the **Expert** shall be requested to use his best endeavours to give his decision upon the question before him as soon as possible in writing following its referral to him, his decision shall, in the absence of fraud or manifest error, be final and binding upon **National Grid** and the **FFR Provider**;
 - (e) if the **Expert** wishes to obtain independent professional and/or technical advice in connection with the question before him:-

- (i) he shall first provide **National Grid** and the **FFR Provider** with details of the name, organisation and estimated fees of the professional or technical adviser; and
- (ii) he may engage such advisor with the consent of **National Grid** and the **FFR Provider** (which consent shall not be unreasonably withheld or delayed) for the purposes of obtaining such professional and/or technical advice as he may reasonably require;
- (f) the **Expert** shall not be held liable for any act or omission, and his written decision will be given without any liability on the **Expert's** part to either **National Grid** or the **FFR Provider**, unless it shall be shown that he acted fraudulently or in bad faith;
- (g) save to the extent otherwise expressly provided herein pending the determination by the **Expert**, any subsisting **FFR Contract(s)** shall continue to the extent possible for **National Grid** and the **FFR Provider** to perform their obligations under such **FFR Contract(s)**; and
- (h) the **Expert** shall at his discretion be entitled to order that the costs of the reference of a dispute to him shall be paid by **National Grid** and/or the **FFR Provider** in whatever proportions he thinks fit.

5.10 JURISDICTION

- 5.10.1 Subject and without prejudice to paragraph 5.9 and to sub-paragraph 5.10.4, both **Parties** irrevocably agree that the courts of England and Wales and the courts of Scotland are to have jurisdiction to settle any disputes which may arise out of or in connection with this **Document** and/or any **Firm Frequency Response Agreement** and that accordingly any suit, action or proceeding (together in this paragraph 5.10 referred to as "**Proceedings**") arising out of or in connection with this **Document** and/or any **Firm Frequency Response Agreement** may be brought to such courts.
- 5.10.2 Each **Party** irrevocably waives any objection which it may have now or hereafter to the laying of the venue of any **Proceedings** in any such court as is referred to in this paragraph 5.10 and any claim that any such **Proceedings** have been brought in an inconvenient forum and further irrevocably agrees that judgment in any **Proceedings** brought in the courts of England and Wales or the courts of Scotland shall be conclusive and binding upon such **Party** and may be enforced in the courts of any other jurisdiction.
- 5.10.3 Each **Party** which is not incorporated in any part of **Great Britain** agrees that if it does not have, or shall cease to have, a place of business in **Great Britain** it will promptly appoint, and shall at all times maintain, a person in **Great Britain** to accept service of process on its behalf in any **Proceedings** in **Great Britain**.
- 5.10.4 For the avoidance of doubt nothing contained in the foregoing provisions of this paragraph 5.10 shall be taken as permitting a party to commence **Proceedings** in the courts where this **Document** or any **Firm Frequency Response Agreement** otherwise provides for **Proceedings** to be referred to arbitration.

5.11 GOVERNING LAW

This **Document** and each **Firm Frequency Response Agreement** and **FFR Contract** shall be governed by and construed in all respects in accordance with English law.

5.12 FORCE MAJEURE

- 5.12.1 In so far as either **Party** is prevented from performing any of its obligations under this **Document** and/or any **Firm Frequency Response Agreement** due to an event or circumstance of **Force Majeure**, then neither the **FFR Provider** nor **National Grid** (as the

case may be) shall be deemed to be in breach of such obligations for so long as the circumstance of **Force Majeure** continues to prevent such performance.

- 5.12.2 If **National Grid** is unable to accept the provision of **Firm Frequency Response** and/or issue an instruction pursuant to sub-paragraph 3.4.3, 3A.4.3, 4.4.2 or 4A.4.2 or is deemed to have instructed (as the case may be) due to an event or circumstance of **Force Majeure**, it shall not be obliged to make any payment to the **FFR Provider** pursuant to paragraph 3.5, 3A.5, 4.5 or 4A.5 (as the case may be) in respect of the period during which the event or circumstance of **Force Majeure** continues to prevent such acceptance and/or ability to issue an instruction.
- 5.12.3 The **Party** affected by the **Force Majeure** shall give to the other **Party** immediately upon becoming aware of an event or circumstance of **Force Majeure**, a written communication describing the **Force Majeure** (including, without limitation, the nature of the occurrence and its expected duration) and the obligations which it is prevented from performing and shall continue to furnish regular reports with respect thereto to the other **Party** during the period of **Force Majeure**.
- 5.12.4 As soon as is reasonably practicable, following an event or circumstance of **Force Majeure**, the **Parties** shall meet to discuss how best to continue their respective obligations as set out in this **Document** and the relevant **Firm Frequency Response Agreement**.
- 5.12.5 For the avoidance of doubt the non-performance of either **Party's** obligations pursuant to this **Document** and any **Firm Frequency Response Agreement** arising prior to the event or circumstance of **Force Majeure**, shall not be excused as a result of the event or circumstance of **Force Majeure**.
- 5.12.6 Either **Party** shall have a right to terminate the provisions of the relevant **FFR Contract** and/or **Firm Frequency Response Agreement** if a **Party** has been prevented from performing its obligations under this **Document** and such **Firm Frequency Response Agreement** due to an event or circumstance of **Force Majeure** for a continuous period of two calendar months.

5.13 SEVERANCE OF TERMS

If any provision of this **Document** or any **Firm Frequency Response Agreement** is or becomes or is declared invalid, unenforceable or illegal by the courts of any jurisdiction to which it is subject or by order of the European Commission or by order of the Secretary of State, such invalidity, unenforceability or illegality shall not prejudice or affect the remaining provisions of this **Document** and such **Firm Frequency Response Agreement** and the relevant **FFR Contract** which shall continue in full force and effect notwithstanding such invalidity, unenforceability or illegality.

5.14 ENTIRE AGREEMENT

This **Document** and the relevant **Firm Frequency Response Agreement** contain or expressly refer to the entire agreement between the **Parties** with respect to the subject matter of such agreements, and expressly excludes any warranty, condition or other undertaking implied at law or by custom, and supersedes all previous agreements and understandings between the **Parties** with respect thereto and each of the **Parties** acknowledges and confirms that it is not aware of any representation, warranty or other undertaking not fully reflected in the terms of this **Document** and each relevant **Firm Frequency Response Agreement** upon which it has relied in entering into this **Document** and each relevant **Firm Frequency Response Agreement**. To the extent that any such representation, warranty or other undertaking exists, each **Party** irrevocably and unconditionally waives any right it may have to claim damages for breach of warranty and/or to rescind any **Firm Frequency Response Agreement** and/or **FFR Contract**, unless such warranty or misrepresentation was made or given fraudulently.

5.15 THIRD PARTY RIGHTS

The **Parties** acknowledge and agree for the purposes of the Contracts (Rights of Third Parties) Act 1999 that no rights, powers of benefits are or shall be conferred on any person pursuant to this

Document or any **Firm Frequency Response Agreement** save as expressly provided in this **Document** or such **Firm Frequency Response Agreement**.

5.16 **APPOINTMENT OF AGENT**

For the purposes of both making and receiving communications and payments to and from **National Grid** under Section 3, Section 3A, Section 4 and Section 4A of this **Document** the **FFR Provider** may appoint an agent to act on its behalf, and in connection therewith the **Parties** agree that:-

- 5.16.1 such appointment shall be acknowledged in the relevant **Firm Frequency Response Agreement** or otherwise notified to **National Grid** by the **FFR Provider** by not less than twenty-eight calendar days' prior notice in writing, and in either case termination or other expiry of such appointment shall be notified to **National Grid** by not less than twenty-eight calendar days' prior notice in writing from the **FFR Provider**;
- 5.16.2 such appointment shall not relieve the **FFR Provider** from any liability or obligation under this **Document** or any **Firm Frequency Response Agreement**;
- 5.16.3 until **National Grid** is notified of termination or expiry of such appointment pursuant to sub-paragraph 5.16.1, communications and payments made to and by such agent under this **Document** shall be effective as if made to and by the **FFR Provider**, and without limiting the foregoing such agent shall have full power and authority to accept payments from **National Grid** under this **Document** on behalf of the **FFR Provider** in valid discharge of **National Grid**'s obligations in respect thereof; and
- 5.16.4 for the purposes of sub-paragraph 5.6.1, each of the **Parties** gives its consent to the disclosure by the other to such agent of the information referred to therein insofar as disclosed for the purposes of any **FFR Contract** and/or **Firm Frequency Response Agreement** and the **Parties**' respective obligations under this **Document**, and in connection therewith the **FFR Provider** shall procure that such agent observes the restrictions set out in paragraph 5.6 (as if references to the relevant **Party** were to such agent, and for the avoidance of doubt on the basis that the exceptions set out in sub-paragraph 5.6.2 apply as if references to a **Party** were references to such agent) and shall be responsible under this **Document** for any failure by such agent to observe such restrictions.

5.17 **ANTI-BRIBERY**

- 5.17.1 Each **Party** shall:
 - (a) comply with **Anti Bribery Law**;
 - (b) not engage in any activity, practice or conduct which would constitute an offence under sections 1, 2 or 6 of the **Bribery Act** if such activity, practice or conduct had been carried out in the UK;
 - (c) have and shall maintain in place, throughout the term of a **Firm Frequency Response Agreement**, its own policies and procedures, including **Adequate Procedures**, to ensure compliance with **Anti Bribery Law** and this sub-paragraph 5.17, and will enforce them where appropriate; and
 - (d) procure and ensure that all of its **Associated Persons** and/or other persons who are performing services in connection with a **Firm Frequency Response Agreement** comply with this sub-paragraph 5.17.
- 5.17.2 If either **Party** breaches this sub-paragraph 5.17 then, without prejudice to any other rights or remedies, the other **Party** may immediately terminate the **Firm Frequency Response Agreement** and any subsisting **FFR Contract** on written notice to the **Party** in breach.

5.18 **EMR**

Notwithstanding any confidentiality obligations and any restriction on the use or disclosure of information set out in this **Document**, the **FFR Provider** consents to **National Grid** and each of its subsidiaries using all and any information or data supplied to or acquired by it in any year under or in connection with this **Document** for the purposes of carrying out its **EMR Functions**.

The provisions relating to the resolution of disputes set out in this **Document** (if any) are subject to any contrary provision of an **EMR Document**.

Where for the purposes of this provision only:-

“**AF Rules**” has the meaning given to “allocation framework” in section 13(2) of the Energy Act 2013;

“**Capacity Market Rules**” means the rules made under section 34 of the Energy Act 2013 as modified from time to time in accordance with that section and The Electricity Capacity Regulations 2014;

“**EMR Document**” means The Energy Act 2013, The Electricity Capacity Regulations 2014, the Capacity Market Rules, The Contracts for Difference (Allocation) Regulations 2014, The Contracts for Difference (Definition of Eligible Generator) Regulations 2014, The Contracts for Difference (Electricity Supplier Obligations) Regulations 2014, The Electricity Market Reform (General) Regulations 2014, the AF Rules and any other regulations or instruments made under Chapter 2 (capacity market) or Chapter 4 (investment contracts) of Part 2 of the Energy Act 2013 which are in force from time to time;

“**EMR Functions**” has the meaning given to “EMR functions” in Chapter 5 of Part 2 of the Energy Act 2013.

SECTION 6 INTERPRETATION AND DEFINITIONS

6.1 INTRODUCTION

This Section sets out general rules to be applied in interpreting this **Document** and **Firm Frequency Response Agreements**. A **Firm Frequency Response Agreement** may have its own further interpretation rules and defined terms which apply only to that **Firm Frequency Response Agreement**.

6.2 INTERPRETATION AND CONSTRUCTION

6.2.1 In this **Document** and in each **Firm Frequency Response Agreement**:-

- (a) the interpretation rules in this paragraph 6.2.1; and
- (b) the words and expressions defined in paragraph 6.3,

shall, unless the subject matter or context otherwise requires or is inconsistent therewith, apply.

6.2.2 Save as otherwise expressly provided in this **Document**, in the event of any inconsistency between the provisions of any **Firm Frequency Response Agreement** and this **Document**, the provisions of the **Firm Frequency Response Agreement** shall prevail in relation to the subject matter thereof.

6.2.3 In this **Document** and in each **Firm Frequency Response Agreement**:-

- (a) unless the context otherwise requires, all references to a particular paragraph or Section shall be a reference to that paragraph or Section in or to this **Document**, and all references to a particular Clause or Appendix shall be a reference to that Clause or Appendix in or to a **Firm Frequency Response Agreement**;
- (b) a table of contents and headings are inserted for convenience only and shall be ignored in construing this **Document** or a **Firm Frequency Response Agreement**;
- (c) references to the words “include” or “including” are to be construed without limitation to the generality of the preceding words;
- (d) unless the context otherwise requires any reference to an Act of Parliament or any part or section or other provision of or section to an Act of Parliament shall be construed, at the particular time, as including a reference to any modification, extension or re-enactment thereof then in force and to all instruments, order or regulations then in force and made under or deriving validity from the relevant Act of Parliament; and
- (e) references to the masculine shall include the feminine and references in the singular shall include the plural and vice versa and words denoting persons shall include any individual, partnership, firm, company, corporation, joint venture, trust, association, organisation or other entity, in each case whether or not having separate legal personality.

6.3 DEFINITIONS

The following terms shall have the following meanings:

“the Act”	means the Electricity Act 1989;
“ABSVD Methodology Statement”	means the document entitled “ Applicable Balancing Services Volume Data Methodology Statement ” as published by National Grid as the same may be

	amended from time to time;
“Active Power”	means the product of voltage and the in-phase component of alternating current measured in units of Watts and standard multiples thereof i.e. 1000 Watts = 1kW 1000 kW = 1MW 1000 MW = 1GW 1000 GW = 1TW;
“Additional Response”	means, in relation to a Contracted FFR Unit , a level of Response in excess of the Initial Response tendered by the FFR Provider ;
“Adequate Procedures”	shall be determined in accordance with section 7(2) of the Bribery Act (and any guidance issued under section 9 of that Act);
“Affected FFR Contract”	means a subsisting FFR Contract in force at the date that National Grid submits a Detailed Change Proposal and whose term continues beyond the Final Implementation Date specified therein;
“Affected FFR Provider”	means, with respect to any Detailed Change Proposal , an FFR Provider which is a party to one or more Affected FFR Contracts , and which is of the reasonable opinion that;- (1) its ability to provide Firm Frequency Response and/or comply with such Affected FFR Contract(s) will be materially prejudiced by the amendments to this Document described in such Detailed Change Proposal ; and/or (2) the net cost to it of providing Firm Frequency Response and/or complying with such Affected FFR Contract(s) is materially increased as a result of such amendments;
“Agreed Operational Metering Equipment”	means meters, instrument transformers (both voltage and current), transducers metering protection equipment including alarms circuitry and their associated outstations as may be necessary for the purposes of enabling National Grid to monitor the FFR Provider ’s provision of Firm Frequency Response from the Contracted FFR Unit , to be agreed in writing with National Grid within the Firm Frequency Response Agreement(s) ;
"Ancillary Services"	means System Ancillary Services and/or Commercial Ancillary Services , as the case may be;
“Anti Bribery Law”	means all applicable laws, statutes, regulations, and codes relating to anti-bribery and anti-corruption including but not limited to the Bribery Act ;
“Apparatus”	means all equipment in which electrical conductors are used, supported or of which they may form a part;
“Applicable Balancing Service”	has the meaning attributed to it in the Balancing and

	Settlement Code;
“ Associated Person ”	has the meaning ascribed to it in section 8 of the Bribery Act and shall include but is not limited to any employees, agents and/or subcontractors of the FFR Provider or National Grid as applicable in relation to the provision of the Commercial Ancillary Services ;
“ Authorised Electricity Operator ”	means any person (other than National Grid in its capacity as operator of the National Electricity Transmission System) who is authorised to generate, transmit, distribute or supply electricity;
“ Authority ”	means the Gas and Electricity Markets Authority established by section 1 of the Utilities Act 2000;
“ Automatic Logging Device ”	means any electronic apparatus or other device capable of relaying instructions and confirmations between National Grid and the FFR Provider and/or memorising and storing any instructions and confirmations so given;
“ Automatic Nomination Facility ”	means the deemed notification of FFR Nominated Windows as more particularly described in subparagraph 3A.2.5 and 4A.2.5;
“ Automatic Response ”	means either the automatic reduction of Demand or increase of Generation following a fall in System Frequency below the applicable Pre-Set Level , or the automatic increase of Demand or reduction of Generation following an increase in System Frequency above the applicable Pre-Set Level , as the case may be;
“ Automatic Response Energy Deliverable ”	means the amount of Automatic Response to be delivered from a Contracted FFR Unit for the Pre-Set Level as set out or referred to in the Firm Frequency Response Agreement ;
“ Availability Fee ”	means, in relation to a Contracted FFR Unit : (a) the fee (£/h) described as such in the FFR Tender ; or (b) if the Contracted FFR Unit is the subject of a subsisting FFR Contract in respect of Additional Response , the aggregate of the fee (£/h) described as such in the FFR Tender for the Initial Response and the fee (£/h) described as such in the FFR Tender for the Additional Response , in either case, as adjusted by indexation pursuant to the Contracted Indexation Methodology (if applicable);
“ Availability Payment ”	has the meaning attributed to it in sub-paragraphs 3.5.1(a), 3A.5.1(a), 4.5.1(a) or 4A.5.1(a) as the case may be;
“ Balancing and Settlement Code (BSC) ”	has the meaning attributed to it in the Transmission Licence ;
“ Balancing Mechanism ”	has the meaning attributed to it in the Transmission

	Licence;
“Balancing Services”	has the meaning attributed to it in the Transmission Licence;
“Bank Holiday”	means any day (other than Sunday) on which clearing banks are closed for normal banking business in sterling in the city of London;
“Base Rate”	means, in respect of any day, the rate per annum which is equal to the base lending rate from time to time of Barclays Bank plc as at the close of business on the immediately preceding Business Day;
“Bid-Offer Acceptance”	has the meaning attributed to it in the Grid Code;
“BM Unit”	has the meaning attributed to it in the BSC , except for the purposes of this Document the reference to “a Party” in the BSC shall be a reference to the FFR Provider;
“BM Unit Data”	has the meaning attributed to it in the Grid Code;
“Bribery Act”	means the Bribery Act 2010;
“Business Day”	means a week-day other than a Saturday on which banks are open for domestic business in the City of London;
“Change in Law”	means the coming into effect of :- (1) a Legal Requirement; or (2) any applicable judgement of a relevant court of law which materially changes a binding precedent;
“Commencement Date”	means (where the context permits) the date specified either in a FFR Tender or in National Grid’s notification of acceptance of an FFR Tender pursuant to sub-paragraph 2.5.1 from which an FFR Contract for Firm Frequency Response shall come into effect;
“Commercial Ancillary Services”	means Ancillary Services other than System Ancillary Services;
“Competent Authority”	means the Gas and Electricity Markets Authority or any local, national or supra-national agency, authority, department, inspectorate, minister, official, court, tribunal or public or statutory person (whether autonomous or not) of the United Kingdom (or the government thereof) or the member states of the European Union which have jurisdiction over National Grid or the subject matter of this Document;
“Connection Agreement”	means any agreement in respect of the connection (including the maintenance and modification of that connection) of Plant and Apparatus to a Distribution System;
“Connection and Use of System Code (CUSC)”	means the Connection and Use of System Code designated by the Secretary of State as from time to

	time modified;
“ Connection Site ”	has the meaning attributed to it in the CUSC ;
“ Consumption BM Unit ”	has the meaning attributed to it in the BSC ;
“ Contract Prices ”	in respect of any Contracted FFR Unit means the Availability Fee , the Window Initiation Fee , the Nomination Fee , the Window Revision Fee (where applicable) and the Response Energy Payment (where applicable), all as specified as such in the relevant FFR Tender ;
“ Contracted FFR Unit ”	means an FFR Unit that is, at the relevant time, subject to a subsisting FFR Contract ;
“ Contracted Indexation Methodology ”	means the methodology or methodologies (if any) for indexation of Contract Prices (or any of them) set out from time to time in the Firm Frequency Response Agreement ;
“ CUSC Framework Agreement ”	has the meaning attributed to it in the Transmission Licence ;
“ Customer ”	means a person to whom electrical power is provided (whether or not he is the same person as the person who provides the electrical power) other than power to meet Station Demand of that person;
“ De-Load ”	has the meaning attributed to it in the Grid Code ;
“ Defaulting Party ”	has the meaning attributed to it in sub-paragraph 5.2.7;
“ Demand ”	has the meaning attributed to it in the CUSC ;
“ De-Synchronised ”	has the meaning attributed to it in the Grid Code ;
“ Detailed Change Proposal ”	means a proposal prepared by National Grid for the purposes of sub-paragraph 1.2.6;
“ Directive ”	means any present or future directive, request, requirement, instruction, code of practice, direction or rule of any Competent Authority and any modification, extension or replacement thereof;
“ Distribution Code(s) ”	means the Distribution Code(s) drawn up by Public Distribution System Operators pursuant to the terms of their respective Licence(s) as from time to time revised in accordance with those Licences ;
“ Distribution Licence ”	means a Licence issued under section 6(1)(c) of the Act;
“ Distribution System ”	means the System consisting (wholly or mainly) of electric lines owned or operated by any Authorised Electricity Operator and used for the distribution of electricity from Grid Supply Points or Generation sets or other entry points to the point of delivery to Customers or Authorised Electricity Operators , and includes any Remote Transmission Assets operated by such Authorised Electricity Operator and any

	electrical Plant and meters owned or operated by the Authorised Electricity Operator in connection with the distribution of electricity, but shall not include any part of the National Electricity Transmission System ;
“ Document ”	means this issue of the Firm Frequency Response Tender Rules and Standard Contract Terms ;
“ Dynamic Demand ”	means any Demand which has the ability to change its Active Power consumption, in Response to a change in System Frequency , in a direction which assists in the recovery to Target Frequency or 50Hz, by operating as to provide Rapid Response and/or Primary Response and/or Secondary Response and/or High Frequency Response and/or Rapid High Frequency Response ;
“ Dynamic Parameters ”	has the meaning attributed to it in the Grid Code ;
“ EDL ”	means the electronic despatch logging mechanism by which National Grid communicates with the FFR Provider and the FFR Provider communicates with National Grid in respect of the Contracted FFR Units for the purposes of operation of the Balancing Mechanism and the utilisation of Ancillary Services ;
“ Electricity Supply Industry Arbitration Association ”	has the meaning attributed to it in the Grid Code ;
“ Energy Metering Equipment ”	has the meaning attributed to the phrase “Metering Equipment” in the Balancing and Settlement Code ;
“ Enhanced Rate ”	means, in respect of any day, the rate per annum which is 4% above the base lending rate from time to time of Barclays Bank plc as at the close of business on the immediately preceding Business Day ;
“ Expert ”	means an independent expert appointed for the purposes of Expert Determination ;
“ Expert Determination ”	means the process specified in sub-paragraph 5.9.3 of Section 5;
“ External Interconnection ”	has the meaning attributed to it in the Grid Code ;
“ FFR Assessments and Testing ”	has the meaning attributed to it in paragraph 7.1;
“ FFR Capability Data Tables ”	means the data tables set out or referred to as such in the Firm Frequency Response Agreement ;
“ FFR Confirmed Part Load Point ”	means, in respect of any Service Day , the Part Load Point notified as such by the FFR Provider pursuant to sub-paragraph 3.4.1(a) or (b), being a figure within the Part Load Point range defined by the Maximum Part Load Point and the Minimum Part Load Point , or (where applicable) the Part Load Point specified as such pursuant to sub-paragraph 3.4.1(d);
“ FFR Contract ”	means each and every contract between National Grid and the FFR Provider for the provision by the FFR

	Provider to National Grid of Firm Frequency Response upon and subject to the terms of an FFR Tender , this Document and the relevant Firm Frequency Response Agreement , formed upon acceptance by National Grid of that FFR Tender pursuant to sub-paragraph 2.5.1 and ending upon expiry of the FFR Contracted Service Term or earlier termination pursuant to paragraphs 3.15, 3A.15, 4.15 or 4A.15 (as the case may be);
“ FFR Contracted Frame ”	means a Tendered Frame comprised within an FFR Tender which has been accepted by National Grid pursuant to sub-paragraph 2.5.1;
“ FFR Contracted Service Term ”	means the Tendered Service Term comprised within an FFR Tender which has been accepted by National Grid pursuant to sub-paragraph 2.5.1;
“ FFR Nominated Window ”	has the meaning attributed to it in sub-paragraphs 3.2.1, 3A.2.1, 4.2.1 or 4A.2.1 (as the case may be);
“ FFR Power Delivery Data Tables ”	means the data tables set out or referred to in the Firm Frequency Response Agreement ;
“ FFR Pre-Qualification Assessment ”	means the test or sequence of tests referred to in Section 2 and Section 7 for the purposes of ensuring the FFR Unit complies with the mandatory requirements in respect of Firm Frequency Response as specified in sub-paragraph 2.2.2;
“ FFR Provider ”	means each person (other than National Grid) for the time being and from time to time a party to a Firm Frequency Response Agreement and any successor(s) in title to, or permitted assign(s) of, such person;
“ FFR Provider’s Agent ”	means the person (if any) specified as such in the Firm Frequency Response Agreement ;
“ FFR Service Procedure ”	means the procedure established from time to time by National Grid for the instruction and delivery of Firm Frequency Response ;
“ FFR Tender ”	means a tender for provision of Firm Frequency Response submitted pursuant to paragraph 2.3 being either a Weekly Tender or a Monthly Tender ;
“ FFR Tender Procedure ”	means the procedure established from time to time by National Grid for the procurement of FFR Contracts , comprising the Pro-Forma Sheets or any alternative web based platform;
“ FFR Unit ”	means either (1) a single BM Unit or (as the case may be) Site or (2) two or more Sites which together meet the requirements of sub-paragraph 2.2.3;
“ Final Implementation Date ”	means the Proposed Implementation Date or, in the case of a Detailed Change Proposal required as a

	result of a Proposed Legal Requirement , the date that the relevant Change in Law is currently expected by National Grid to come into effect;
“ Final Monthly Settlement ”	has the meaning attributed to it in sub-paragraph 5.2.2;
“ Firm Frequency Response ”	means the firm availability of either dynamic or non-dynamic Response provided upon and subject to the terms of this Document ;
“ Firm Frequency Response Agreement(s) ”	means the agreement or agreements to which National Grid and the FFR Provider are a party more particularly referred to in paragraph 2.2;
“ Firm Frequency Sensitive Mode ”	means an operating mode which will result in Active Power output changing, in Response to a change in System Frequency , in a direction which assists in the recovery to Target Frequency or 50Hz, by operating so as to provide Rapid Response and/or Primary Response and/or Secondary Response and/or High Frequency Response and/or Rapid High Frequency Response ;
" Force Majeure "	means, in relation to either Party , any event or circumstance which is beyond the reasonable control of such Party (not being, without limitation an event or circumstance caused by the negligence or lack of care and attention of that Party or its officers or employees) but subject thereto including act of God, strike lockout or other industrial disturbance, act of the public enemy, war declared or undeclared, threat of war, terrorist act, blockade, revolution, riot, insurrection, civil commotion, public demonstration, sabotage, act of vandalism, lightning, fire, storm, flood, earthquake, accumulation of snow or ice, lack of water arising from weather or environmental problems, explosion, governmental restraint, Act of Parliament, other legislation, bye law and Directive (not being any order, regulation or direction under Section 32, 33, 34 and 35 of the Act);
“ Frequency ”	means the number of alternating current cycles per second (expressed in Hertz) at which a System is running;
“ Frequency Deviation ”	has the meaning attributed to it in the CUSC ;
“ Frequency Sensitive Load Device ”	has the meaning attributed to it in the Firm Frequency Response Agreement ;
“ Frequency Sensitive Mode ”	has the meaning attributed to it in the Grid Code ;
“ Fuel Security Code ”	means the document of that title designated as such by the Secretary of State as from time to time amended;
“ Gas Turbine Unit ”	has the meaning attributed to it in the CUSC ;
“ Gate Closure ”	means, in relation to a Settlement Period , the spot time one hour before the spot time at the start of that

	Settlement Period , or otherwise as may be defined from time to time in the BSC ;
“ Gate Closure Period ”	means the period between Gate Closure and the spot time at the start of the associated Settlement Period ;
“ GBSO ”	means the Great Britain System Operator ;
“ Generating Plant ”	has the meaning attributed to it in the CUSC ;
“ Generating Unit ”	unless otherwise provided in any Firm Frequency Response Agreement , means any Apparatus which produces electricity including for the avoidance of doubt a CCGT Unit ;
" Generation "	means the electrical output (in MW) of a Generating Unit ;
“ Genset ”	has the meaning attributed to it in the Grid Code ;
“ Great Britain ”	has the meaning attributed to it in Schedule 1 of the Transmission Licence ;
" Grid Code "	means the Grid Code drawn up pursuant to the Transmission Licence as from time to time revised in accordance with the Transmission Licence (and references in this Document or any Firm Frequency Response Agreement to any specific provision or part of the Grid Code shall be construed as references to such provision or part as from time to time amended);
“ Grid Code CC ”	means the Connection Conditions of the Grid Code ;
“ Grid Code OC ”	means the Operating Codes of the Grid Code ;
“ Grid Entry Point ”	means a point at which a Generating Unit or a CCGT Module or a CCGT Unit , as the case may be, which is directly connected to the National Electricity Transmission System , connects to the National Electricity Transmission System ;
“ Grid Supply Point ”	means a point of supply from the National Electricity Transmission System to a Distribution System or a Non-Embedded Customer ;
“ High Frequency Response ”	has the meaning attributed to it in the Grid Code ;
“ Industry Information Website ”	the site established by National Grid on the World-Wide Web for the publication of information for the use of FFR Providers and other interested persons in accordance with such restrictions on access as may be determined from time to time by National Grid ;
“ Initial Response ”	means, in relation to an FFR Tender in respect of a Contracted FFR Unit , the amount of Response to be delivered in accordance with the subsisting FFR Contract ;
“ LDTEC ”	has the meaning attributed to it in the CUSC ;
“ Lead Party ”	has the meaning attributed to it in the BSC ;

“ Legal Requirement ”	means any Act of Parliament, regulation, Licence or Directive of a Competent Authority ;
“ Licence ”	means any one or more as appropriate of the Licences granted pursuant to Section 6 of the Act ;
“ Mandatory Works Provisions ”	means, with respect to all and any works required to be carried out to an FFR Unit to enable the same to provide Firm Frequency Response , any or all of the following provisions relating to such works as may be required by National Grid (at its sole discretion) to be included in a Firm Frequency Response Agreement :- <ol style="list-style-type: none"> (1) a complete description of the programme of such works; (2) a suitable milestone schedule for the carrying out, completion and commissioning of such works, to commence upon formation of any FFR Contract and to complete no later than the Target Commencement Date; and (3) provisions for the conduct of testing (or sequence of testing) and independent witness testing thereof to validate such commissioning, including a technical specification for such testing (or sequence of testing) to enable validation of the mandatory requirements set out in subparagraph 2.2.2;
“ Mandatory Services Agreements ”	has the meaning attributed to it in the CUSC ;
“ Maximum Available Demand ”	means, in respect of a Contracted FFR Unit providing High Frequency Response by automatic increase of Demand , the amount set out and specified as such in the Firm Frequency Response Agreement for the Pre-Set Level ;
“ Maximum Available Output ”	means, in respect of a Contracted FFR Unit providing low Frequency Response by automatic increase in Generation , the amount set out and specified as such in the Firm Frequency Response Agreement for the Pre-Set Level ;
“ Maximum Export Limit ”	the meaning attributed to it in the Grid Code ;
“ Maximum Part Load Point ”	means the Part Load Point specified as such in the FFR Tender , being less than or equal to the Minimum MEL ;
“ Maximum Response Period ”	means the period (if any) specified in the FFR Tender comprising part of the Utilisation Restrictions ;
“ Maximum SEL ”	means the maximum prevailing Stable Export Limit in FFR Nominated Windows specified in the FFR Tender ;
“ Minimum MEL ”	means the minimum prevailing Maximum Export Limit in FFR Nominated Windows specified in the FFR Tender ;

“ Minimum Part Load Point ”	means the Part Load Point specified as such in the FFR Tender , being greater than or equal to the Maximum SEL ;
“ Mode D Frequency Response ”	has the meaning attributed to it in sub-paragraph 3.4.4(a);
“ Mode F Frequency Response ”	has the meaning attributed to it in sub-paragraph 3.4.4(a);
“ Monitored Frequency Sensitive Load Sample ”	has the meaning attributed to it in sub-paragraph 4A.14.20;
“ Monthly Statement ”	means the Provisional Monthly Statement and the Final Monthly Settlement ;
“ Monthly Tenders ”	means Single Month Tenders and Multiple Month Tenders ;
“ Multiple Month Tender ”	means an FFR Tender comprising two or more, but less than twenty four, consecutive Tendered Service Months ;
“ National Electricity Transmission System ”	has the meaning attributed to it in the CUSC ;
“ National Grid ”	means National Grid Electricity Transmission plc (“ NGET ”), a company registered with number 2366977 and whose registered office is situated at 1-3 Strand, London, WC2N 5EH, which expression shall include its permitted successors and/or assigns;
“ Nomination Fee ”	means, in relation to a Contracted FFR Unit : (a) the fee (£/h) described as such in the FFR Tender ; or (b) if the Contracted FFR Unit is the subject of a subsisting FFR Contract in respect of Additional Response , the aggregate of the fee (£/h) described as such in the FFR Tender for the Initial Response and the fee (£/h) described as such in the FFR Tender for the Additional Response , in either case, as adjusted by indexation pursuant to the Contracted Indexation Methodology (if applicable);
“ Nomination Payment ”	has the meaning attributed to it in sub-paragraphs 3.5.1(c), 3A.5.1(c), 4.5.1(c) or 4A.5.1(c) (as the case may be);
“ Non-Balancing Mechanism Participant ”	means an FFR Provider providing Firm Frequency Response from an FFR Unit comprising one or more Sites ;
“ Non-Embedded Customer ”	means a Customer , except for a Public Distribution System Operator , receiving electricity direct from the National Electricity Transmission System irrespective of from whom it is supplied;

“On-Site Monitoring Equipment”	means all and any monitoring and/or metering equipment located at the Premises in respect of any Site ;
“Operational Day”	means the period from 05.00 hours on one day to 05.00 hours on the following day;
“Operational Metering Equipment”	means meters, instrument transformers (both voltage and current), transducers metering protection equipment including alarms circuitry and their associated outstations as may be necessary for the purposes of the Grid Code CC 6.5.6 and the corresponding provision of the relevant Distribution Code ;
“Optional Window”	has the meaning attributed to it in the STOR Standard Contract Terms ;
“Outline Change Proposal”	means a proposal prepared by National Grid for the purposes of paragraph 1.2;
“Part 1 System Ancillary Services”	has the meaning attributed to it in the Grid Code ;
“Part 2 System Ancillary Services”	has the meaning attributed to it in the Grid Code ;
“Parties”	means National Grid of the one part and its counterparty to a Firm Frequency Response Agreement of the other part, and “ Party ” shall be construed accordingly;
“Part Load Point”	means, in respect of an FFR Unit , either (1) an operating level from which dynamic Response is delivered or (2) an operating level more particularly specified in the Firm Frequency Response Agreement either (i) from which Automatic Response is delivered or (ii) to which Demand or Generation (as the case may be) is respectively reduced or increased by way of delivery of Automatic Response ;
“Party Liable”	has the meaning attributed to it in sub-paragraph 5.3.1;
“Performance Factor”	has the meaning attributed to it in sub-paragraphs 3.14.2(d) or 4A.14.2(d) (as the case may be);
“Physical Notification”	has the meaning attributed to it in the Grid Code ;
“Plant”	means fixed and movable items used in the Generation and/or supply and/or transmission and/or distribution of electricity other than Apparatus ;
“Power Station”	means an installation comprising one or more Generating Units (even where separately sited) owned or controlled by the same FFR Provider which may reasonably be considered as being managed as one Power Station ;
“Premises”	means the land and buildings of which a BM Unit or

	Site forms part, which may include a Power Station ;
“ Pre-Set Level ”	means Frequency level at which either non-dynamic Firm Frequency Response or, in certain cases, dynamic Firm Frequency Response is provided from an FFR Unit , being such level, or one of such levels, published by National Grid from time to time on its Industry Information Website ;
“ Pre-Set Level Tolerance Band ”	means the range of all Frequency levels from and including 0.01 Hz below the Pre-Set Level to and including 0.01 Hz above the Pre-Set Level ;
“ Primary Response ”	has the meaning attributed to it in the Grid Code ;
“ Production BM Unit ”	has the meaning attributed to it in the BSC ;
“ Proceedings ”	has the meaning attributed to it in sub-paragraph 5.10.1;
“ Proposed Implementation Date ”	means the date from which National Grid proposes that amendments to this Document described in an Outline Change Proposal are to become effective, being either:- (1) the date specified in such Outline Change Proposal being a date that is not less than 6 calendar months after the date that such Outline Change Proposal is submitted; or (2) in the case of an Outline Change Proposal required as a result of a Proposed Legal Requirement or a Change in Law , the date that the relevant Change in Law is currently expected by National Grid to come into effect;
“ Proposed Legal Requirement ”	means a Legal Requirement that has been proposed by a Competent Authority , including without limitation by means of a consultation, white paper, green paper or parliamentary bill, but which has not yet come into effect as a Change in Law ;
“ Provisional Monthly Statement ”	has the meaning attributed to it in sub-paragraph 5.2.1;
“ Pro-Forma Sheet ”	means the pack of documents entitled “ Firm Frequency Response - Pro-Forma Sheets ” issued from time to time by National Grid ;
“ Public Distribution System Operator ”	has the meaning attributed to it in the CUSC ;
“ Qualifying Change in Law ”	means a Change in Law which principally affects or principally relates to National Grid in its capacity as GBSO and/or the procurement of Firm Frequency Response or Balancing Services generally;
“ Rapid High Frequency Response ”	means the automatic increase in Active Power in Response to an increase in System Frequency which effectively increases with time over the period 0 to 5

	seconds from the time of the Frequency change (and fully available by the latter) and which must be maintained at no lesser reduction thereafter;
“ Rapid Response ”	means the automatic increase in Active Power in Response to a decrease in System Frequency which effectively increases with time over the period 0 to 5 seconds from the time of the Frequency change (and fully available by the latter) and which must be sustainable for at least a further 20 seconds;
“ Reactive Power ”	has the meaning attributed to it in the Grid Code ;
“ Relay ”	means an electrical measuring relay intended to operate when its characteristic quantity (Frequency) reaches the relay setting by an increase or decrease (as the case may be) in Frequency together with the associated and supporting equipment thereto;
“ Relevant Frequency Incident ”	has the meaning attributed to it in sub-paragraph 4.14.3;
“ Remote Transmission Assets ”	means any Plant and Apparatus or meters owned by National Grid which (a) are embedded in a Distribution System or a User System and which are not directly connected by Plant and/or Apparatus owned by National Grid to a sub-station owned by National Grid and (b) are by agreement between National Grid and such Public Distribution System Operator or User under the direction and control of such Public Distribution System Operator or User ;
“ Reproving Test ”	means any or all of the tests comprised within a Firm FFR Pre-Qualification Assessment as may be specified by National Grid pursuant to Section 7;
“ Response ”	has the meaning attributed to it in the CUSC and, following the acceptance of an FFR Tender in respect of Additional Response , “ Response ” shall mean the aggregate of the Initial Response and the Additional Response ;
“ Response Energy Payment ”	has the meaning attributed to it in sub-paragraphs 3.5.3 or 3A.5.3 (as the case may be);
“ Retired FFR Unit ”	has the meaning attributed to it in sub-paragraphs 3.8.1, 3A.8.1, 4.8.1 or 4A.8.1 (as the case may be);
“ Sample Period ”	has the meaning attributed to it in sub-paragraph 4A.14.2(f);
“ Secondary Response ”	has the meaning attributed to it in the Grid Code ;
“ Secretary of State ”	has the meaning attributed to it in the Act ;
“ Service Day ”	means a period commencing at 00.00 hours on a calendar day and ending at 00.00 hours on the next following calendar day;

"Settlement Period"	means a period of 30 minutes ending on the hour or half hour in each hour during a Day ;
"Single Month Tender"	means an FFR Tender comprising a single Tendered Service Month ;
"Site"	means a Generating Unit and/or other Plant and Apparatus not established and registered by the FFR Provider as BM Unit(s) under and in accordance with the Balancing and Settlement Code ;
"Special Condition"	means such Special Condition as may from time to time be described as such and specified in a Firm Frequency Response for the purposes of sub-paragraphs 1.2.13 and 1.3.3;
"STTEC"	has the meaning attributed to it in the CUSC ;
"Stable Export Limit"	has the meaning attributed to it in the Grid Code ;
"Station Demand"	has the meaning attributed to it in the CUSC ;
"Steam Unit"	has the meaning attributed to it in the CUSC ;
"Substitute FFR Unit"	has the meaning attributed to it in sub-paragraphs 3.8.1, 4.8.1 or 4A.8.1 (as the case may be);
"Sub-Site"	means a Site comprising Plant and/or Apparatus identified by its STOR ID , that forms part of an FFR Unit described in the Firm Frequency Response Agreement ;
"Supplier BM Unit"	has the meaning attributed to it in the BSC ;
"System"	means any User System or the National Electricity Transmission System as the case may be;
"System Ancillary Services"	means Part 1 System Ancillary Services and Part 2 System Ancillary Services ;
"Target Commencement Date"	means the date of the commencement of the Tendered Service Term to which an FFR Tender that is submitted pursuant to sub-paragraph 1.3.5 relates;
"Target Frequency"	has the meaning attributed to it in the CUSC ;
"Tender Assessment Principles"	means the principles from time to time published by National Grid for the purposes of this Document ;
"Tendered FFR Unit"	means, in relation to an FFR Tender , the FFR Unit specified in that FFR Tender ;
"Tendered Frame"	means the hours of service availability tendered in each Service Day during a Tendered Service Term , being one or more continuous periods of whole Settlement Periods ;
"Tendered Prices"	means the Tendered Prices for each Tendered FFR Unit , being an Availability Fee , a Nomination Fee , a Window Initiation Fee , and where applicable a

	Response Energy Fee and a Window Revision Fee;
“ Tendered Service Month ”	means the period comprising a single whole calendar month, or each of two or more consecutive whole calendar months, in each case forming the Tendered Service Term ;
“ Tendered Service Parameters ”	means the data tendered by the FFR Provider as specified in sub-paragraph 2.3.1(b);
“ Tendered Service Term ”	means the period comprising a Tendered Service Week or one or more Tendered Service Months ;
“ Tendered Service Week ”	means the period comprising a single whole week commencing 23.00 hours on Sunday and ending 23.00 hours on the following Sunday, forming the Tendered Service Term ;
“ Transmission Entry Capacity ”	has the meaning attributed to it in the CUSC ;
“ Transmission Licence ”	means the Licence granted to National Grid under Section 6(1)(b) of the Act ;
“ User ”	means a person who is party to the CUSC Framework Agreement other than National Grid ;
“ User System ”	means any System owned or operated by a User comprising:- (1) Generating Units ; and/or (2) Distribution Systems (and/or other Systems consisting (wholly or mainly) of electric lines which are owned or operated by a person other than a Public Distribution System Operator); and Plant and/or Apparatus connecting: (3) Generating Units and/or Distribution Systems (and/or other Systems consisting (wholly or mainly) of electric lines which are owned or operated by a person other than a Public Distribution System Operator); or (4) Non-Embedded Customers ; to the National Electricity Transmission System or to the relevant other User System , as the case may be, including any Remote Transmission Assets operated by such User or other person and any Plant and/or Apparatus and meters owned or operated by the User or other person in connection with the distribution of electricity but does not include any part of the National Electricity Transmission System ;
“ Utilisation Restrictions ”	means the restrictions on utilisation of Firm Frequency Response (if any) specified in an FFR Tender ;
“ Value Added Tax ”	means Value Added Tax as defined by the Value Added Tax Act 1994 and any modification or re-enactment thereof and any new tax of a similar nature;

“Weekly Tender”	means an FFR Tender comprising a Tendered Service Week ;
“Window Initiation Fee”	means, in relation to a Contracted FFR Unit : (a) the fee (£/window) described as such in an FFR Tender ; or (b) if the Contracted FFR Unit is the subject of a subsisting FFR Contract in respect of Additional Response , the aggregate of the fee (£/window) described as such in the FFR Tender for the Initial Response and the fee (£/window) described as such in the FFR Tender for the Additional Response , in each case, as adjusted by indexation pursuant to the Contracted Indexation Methodology (if applicable);
“Window Initiation Payment”	has the meaning attributed to it in sub-paragraphs 3.5.1(b), 3A.5.1(b), 4.5.1(b) or 4A.5.1(b) (as the case may be);
“Window Revision Facility”	means the ability for National Grid to revise FFR Nominated Windows as more particularly described in paragraphs 3.3, 3A.3, 4.3 or 4A.3 (as the case may be);
“Window Revision Fee”	means, in relation to a Contracted FFR Unit : (a) the fee (£/h) (if any) described as such in an FFR Tender ; or (b) if the Contracted FFR Unit is the subject of a subsisting FFR Contract in respect of Additional Response , the aggregate of the fee (£/h) described as such in the FFR Tender for the Initial Response and the fee (£/h) described as such in the FFR Tender for the Additional Response , in either case, as adjusted by indexation pursuant to the Contracted Indexation Methodology (if applicable);
“Window Revision Payment”	has the meaning attributed to it in sub-paragraphs 3.5.2, 3A.5.2, 4.5.2 or 4A.5.2 (as the case may be); and
“Working Day”	means Monday to Friday inclusive but excluding Bank Holidays .

SECTION 7 **FFR ASSESSMENTS AND TESTING**

7.1 **INTRODUCTION**

This Section 7 sets out the provisions with respect to **FFR Pre-Qualification Assessments** and **Reproving Tests** (referred to in this Section 7 as “**FFR Assessments and Testing**”). Paragraph 7.2 describes **FFR Pre-Qualification Assessments** which **National Grid** may require to be carried out by the **FFR Provider** in respect of an **FFR Unit** pursuant to sub-paragraph 2.2.4 to verify compliance by that **FFR Unit** with sub-paragraphs 2.2.2 and 2.2.3. Paragraph 7.3 describes the **Reproving Tests** which the **FFR Provider** may carry out in order to demonstrate to **National Grid**’s reasonable satisfaction that a **Contracted FFR Unit** has the ability to provide **Firm Frequency Response** in accordance with this **Document**. Paragraph 7.4 contains general provisions which apply to both **FFR Pre-Qualification Assessments** and **Reproving Tests**.

7.2 **FFR PRE-QUALIFICATION ASSESSMENT**

Dynamic Firm Frequency Response

7.2.1 The **FFR Pre-Qualification Assessment** with respect to dynamic **Firm Frequency Response** to be provided under Section 3 and Section 4A shall be conducted on the basis set out either (as applicable) in **National Grid**’s publication (as revised or reissued from time to time) entitled:

- (a) “Guidance Notes – Synchronous Generating Units”, and shall take the form of any one or more (as determined by **National Grid** at its sole discretion) of the **Response** tests set out therein; or
- (b) “Technical Guidance and Testing Procedure for Static and Dynamic Demand Response and Battery Storage Providers of Frequency Balancing Services”¹.

Non-dynamic Firm Frequency Response

7.2.2 The **FFR Pre-Qualification Assessment** with respect to non-dynamic **Firm Frequency Response** to be provided under Section 3A and Section 4 shall either (as applicable):

- (a) be conducted on the basis set out in **National Grid**’s publication entitled “Technical Guidance and Testing Procedure for Static and Dynamic Demand Response and Battery Storage Providers of Frequency Balancing Services” (as revised or reissued from time to time); or
- (b) otherwise comprise a detailed test programme to be agreed between the **Parties** (not to be unreasonably withheld or delayed), and shall meet the following objectives:-
 - to check that the steady state, calibration accuracy of the **Relay** is within tolerances; and
 - to test whether the transient performance of the **Relay** is within tolerances; and if required, to adjust and re-check.

The test should demonstrate that results are unaffected by reasonable supply voltages variations; and consistent **Relay** operation under various **Frequency** disturbance conditions.

By way of illustration, a detailed test programme may comprise the following procedures:-

¹ <http://www2.nationalgrid.com/uk/services/balancing-services/service-guides/>

(i) **Scope**

The scope is to calibrate the low **Frequency Relays** by injecting downstream of the instrument VTs.

(ii) **Responsibilities**

The **FFR Provider** is responsible for providing and setting up the appropriate **Frequency** injection and recording equipment and conducting the test in accordance with the agreed test procedure.

National Grid is responsible for witnessing the test if it so requires, and the test result obtained will be made available to **National Grid** for analysis purposes.

(iii) **Required Documentation/Information**

Relay specification.

Injection end **Frequency** Meter specification and calibration certificate.

Injection end Voltage Meter specification and calibration certificate.

Recording/monitoring equipment specification (if used).

(iv) **Test Configuration**

If done with the low **Frequency Relay** installed on **Site** the circuit breakers are to be isolated such that the operation of the primary trip **Relays** do not cause the **Site(s)** to actually trip (except test 4).

If the low **Frequency Relay** calibration is carried out away from the **Site** installation the **Relays** should be installed before test 4 is carried out.

The input to the trip **Relays** and any monitoring units are to be isolated from their respective VTs and wired together to the output of the injection equipment.

All tests are to be carried out at nominal input voltage unless stated otherwise. The low **Frequency Relay** should be configured with a **Frequency** measurement time setting of 10 **Periods**.

The test will be repeated for each low **Frequency Relay** at the **Premises**.

(v) **Procedures**

Company	
Site Name	
Location on Site	
Relay Serial No.	

(1) Course Steady State Trip Relay Functioning

Set the first protection stage of the low **Frequency Relay** to 49.65Hz and disarm the other three stages*. Adjust the injected **Frequency** in steps of 0.5Hz from 47.00Hz to 52.00Hz first in ascending, then

descending order. Record the actual source **Frequency** (Fs) and the trip **Relay** position. Repeat all tests for the remaining three stages.

Target Hz	Up								Down							
	TR 1		TR 2		TR 3		TR 4		TR 1		TR 2		TR 3		TR 4	
	Fs	T/N	Fs	T/N	Fs	T/N	Fs	T/N	Fs	T/N	Fs	T/N	Fs	T/N	Fs	T/N
47.0	47.0		47.0						47.0		47.0					
47.5	47.5		47.5						47.5		47.5					
48.0	48.0		48.0						48.0		48.0					
48.5	48.5		48.5						48.5		48.5					
49.0	49.0		49.0						49.0		49.0					
49.5	49.5		49.5						49.5		49.5					
50.0	50.0		50.0						50.0		50.0					
50.5	50.5		50.5						50.5		50.5					
51.0	51.0		51.0						51.0		51.0					
51.5	51.5		51.5						51.5		51.5					
52.0	52.0		52.0						52.0		52.0					

*If the low **Frequency Relay** is being used only two stages will need to be tested.

(2) Fine Steady State Trip Relay Functioning

Adjust the injected **Frequency** in steps of 0.05Hz to 50Hz in ascending, then descending order. Record the actual source **Frequency** and the trip **Relay** position.

Target Hz	Up								Down							
	TR 1		TR 2		TR 3		TR 4		TR 1		TR 2		TR 3		TR 4	
	Fs	T/N	Fs	T/N	Fs	T/N	Fs	T/N	Fs	T/N	Fs	T/N	Fs	T/N	Fs	T/N
49.50	49.50	T	49.50	T					49.50	T	49.50	T				
49.55	49.55	T	49.55	T					49.55	T	49.55	T				
49.60	49.60	T	49.60	T					49.60	T	49.60					
49.65	49.65	T	49.65	T					49.65	T	49.65	T				
49.70	49.70	N	49.70	N					49.70	N	49.70	N				
49.75	49.75	N	49.75	N					49.75	N	49.75	N				
49.80	49.80	N	49.80	N					49.80	N	49.80	N				

49.85	49.85	N	49.85	N					49.85	N	49.85	N				
49.90	49.90	N	49.90	N					49.90	N	49.90	N				
49.95	49.95	N	49.95	N					49.95	N	49.95	N				
50.00	50.00	N	50.00	N					50.00	N	50.00	N				

(3) Steady State Operation of Trip Relays

(A) At Nominal Voltage

Slowly ramp down the injected **Frequency** at nominal voltage from 49.75Hz to 49.60Hz within approximately one minute. Record the frequencies at which the **Relay** changes state. Repeat the test five times to verify repeatability of the test.

Test Number	Frequency Operating Levels (Fs)			
	Trip Relay 1	Trip Relay 2	Trip Relay 3	Trip Relay 4
1				
2				
3				
4				
5				

(B) At 110% of Nominal Voltage

Repeat the previous test (A) with 110% nominal voltage.

Test Number	Frequency Operating Levels (Fs)			
	Trip Relay 1	Trip Relay 2	Trip Relay 3	Trip Relay 4
1				
2				
3				
4				
5				

(C) At 90% of Nominal Voltage

Repeat the previous test (A) with 90% nominal voltage.

Test Number	Frequency Operating Levels (Fs)

	Trip Relay 1	Trip Relay 2	Trip Relay 3	Trip Relay 4
1				
2				
3				
4				
5				

Note: Reset voltage back to nominal voltage before proceeding with tests.

(4) Time Delay Checks

Step the injected **Frequency** from 49.85Hz to 49.50Hz. Record the times that each low **Frequency Relay** takes to change state. Repeat the test three times to verify repeatability of results. On fourth test the circuit breaker should be connected. (Ensure a technical representative from the **Site** is present during this test).

Test Number	Time Delay Record (ms)							
	Trip Relay 1	Circuit Breaker 1	Trip Relay 2	Circuit Breaker 2	Trip Relay 3	Circuit Breaker 3	Trip Relay 4	Circuit Breaker 4
1								
2								
3								
4								

(5) Trip Relay Transient Test

For each test, start with the **Frequency** at 50Hz and rapidly ramp it down within 5 to 15 seconds to the new **Target Frequency** without any undershoot in the injected **Frequency**. Record the **Relay** position after each test.

Test Number	Final State of Play			
	Trip Relay 1	Trip Relay 2	Trip Relay 3	Trip Relay 4
50 to 49.68				
50 to 49.67				
50 to 49.66				
50 to 49.65				
50 to 49.64				
50 to 49.63				

Monitoring and Metering

- 7.2.3 Monitoring and metering with respect to an **FFR Unit** shall be sufficient for the purposes of paragraphs 3.14, 4.14 or 4A.14 (as the case may be), and shall monitor and meter the **FFR Unit** individually without reference to any other **Plant** and **Apparatus** not forming part of the **FFR Unit**.

7.3 **REPROVING TEST**

- 7.3.1 **Reproving Tests** shall be designed to demonstrate the capability of the **Contracted FFR Unit** to deliver dynamic or non-dynamic (as the case may be) **Response** in accordance with an **FFR Contract**. **Reproving Tests** shall be conducted either (as applicable):

- (a) on the basis set out in **National Grid's** publication entitled "Technical Guidance and Testing Procedure for Static and Dynamic Demand Response and Battery Storage Providers of Frequency Balancing Services" (as may be revised or reissued from time to time); or
- (b) otherwise on the basis of a detailed test programme which shall be notified by the **FFR Provider** to **National Grid** and shall be subject to **National Grid's** prior agreement in writing (not to be unreasonably withheld or delayed), but will entail the **Contracted FFR Unit** operating according to normal operating procedures.

For the purpose of testing, signal inputs will be simulated to model actual **Frequency** changes as closely as possible.

- 7.3.2 It is intended that **Reproving Tests** will be carried out on the date(s) and during the period(s) notified by the **FFR Provider** to **National Grid** but shall be subject to **National Grid's** prior agreement in writing (not to be unreasonably withheld or delayed).
- 7.3.3 The requirements with respect to monitoring equipment facilities and data for the purpose of **Reproving Tests** are to be agreed between **National Grid** and the **FFR Provider** in writing prior to the commencement of any **Reproving Test**, such agreement not to be unreasonably withheld or delayed.
- 7.3.4 Communications between the **FFR Provider** and **National Grid** in the course of the conduct of a **Reproving Test** shall comply with paragraphs 3.13, 4.13 or 4A.13 (as applicable).

7.4 **GENERAL**

- 7.4.1 **National Grid** shall appoint suitably qualified representatives to witness **FFR Assessments and Testing**, and the **FFR Provider** shall afford **National Grid's** representatives with access to all information and data relevant to the **FFR Assessments and Testing** together with such access to the relevant **Tendered FFR Unit(s)** and/or **Contracted FFR Unit(s)** as is reasonably required by them to witness the **FFR Assessments and Testing**.
- 7.4.2 **National Grid** shall use all reasonable endeavours to ensure that, whilst they are at the **FFR Provider's Premises** for such purpose, its representatives shall comply with all rules and procedures in relation to health, safety and working standard at such **Premises** (insofar as the same have been made known by the **FFR Provider** to **National Grid** and to such representatives in advance) and to use all reasonable endeavours to ensure that such persons are provided with all protection and safety clothing, tools and equipment reasonably necessary for their protection.
- 7.4.3 The **FFR Provider** shall be responsible for ensuring that all **FFR Assessments and Testing** is carried out without hazard to any person or to the **Tendered FFR Unit(s)** and/or **Contracted FFR Unit(s)** or to any other equipment at the **FFR Provider's Premises**, and accordingly the **FFR Provider** shall be responsible for its own loss whether direct (such as damage to the **Tendered FFR Unit(s)** and/or **Contracted FFR Unit**) or indirect (such as

loss of revenue or increased cost of working) as well as any liability to any third party for death, personal injury or loss or damage to property where such loss or liability arises in connection with the **FFR Assessments and Testing** and the **FFR Provider** shall indemnify **National Grid** in respect of any such loss or liability.

- 7.4.4 The **FFR Provider** may change or stop any **FFR Assessments and Testing** if at any time its appointed **Site** representative reasonably believes that there is a significant possibility of damage to **Plant** or injury to persons resulting from that **FFR Assessments and Testing**.
- 7.4.5 Information acquired by **National Grid** in connection with the **FFR Assessments and Testing** may only be used by **National Grid**'s personnel to the extent that use of such information is required to enable such persons to carry out their properly authorised duties. Such information shall not be disclosed by **National Grid** to any third party save in the course of any judicial or arbitral process or where it is required, or expressly permitted, to disclose such data pursuant to the terms of its **Licence**, the **Balancing and Settlement Code**, the **Grid Code** or any other **Legal Requirement**. Subject thereto **National Grid** shall procure that its relevant personnel are contractually bound not to disclose such information to any third party save as permitted above or to employees of **National Grid** whose province it is to know the same.