

Procurement Guidelines

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National Grid Electricity System Operator Transmission
Licence

Version Control

<u>Date</u>	<u>Version No.</u>	<u>Notes</u>
20.03.01	1.0	Initial version
21.09.01	1.1	Revision to initial version to incorporate new intentions on the procurement of Fast Reserve
01.05.02	2.0	Annual revision incorporating updates to information provision and Licence Condition references
01.05.03	3.0	Revision following annual review
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01.11.06	7.0	Revision to incorporate the replacement of the Warming & Hot Standby service with BM Start Up service

<u>Date</u>	<u>Version No.</u>	<u>Notes</u>
01.04.07	8.0	Revision to incorporate Short Term Operating Reserve (STOR)
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01.04.14	13.0	Revision to incorporate Commercial Frequency Management as part of the annual review
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The Guidelines have been developed in consultation with the Authority. The Guidelines may only be modified in accordance with the processes set out in Standard Condition C16 of [the National Grid's Electricity System Operator](#) Transmission Licence. We will continuously monitor the validity of the Guidelines and intend, in discussion with the Authority, to periodically review the form of the Guidelines and, where appropriate, make such revisions as are necessary.

In the event that it is necessary to modify the Guidelines in advance of issuing the annual updated version of this document, then this will be done in accordance with Standard Condition C16.

The latest version of this document is available, together with the relevant change marked version (if any), electronically from our website:

<https://www.nationalgrideso.com/balancing-services/c16-statements-and-consultations>

Alternatively, a copy may be requested from:

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PART A: INTRODUCTION

1. Purpose of Document

This document sets out the Procurement Guidelines (“the Guidelines”) which National Grid ~~Electricity Transmission plc (NGET)~~Electricity System Operator Limited (NGESO) is required to establish in accordance with Standard Condition C16 of ~~NGESO’s National Grid’s Electricity~~ Transmission Licence. The purpose of these Guidelines is to set out the kinds of Balancing Services which we may be interested in purchasing, together with the mechanisms by which we envisage purchasing such Balancing Services within the next financial year.

The Guidelines are not prescriptive of every possible situation that we are likely to encounter, but rather represent a generic statement of the procurement principles we expect to follow.

The remainder of this document is structured in four parts. Part B sets out the broad definitions of Balancing Services, the general principles we expect to follow in procuring such services, the relationship between various Balancing Services and a description of actions that will be taken outside of the Balancing Mechanism (BM). Part C describes the kinds of Balancing Services we expect to procure and Part D sets out the procurement mechanisms we expect to utilise in procuring such Balancing Services. Part E contains historical Balancing Services volumes and describes other information we will provide to ensure that appropriate signals are available to market participants and other interested parties.

In the event that it is necessary to modify the Guidelines in advance of issuing the annual updated version of this document, then this will be done in accordance with Standard Condition C16 of the NGESO’s Electricity Transmission Licence.

The Guidelines have been developed in consultation with the Authority and Industry Participants. The Guidelines may only be modified in accordance with the processes set out in Standard Condition C16 of ~~National Grid's Electricity~~ NGESO's Transmission Licence. We will continuously monitor the validity of the Guidelines and intend, in discussion with the Authority, to periodically review the form of the Guidelines and, where appropriate, make such revisions as are necessary.

The Guidelines make reference to a number of definitions contained in the Grid Code and Balancing and Settlement Code. In the event that any of the relevant provisions in the Grid Code or Balancing and Settlement Code are amended, it may become necessary for us to modify the Guidelines in order that they remain consistent with the Grid Code and/or Balancing and Settlement Code.

In any event, where our statutory obligations or the provisions of the Grid Code are considered inconsistent with any part of these Guidelines, then the relevant statutory obligation and/or Grid Code provision will take precedence.

Unless defined in the Guidelines, terms used herein shall have the same meanings given to them in the Electricity Transmission Licence, the Grid Code and/or the Balancing and Settlement Code as the case may be.

The latest version of this document is available electronically from our website. Alternatively, a copy may be requested from the Head of ~~Future Markets~~ Market Change – Electricity. Full contact details are set out in Part E of this document.

PART B: GENERAL PRINCIPLES

1. Balancing Services

The services that we need to procure in order to operate the transmission system constitute Balancing Services.

The Transmission Licence defines Balancing Services as:

- (a) Ancillary Services;
- (b) Offers and Bids made in the balancing mechanism; and
- (c) other services available to the licensee which serve to assist the licensee in co-ordinating and directing the flow of electricity onto and over the GB transmission system in accordance with the Act or the standard conditions and/or in doing so efficiently and economically, but shall not include anything provided by another transmission licensee pursuant to the STC.

In addition to the above definitions and separate to the transmission licence, replacement reserve shall also constitute as a balancing service.

Ancillary Services:

These services are described in Connection Condition 8 of the Grid Code and ~~are services procured from Authorised Electricity Operators (AEOs) or persons that make interconnector transfers. These services can be mandatory or commercial in nature. They are not procured from electricity consumers. are~~ classified as either System Ancillary Services provided only by Generators and HVDC System Operators or Commercial Ancillary Services which can be provided by any party.

Balancing Mechanism Offers and Bids:

These are commercial services offered by generators and suppliers and procured through arrangements set out in Paragraph 5.1, Section Q of the Balancing and Settlement Code. They represent a willingness to increase or decrease the energy output from Balancing Mechanism Units (BMUs) in exchange for payment. Accepted services are used to control the national and local balance of generation and demand.

Other Services:

These are commercial services that can be entered into with any party, which are classified neither as Ancillary Services nor as BM Offers and Bids.

Replacement Reserve:

This is a commercial services offered by, generators, suppliers and virtual lead parties and represent a willingness to increase or decrease the energy output from balancing mechanism units in exchange for payment. Accepted services are used to balance generation and demand across participating TSO's participating in project TERRE

~~These services can be provided by parties who are not AEOs. This category would include any service provided by parties that are not signatories to the Balancing and Settlement Code. Other Services may also include the procurement of energy for balancing purposes. Further details on 'Other Services' can be found in Part C.~~

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2. **Procurement Principles**

The ESO is incentivised against four roles and seven principles which are supported by new licence conditions on the ESO to establish a Forward Plan and to report on progress throughout the year.~~The~~

incentive principles that are relevant to the procurement of balancing services are Principles 1, 2 and 3, listed in the table below. Full details of our incentives including monthly performance reporting is available on the ESO website.

<u>Roles</u>	<u>Principles</u>
<u>1. Managing system balancing and operability</u>	<u>1. Support market participants to make informed decisions by providing user-friendly, comprehensive, and accurate information.</u>
-	<u>2. Drive overall efficiency and transparency in balancing services, taking into account impacts of ESO actions across horizons.</u>
<u>2. Facilitating competitive markets</u>	<u>3. Ensure the rules and processes for procuring balancing services, maximise competition where possible, and are simple, fair, and transparent.</u>

In line with our incentives, when procuring Balancing Services, we will apply the following principles.

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- Without prejudice to the factors below and after having taken relevant price and technical differences into account, we shall contract for Balancing Services in a non-discriminatory manner.
- In contracting for the provision of Balancing Services we will purchase from the most economical sources available to us having regard to the quality, quantity and nature of such services at that time available for purchase.
- The types of issues considered with regards to quality and nature are best explained via an example. When considering a requirement for frequency response from two potential providers we will have regard to the quality, quantity and nature of frequency response available for purchase. In assessing the quality of the

service we will consider, for example, the historical performance of the provider. In assessing the nature of the service we will consider, for example, whether the nature of the provider's frequency response service is dynamic or static.

- ~~Where there is, or is likely to be, sufficient competition in the provision of a Balancing Service w~~We will seek to procure ~~that service~~Commercial Ancillary Services via an appropriate competitive process (identified in Table 1) or market mechanism, as described in Part D of this document. In such instances, we shall provide a statement⁴ indicating the processes and terms under which contracts will be awarded. Copies of these statements are available from the Information Provision Contact listed in Part E of this document.

- The requirement for Commercial Ancillary Services will be published on our website.

- We do not plan to procure any new, or additional volumes of existing Commercial Ancillary Services contracts outside of a competitive process or market mechanism. Our longer-term strategy is to reduce the number of existing Commercial Ancillary Services contracts that were procured outside of a competitive process or market mechanism.

~~If we consider that there is insufficient competition in the provision of a Balancing Service (e.g. where there is some form of local monopoly) we shall contract for such provision on a negotiated bilateral basis.~~

- ~~If Balancing Services are required over a relatively long term, w~~We shall advertise ~~that the~~ requirement for Commercial Ancillary

Services as appropriate through the communication media set out in Part D of this document.

- If a third party requires Balancing Services, and if we secure provision of such services on their behalf, the associated costs of provision will be fully recharged to the party requiring such services.
-
- Where the ESO conducts Ancillary Services trials that involve additional provider contracts, we will publish the timelines, purpose and results of these trials in the Market Information Reports, or through the Network Innovation publications, both published on the ESO website.

Balancing Services Relationships

~~Both Ancillary Services and "Other Services" will be procured against the principles set out in this statement. It should be recognised that the volume of services procured will be constrained by economic and technical factors, including the level and nature of services delivered through BM Offers and Bids.~~

~~Offers and Bids within the BM will be accepted in price order, after taking account of system technical limitations and dynamic parameters associated with the Offers and Bids. Taking account of these constraints, when all available Offers and Bids that can be accepted have been exhausted, emergency action may need to be initiated. Ancillary Services and "Other Services" can be considered collectively as services procured outside the BM. We will need to procure Ancillary Services and "Other Services" for:~~

- ~~System Security - Services may be procured outside the BM if we consider that there will be insufficient Offers and Bids available~~

~~within the BM to balance the system and maintain security of supply.~~

- ~~• Cost - Services may be procured outside the BM if we consider that it would provide an economic alternative to purchasing services through the BM.~~
- ~~• Differentiation - Services may be procured outside the BM if the required technical characteristics are not available through BM Offers and Bids.~~

34. **Taking Actions Outside the Balancing Mechanism**

We will need to procure Ancillary Services and "Other Services" for:

- System Security - Services may be procured outside the BM if we consider that there will be insufficient Offers and Bids available within the BM to balance the system and maintain security of supply.
 - Cost - Services may be procured outside the BM if we consider that it would provide an economic alternative to purchasing services through the BM.
 - Differentiation - Services may be procured outside the BM if the required technical characteristics are not available through BM Offers and Bids.
-
- Our consideration of whether to undertake actions within or outside the BM will be based on a forecast of the level and cost of services expected to be available within the BM. Contracts will be entered into outside the BM when we anticipate a shortage of

appropriate Offers and Bids in the BM to meet system security requirements, or if we consider that such contracts will lead to a reduction in overall cost or provide technical characteristics that are not available through BM Offers and Bids. The principles by which we will forecast the sufficiency or otherwise of Offers and Bids in the BM, and technical characteristics, are set out in the Balancing Principles Statement.

~~When considering what actions will be undertaken outside the BM or what actions will be taken before Gate Closure it is useful to examine energy related products separately from Other Services, in addition to Ancillary Services.~~

- Ancillary Service Agreements are normally entered into prior to Gate Closure such that prices and service capability are agreed well before they are exercised. Typically, Ancillary Service Agreements provide for the services to be exercised within Gate Closure timescales and for payments to be made in addition to those made within the BM. An example of this type of payment is the Frequency Response capability payment which is contracted for in advance and then made when a provider is placed in a state where it is capable of deviations in its output as a result of deviations in system frequency.

~~In the case of Balancing Services not provided by AEOs, agreements are again normally entered into prior to Gate Closure. These services are exercised within Gate Closure timescales, but the providers will often not be a Trading Party within the Balancing and Settlement Code. An example of this is the provision of Frequency Response services from the demand side. This results in the contract being entirely outside the BM.~~

- We sometimes buy or sell electricity (in advance of the balancing mechanism process), called “forward trading”. It helps us balance the system and manage system issues ahead of real time. We use two different trading mechanisms:
 - Forward Trading – negotiated bilateral contracts, which can be tailored to suit the parties’ needs, which are used to resolve system issues, such as voltage constraints, thermal constraints or RoCoF.
 - System management contracts – agreements for services that help us manage system issues; we use these mainly for longer term system requirements or accessing non-BM generation or demand. These are often optional contracts that are enacted at day ahead.
 - You’ll find more detail on our website at www.nationalgrideso.com. Look under Balancing services, and then Trading.
- Where standard energy related products do not provide for our specific requirements, we will seek to amend the standard trading instrument by agreement. For example, for the provision of a MW profile from a specific BMU provider, we may choose to use a Grid Trade Master Agreement Schedule 7A transaction to ensure that energy is delivered according to that MW profile. This could be used to synchronise or desynchronise BMUs with dynamics that extend outside the BM.

~~For energy we will trade, subject to any restrictions set out in the Transmission Licence, using the same instruments as other traders. For example we will enter into agreements prior to Gate Closure to pay a provider an option fee to ensure that energy is available in the BM. This option may then be exercised prior to or after Gate Closure.~~

~~Where standard energy related products do not provide for our specific requirements, we will seek to amend the standard trading instrument by agreement. For example, for the provision of a MW profile from a specific BMU provider, we may choose to use a Pre Gate Closure BMU Transaction (PGB Transaction) or a Grid Trade Master Agreement Schedule 7A transaction to ensure that energy is delivered according to that MW profile. This could be used to synchronise or desynchronise BMUs with dynamics that extend outside the BM.~~

PART C: BALANCING SERVICES REQUIRED

1. Types of Balancing Services

There are two broad types of Ancillary Service, as defined in the Grid Code, System Ancillary Services and Commercial Ancillary Services.

System Ancillary Services

These are divided into two parts, comprise Part 1 System Ancillary Services that are mandatory services required from all licensed Generators and HVDC System Owners, and Part 2 System Ancillary Services are services provided by some Generators, on a site by site basis, to meet specific system requirements where agreement is reached.

System Ancillary Services comprise the services as set out in and described in Connection Condition 8.1 of the Grid Code:

- All licensed generators Large and some medium power stations are required to provide Part 1 System Ancillary Services to ensure the provision of a minimum technical capability to provide reactive power and frequency sensitive generation.
- If agreement is reached some generators are required to provide the Part 2 System Ancillary Services of Black Start, frequency control by means of Fast Start and System to Generator Operational Intertripping.

Future Requirements for Part 2 System Ancillary Services

We are interested in discussing arrangements with potential new providers of the Black Start Capability service, and in line with our published Black Start Strategy and Procurement Methodology, we will seek to introduce competition to our procurement process wherever

economic and efficient to do so. However, there is no requirement for any additional Fast Start Capability beyond the current provision from all existing providers. Requirement for System to Generator Operational Intertripping Schemes will be dependent upon future system development and new connections to the Transmission System. There is currently no additional requirement for the Maximum Generation service.

Commercial Ancillary Services

Commercial Ancillary Services, described in Connection Condition 8.2 of the Grid Code, are provided by a User (or other person) if an agreement has been reached, under an Ancillary Services Agreement or Bilateral Agreement. The capability of these Commercial Ancillary Services is set out in the relevant Ancillary Services Agreement or Bilateral Agreement.

~~We are interested in procuring the following types of Balancing Services:~~

~~Ancillary Services~~

~~System Ancillary Services (Part 1), the mandatory services required to be provided by all licensed generators, of:~~

~~Reactive Power; and
Frequency Response.~~

~~System Ancillary Services (Part 2), the necessary services required from some generators and provided if agreement is reached, of:~~

~~Black Start Capability;
Fast Start Capability; and
System to Generator Operational Intertripping~~

We have a requirement for the following categories of Commercial Ancillary Services. A more detailed description of the types and mechanism for these services are provided in section 2.

Commercial Ancillary Services. The following services, required from some AEOs and provided if agreement is reached, of:

- **Reserve:** is required to operate the transmission system securely, and provides the reserve energy required to meet the demand when there are shortfalls, due to demand changes or generation breakdowns.
- **Response:** is a service we use to keep the system frequency close to 50Hz. Fast acting generation and demand services are held in readiness to manage any fluctuation in the system frequency, which could be caused by a sudden loss of generation or demand.
- **Reactive Power:** we manage voltage levels across the grid to make sure we stay within our operational standards and avoid damage to transmission equipment. Voltage levels are controlled by reactive power, and we pay providers to help manage voltage levels on the system by controlling the volume of reactive power that they absorb or generate.
- **Constraint management services:** Running the transmission network also requires actions to protect equipment, enable access to the system, keep within the Security and Quality of Supply Standards (SQSS) and prevent the loss of large parts of the network. In order to do this, we sometimes ask a generator to reduce, or constrain, the amount of electricity it's producing. When we do that, we still need the electricity it would have produced – so we can balance the system – but we can't move it in or out of a certain area. We make up the difference by buying energy from another generator in a different part of the transmission network. It can also happen the other way around: we might need to produce more energy in some areas, which means we need to reduce production elsewhere. We break down constraints into three groups:
 - Transmission Constraints
 - Voltage Constraints

o ROCOF Constraints

- Maximum Generation (Maxgen): This is a commercial non-firm service that the System Operator procures to maintain the integrity of the GB Transmission System in emergency circumstances. Details of provision, availability and utilisation are provided in section 4.2 of the CUSC.

~~Constraint Management Services;~~

~~Enhanced Reactive Service;~~

~~Commercial Frequency Response Service;~~

~~Commercial Frequency Management Service;~~

~~Reserve Services; comprising:~~

- ~~Fast Reserve;~~
- ~~Short Term Operating Reserve;~~
- and
- ~~BM Start-up.~~

~~Commercial Intertrips;~~

~~Commercial Fast De-load Service;~~

~~System-to-System Services (including Emergency Assistance);~~

~~Maximum Generation Service; and~~

~~Transmission Related Agreements.~~

Other Services

Other Services, other than those provided as an Ancillary Service, comprise:

- ~~Reactive Power;~~
- ~~Frequency Response;~~
- ~~Frequency Management~~
- ~~Short Term Operating Reserve;~~
- ~~Fast Reserve;~~
- ~~Demand Intertrip;~~
- ~~and~~

• Demand Turn Up

~~Energy Related Products, comprising of:~~

• ~~Forward Energy Trades;~~

• ~~Power Exchange Trades;~~

• ~~Energy Balancing Contracts.~~

~~A number of services are listed under both Ancillary Services and Other Services. This distinction arises from the definition of Ancillary Services in the Transmission Licence, which defines Ancillary Services as being provided by AEOs or interconnector parties. Thus where parties that are not AEOs provide a service, such as frequency response, then it is classified as an Other Service rather than an Ancillary Service.~~

2. Description of Commercial Ancillary Services Balancing Services

In line with the Monthly Balancing Service Statement (MBSS), the descriptions of Ancillary Services below divide the services into “mandatory”, “commercial”, and “tendered” service types. Tendered services are attributed to our tendered services frameworks, for example Firm Frequency Response, Fast Reserve and STOR. Mandatory services are Part 1 System Ancillary Services required under the Grid Code for Ancillary Services or as part of their connection agreement, for example reactive power, and some types of generator intertrip. Commercial services cover Ancillary Service contracts that are not part of our tendered services frameworks, for example black start and Frequency Control by Demand Management.

2.1 2.1 — Ancillary Services Commercial Ancillary Services we expect to procure

Reserve

STOR – tendered

Short-term Operating Reserve (STOR) allows us to have extra power in reserve for when we need it. It helps us meet extra demand at certain times of the day or if there's an unexpected drop in generation. The requirement for STOR is dependent upon the demand profile at any time. The STOR year starts in ~~May~~April, and is split into six seasons, which specify the Availability Windows where STOR is required each day. You can find more detail about STOR, and the timetable for future tenders, on our web site at www.nationalgrideso.com. Look under Balancing services, and then Reserve services.

Fast Reserve - tendered

Fast Reserve provides the rapid and reliable delivery of active power through an increased output from generation or a reduction in consumption from demand sources, following receipt of an electronic dispatch instruction from ~~National-Grid~~NGESO. Fast Reserve service must commence within two minutes following instruction, at rates of 25MW or greater per minute and providing a minimum of ~~50~~25MW. ~~National-Grid~~NGESO currently breaks down the Fast Reserve into three categories: Firm Fast Reserve, Optional Fast Reserve for BM and Non-BM suppliers, and Optional Spin gen. You can find more detail about Fast Reserve on our web site at www.nationalgrideso.com. Look under Balancing services, and then Reserve services.

Other Reserves – commercial moving to tendered

We currently have several other reserve services (see section 2.2) that we are not actively procuring and are under review. The aim is to move away from services procured outside of competitive mechanisms, so we do not intend to procure additional volume under the current frameworks. However, the full suite of reserve products will be reviewed in 2019.

Response

Firm Frequency Response – tendered

We procure Firm Frequency Response through a competitive monthly tendering process. Additional response, is also procured through the Mandatory Frequency Response Market in the balancing mechanism. More information about frequency response and the services we procure can be found on our website. Look under Balancing Services, then Frequency Response Services.

Reactive Power

Obligatory Reactive Power Service – mandatory

The vast majority of reactive power is procured through the Part 1 System Ancillary Service, or Obligatory Reactive Power Service. In line with our procurement principles we plan to develop a market framework that would be open to all providers, and will continue to engage with the industry on this throughout 2019.

- You can find more detail about reactive power on our web site at www.nationalgrideso.com. Look under Balancing services, then Reactive power services

Constraint management services

Import and export constraints – commercial

Voltage constraints - commercial

System to generator intertrip - commercial

We expect that we will require constraint management services from generators to manage voltage constraints and thermal or transient stability import and export constraints. We will also need to arm existing system to generator intertrips to manage power flows across the network. The requirement for constraint management services is driven by system conditions, the network outage plan, and system faults. These contracts are normally procured outside of market mechanisms

[because of insufficient market participants and locational nature of the requirement.](#)

2.2 Existing Commercial Ancillary Services we don't expect to procure this year

Reserve

Other Reserves - commercial

[This includes the other contracted reserve services that help to offset the cost of managing reserve in the BM. Following our procurement principles, we do not plan to procure any additional volumes of the following services above what we already have contracted. We are reviewing our reserve product suite in 2019 with a view to move to a market based approach. Details of the reserve types presented here can be found on our website. Look for Balancing services, list of all balancing services. Services classed as Other Reserves include:](#)

- [Hydro Optional Spin Pump](#)
- [Hydro Rapid Start](#)
- [Demand turn-up*](#)
- [BM Warming](#)
- [Spin Gen no low frequency trigger](#)

[* Demand turn-up service is a tendered service, but we do expect it to be part of the reserve product suite review.](#)

Response

Other Response – commercial moving to tendered

[We intend to remove the following frequency response products from active procurement, and meet the requirement in a more transparent](#)

and competitive way. We are working with all affected parties to transition them to new routes to market.

- Frequency Control by Demand Management
- Enhanced Frequency Response
- Interconnector Response
- Spin Gen with low frequency trigger

For further information

There are two broad types of Ancillary Service, as defined in the Grid Code:

System Ancillary Services, which are divided into two parts, comprise Part 1 System Ancillary Services that are mandatory services required from all licensed generators and Part 2 System Ancillary Services that are necessary services provided by some generators, on a site by site basis, to meet specific system requirements where agreement is reached. Any Ancillary Service which is not a System Ancillary Service and which is provided by an AEO is termed a Commercial Ancillary Service.

System Ancillary Services comprise the services as set out in and described in Connection Condition 8.1 of the Grid Code:

All licensed generators are required to provide Part 1 System Ancillary Services to ensure the provision of a minimum technical capability to deliver voltage and Frequency Response services.

Some generators are required to provide the Part 2 System Ancillary Services of Black Start Capability and/or Fast Start Capability. Our additional requirements for these services depend on the actual and expected provision of such services by existing providers.

~~Additionally, some generators will be required to provide System to Generator Operational Intertripping Schemes as a condition of connection.~~

~~Future Requirements~~

~~We are interested in discussing arrangements with potential new providers of the Black Start Capability service. However, there is no requirement for any additional Fast Start Capability beyond the current provision from all existing providers. Requirement for System to Generator Operational Intertripping Schemes will be dependent upon future system development and new connections to the Transmission System.~~

~~Commercial Ancillary Services, described in Connection Condition 8.2 of the Grid Code, are agreed bilaterally and set out, subject to satisfactory commercial terms, in an Ancillary Services Agreement. The Commercial Ancillary Services we expect to procure are:~~

- ~~• ~~Enhanced Reactive Power Service~~ – which exceeds the minimum technical requirement set out in Connection Condition 6.3.2 of the Grid Code. We will contract for such services as described in the relevant Reactive Power market arrangements (see Part D) and in accordance with Schedule 3 of the CUSC.~~
- ~~• ~~Commercial Frequency Response Service~~ – which provides for combinations of different technical characteristics (compared to mandatory frequency response services), together with alternative pricing arrangements. We contract for such services when the anticipated cost is lower than the alternative service provision.~~
- ~~• ~~Commercial Frequency Management Service~~ – which manages the rate of change of system frequency in the time period immediately following a disturbance and prior to the full delivery of frequency response.~~

- ~~Reserve Services – these are instructed services required over a variety of time frames to deal with the matching of generation with demand. The services we expect to procure can be broken down into the following components:~~
- ~~Fast Reserve – which is a fast acting, reliable, flexible service, provided by plant capable of increasing energy production or reducing energy consumption, at defined rates and within a defined time period. The details of this service will be described in the detailed statements associated with its procurement via tender (see Part D).~~
- ~~Short Term Operating Reserve (STOR) – which is provided by either increasing generation to the system, reducing demand or a combination of both in defined timescales. The details of this service will be described in the detailed statements associated with its procurement via tender (see Part D).~~
- ~~BM Start-up – Which is a NGESO access MW from BM Units that would not otherwise have run, and are unable to start-up within BM timescales on the day. Firm payments for this service are made on a £/h basis, to remunerate the costs of preparing a BMU to start up and synchronise within BM timescales.~~
- ~~Commercial Intertrip – this service is required to minimise the pre transmission line fault output restrictions that may apply to Power Stations. This service is the same as a normal intertrip with the exception of the generator not being obliged to provide the service as part of its connection conditions.~~
- ~~Commercial Fast De-Load Service - this service is required to minimise the pre transmission line fault output restrictions that may apply to Power Stations. This service is like Intertrip, apart from~~

~~instead of sending a trip signal directly to a generator breaker the signal goes to the generator and initiates a ramp down to zero output in a set time. If the generation has not reduced within the set time a trip signal will then be sent to the generator breaker to trip the generator.~~

- ~~Constraint Management Services – these services are required when there is a transmission constraint. A transmission constraint as defined in NGET’s transmission licence: means any limit on the ability of the electricity transmission system, or any part of it, to transmit the power supplied onto the national electricity transmission system to the location where the demand for that power is situated, such limit arising as a result of any one or more of:~~

- ~~) – the need not to exceed the thermal rating of any asset forming part of the national electricity system;~~
- ~~) – the need to maintain voltages on the national electricity transmission system; and~~
- ~~) – the need to maintain the transient and dynamic stability of electricity plant, equipment and systems directly or indirectly connected to the national electricity transmission system.~~

~~The technical requirements for such a service will be specific to the location of the constraint and will be defined in the relevant Commercial Services Agreement.~~

~~System-to-System Services (including Emergency Assistance) – these services provide for support of the transmission system with other interconnected systems. These services are only required via interconnectors. [about our plans for future response services please see the **response section** of our website, and the Future of balancing services **product roadmaps**.](#)~~

Reactive Power

Enhanced Reactive Power – removing

We intend to remove Enhanced Reactive Power from our suite of services and begin trials of a new reactive power product. We will continue to engage with the industry on the design of this product throughout 2019.

Maximum Generation

We don't expect to procure additional Maximum Generation contracts this year, but we will maintain existing contracts for use in emergency. Information relating to the utilisation is published on the BMRS in line with the requirements defines in part B section (e) of the Balancing Principles statement. The fees, timeframe of instruction and volume of energy delivered is published on the ESO website in accordance with section 4.2.12.3 of the CUSC. Costs and volumes associated with the use of Maximum Generation service are included in the calculation of BSAD in line with requirements defined in Part B section 1.2 of the BSAD methodology Statement. The volume of energy delivered as a result of the use of Maximum Generation will be included in the calculation of ABSVD and treated in accordance the procedure defined in the ABSVD methodology statement.

- ~~• Maximum Generation Service – this service is required to provide additional short term generation output during periods of system stress for system balancing. This service allows access to unused capacity outside of the Generator's normal operating range. This service will be initiated by the issuing of an Emergency Instruction in accordance with the Grid Code BC2.9.2, Section 4 of the CUSC and the Maximum Generation Service Agreement.~~
- ~~• Transmission Related Agreements – where connection arrangements result in a requirement for the output of a generator to be constrained due to events on the transmission~~

~~system the commercial process is managed via a Transmission Related Agreement.~~

~~2.2 Other Services~~

~~As indicated in Part B, “Other Services” include services which are not classified as “Ancillary Services”, but technically can provide the same effect from different service providers. An example of “Other Services” would be Frequency Response provided by an electricity consumer (a party that is not an AEO).~~

~~Other Services may also include the purchases/sales of energy in connection with operating the transmission system and/or doing so economically and efficiently. Purchases/sales via bilateral forward contracts or through a recognised exchange will fall within this category. This includes PGB Transactions. The levels of procured energy will be included in the Balancing Services Adjustment Data (BSAD) which is submitted to the Balancing Mechanism Reporting Agent in line with the BSAD Methodology Statement for inclusion in the calculation of System Sell Price and System Buy Price in accordance with the Balancing and Settlement Code. Supplemental Balancing Reserve is an examples of an Other Service.~~

~~Demand Turn Up – which is provided by either reducing generation on the system or increasing demand. The detail of this service will be described in Part D and Part E.~~

2.2 Prohibited Activities

We have been given discretion with regard to the procurement of Balancing Services, subject to a licence obligation to operate the transmission system in an efficient, economic and co-ordinated manner and under the umbrella of an incentive scheme.

We should be able to make the best use of the range of tools available to us including (but not limited to) energy contracts and option contracts called both inside and outside of the BM.

In addition to the licence obligation to operate the transmission system in an efficient, economic and co-ordinated manner, we are also prohibited from purchasing or otherwise acquiring electricity except pursuant to the procurement or use of Balancing Services in connection with operating the transmission system and doing so economically and efficiently (or with the consent of the Authority) with the result that we are prohibited from speculative trading.

~~In addition we are required to publish a range of information to market participants in relation to how we envisage procuring Balancing Services and energy purchases. Full details of the range of information that we will publish and details on where this~~

2.4 — Buying Energy or Selling Energy Related Contracts

~~Reasons why we may buy or sell energy or energy related contracts forward include:~~

~~To meet our mean forecast requirement for balancing energy.~~

~~To provide options to meet potential variations from the mean forecast. The Reserve Services described above may fulfil this requirement.~~

~~To reduce the total cost of balancing the transmission system using the BM. For example, if a certain volume of Offers are forecast to be required in the BM (e.g. for the purposes of establishing spinning reserve), it may be more economic to purchase a volume of energy forward such that a reduced volume of Offers and Bids are required.~~

~~Direct Arbitrage between different balancing instruments in order to yield a lower overall balancing cost. In order to comply with the Transmission Licence, this would only be valid if an immediate cost saving can be obtained by directly replacing one balancing instrument to fulfil a specific requirement with another which replaces the same requirement. An example of such a direct arbitrage could be to sell a 12-month contract and replace it with 2 consecutive 6-month contracts.~~

48.3. Demand Side Providers and Small Generators

We are interested in procuring Balancing Services from demand side providers subject to technical and dynamic considerations (where demand side providers, include demand reducers, demand increasers and small generators embedded on site).

~~Demand side providers provide 'Other Services'~~ Commercial Ancillary Services as defined in section ~~2.12~~ above. The types of Balancing Services that we are interested in procuring from demand side providers are the same as shown in the list of Commercial Ancillary Services~~'Other Services'~~ provided in ~~Part C, section 12.1~~.

~~_____~~ Demand side providers are encouraged to participate in the standard market tender process we use to procure the ~~following services (subject to meeting the minimum technical criteria):~~ Commercial Ancillary Services. Non-BM providers already participate in Frequency Response, STOR, Fast Reserve and other reserve services and account for around 20% of our total Ancillary Services costs.

Our Power Potential innovation project aims to create new markets for distributed energy resources, more information can be found on our website.

~~Reactive Power;
Fast Reserve;
Short-Term Operating Reserve (STOR);
Firm Frequency Response;
Demand Turn Up;~~

~~We are also interested in entering into bilateral contracts with demand side providers for the following services (again subject to meeting the minimum technical criteria):-~~

~~Frequency Response — provision of non-dynamic response via frequency relay initiated response;
Frequency Management
Fast Reserve — for demand side providers who are unable to participate in the standard market tender arrangements;
Demand Intertrip — used to assist in maintaining local system security;
BM Offers and Bids; and
Energy Related Products.~~

~~Bilateral contracts with demand side providers are procured by the same means as for any other provider.~~

~~We are always interested in entering into bilateral discussions with demand side providers for the provision of specialised services where demand side characteristics preclude participation in our standard market tender processes, or there are enhanced services that can be provided.~~

~~We are interested in entering into discussions with the demand side about developing new services or market processes. Typically, we would develop new services through the use of contract trials in order to assess the service requirement, dimensions. Once proven, and where appropriate, the service details and procurement mechanism will be reflected in a modification to these Guidelines. Examples of those services that may potentially be developed further are:~~

~~Fast Reserve by Tele switch control of meters
Demand Management~~

PART D: PROCUREMENT MECHANISMS

1. Procurement Process

System Ancillary Service

System Ancillary Services are mandatory for all licensed Generator or required by some licenced Generators in certain circumstances, these are agreed the bilateral contracts.

Commercial Ancillary Services

As indicated in Part B of these Guidelines, ~~where sufficient competition exists,~~ we will seek to contract for Balancing Services via some form of market mechanism. Where possible we will not enter into new ~~In other circumstances, bilateral contracts~~ procured outside of market mechanisms will be entered into with the service providersfor the provision of Commercial Ancillary Services. In some circumstances, such as constraint management services, we may ~~will~~ need to enter into non-tendered contracts where the requirement is often location dependant and there are insufficient market participants.– We will maintain existing non-tendered contracts only where it is economic to do so and while new market based frameworks are in development. Further information is available from the **future of balancing services** section of our website.

In all such circumstances we will be mindful of our Licence obligations when entering into these agreements.

Market mechanism

This will normally be a tender based process for the selection and award of service contracts. In each case, the mechanism will include:

- a statement of our service requirements;

- the issuing of invitation to tender documentation, providing sufficient information to allow the provision of a service offer to be made, including standard contract terms and conditions;
- arrangements for governance of the process;
- a statement of principles and criteria that we will consider when evaluating the awarding of contracts; and
- a report providing information on previous tenders.

~~Schedule 3 of CUSC contains the market mechanism arrangements for Reactive Power. This information is supplemented by other information available on our web site. The information noted above may be requested from the Head of Market Change – Electricity. Full contact details are set out in Part E of this document.~~

Bilateral Contracts

Wherever possible we will use a market approach to the procurement of Commercial Ancillary Services, but in some situations a Bilateral contracts may be required where limited competition exists in the supply of a service (taking into account locational factors where necessary). This may be due to special technical requirements of the desired service, where some form of monopoly exists or the unique characteristics of certain individual providers.

Where we consider there to be a limited degree of competition, we will

- contact those service providers we believe to be capable of providing the required service or who have expressed an interest in providing the service in order to establish whether they wish to enter into a contract for the service in question; and
- offer non-discriminatory terms for the acquisition of the service.

However, if there is insufficient time to identify and contact other providers, we reserve the right to contract as appropriate to meet system security requirements.

~~Where we consider that no competition exists (such as the provision of a locational service), we will offer non-discriminatory terms for the acquisition of the required service.~~

2. **Procurement Communication Media**

We shall communicate ~~any~~ service requirement through market information reports on our website and if necessary by contacting those parties that we believe may be interested in providing the service, including any existing or past service providers, and anyone that has expressed a prior interest in providing such services in the future.

~~In addition, notification of tenders will normally be advertised in trade magazines as appropriate and via our web-site.~~

3. **Procurement Summary**

~~This summary~~ Table 1 ~~sets~~ provides the Balancing Mechanism, Trading and System Ancillary Services we have available to us, how they are procured and the timescales for procurement. Table 2 ~~sets out~~ the Balancing Commercial Ancillary Services we expect or intend to procure and the mechanisms by which we expect to procure them this year. It also sets out the timescales over which we intend to procure those Balancing Services set out in Part C, section 1 of these Guidelines. Table 3 provides a list of existing services that we do not intend to procure, but are working on moving into market based procurement frameworks.

~~Table 1~~ **BM, TRADING AND BALANCING SERVICES SUMMARY TABLES SYSTEM ANCILLARY SERVICES**

ANCILLARY SERVICES	MEANS OF PROCUREMENT	TIMESCALES
Balancing Mechanism bids and offers	Bilateral contracts entered into pursuant under CUSC	As required
Replacement Reserve	Bilateral contracts entered into pursuant under CUSC	As required
Forward Trading	Bilateral contracts	As required
System Ancillary Services		
Part 1 Services		
• Reactive Power	Mandatory Services Agreement pursuant -to the CUSC	Evergreen
• Frequency Response	Mandatory Services Agreement pursuant- to the CUSC	Evergreen
Part 2 Services		
• Black Start	Bilateral contracts	Up to life of asset
• Fast Start	Bilateral contracts	Up to life of asset
• System to Generator	Entered into pursuant- to the CUSC	Up to life of asset
• Operational -Intertripping		Up to life of asset
Commercial Ancillary Services		
Constraint Management Services	Bilateral Contracts or Contracts derived from market tenders	As required
Enhanced Reactive Services	Contracts derived from Market tenders or bilateral contracts	Min Annual
Frequency Response	Bilateral contracts or contracts derived from market tenders	Min -monthly via bilateral contract or tender process
Commercial Frequency Management Services	Bilateral Contracts or Contracts derived from market tenders	As required
Reserve		
Fast Reserve	Bilateral contracts or contracts	

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ANCILLARY SERVICES	MEANS OF PROCUREMENT	TIMESCALES
•— STOR	derived from market tenders	Min-monthly via bilateral contract or tender process
•— BM Start Up	Contracts derived from Market tenders-	As required via tender process
•— Commercial Intertrip	Bilateral contracts	Evergreen
•— Commercial Fast De-load	Bilateral contracts or Contracts	As required
•— System to system	derived from market tenders	As required
services including	Bilateral contracts	Evergreen
Emergency Assistance		
•— Maximum Generation Service	Bilateral contracts entered into pursuant under CUSC	As required
BALANCING MECHANISM		
OFFERS AND BIDS	Services are procured under the provisions of the Balancing and Settlement Code	N/A
OTHER SERVICES		
Reactive Power	Contracts derived from Market tenders or bilateral contracts	Min Annual
Frequency Response	Bilateral contracts	Min Seasonal
STOR	Contracts derived from Market tenders	As required
Fast Reserve	Bilateral contracts or contracts derived from market tenders	Min-monthly via bilateral contract or tender process
		As required
Demand Turn Up	Contracts derived from market tenders as the means of procurement	As required to be effective between November and February of each winter season until

ANCILLARY SERVICES	MEANS OF PROCUREMENT	TIMESCALES
Demand Intertrip Energy Related Products	Bilateral contracts Procured via Markets/Bilateral contracts	delivery of the Capacity Market As required As required

Table 2 ACTIVE COMMERCIAL ANCILLARY SERVICES

<u>ANCILLARY SERVICES</u>	<u>MEANS OF PROCUREMENT</u>	<u>TIMESCALES</u>
Commercial Ancillary Services Constraint Management Services	Bilateral Contracts or Contracts derived from market tenders	As required
Frequency Response <ul style="list-style-type: none"> Firm Frequency Response 	Contracts derived from market tenders or auction	Monthly and quarterly tenders and weekly auctions
Reserve <ul style="list-style-type: none"> Fast Reserve 	Contracts derived from market tenders process	Monthly and quarterly tenders as required
<ul style="list-style-type: none"> STOR 	Contracts derived from market tenders process	Tenders 3 times a year

Table 3 COMMERCIAL ANCILLARY SERVICES UNDER REVIEW

We don't expect to procure any additional volumes of the following services.

<u>ANCILLARY SERVICES</u>	<u>DEVELOPMENTS</u>	<u>TIMESCALES</u>
<p><u>Frequency Response</u></p> <ul style="list-style-type: none"> • <u>Frequency Control by Demand Management</u> • <u>Enhanced Frequency Response</u> • <u>Spin Gen low frequency trigger</u> 	<p><u>No requirement for these services. We plan to meet the requirement in a more transparent and competitive way. We are working with all affected parties to transition them to new routes to market.</u></p>	<p><u>Service review will be published on our website in Q1 2019</u></p>
<p><u>Reserve</u></p> <ul style="list-style-type: none"> • <u>Demand Turn Up</u> • <u>BM Start Up</u> • <u>Maximum Generation</u> • <u>Hydro Optional Spin Pump</u> • <u>Hydro Rapid Start</u> • <u>BM Warming</u> • <u>Spin Gen no low frequency trigger</u> 	<p><u>We do not plan to procure any additional volumes of the following services above what we already have contracted. We are reviewing our procurement frameworks for reserve with a view to move to a market based approach.</u></p>	<p><u>Service review will be published on our website in 2019</u></p>
<p><u>Reactive</u></p> <ul style="list-style-type: none"> • <u>Enhanced Reactive Services</u> 	<p><u>Service will be removed.</u></p>	<p><u>Work to design a revised reactive power product and market will continue with the industry throughout 2019.</u></p>

PART E: INFORMATION PROVISION

1. General Provisions

[Under the 2018-21 regulatory framework we are incentivised to support market participants to make informed decisions by providing user-friendly, comprehensive, and accurate information. More information about our incentives can be found on our website.](#)

We shall publish information on the Balancing Services that we intend to procure, [the outcomes of tender rounds for each service, and the costs and volumes of the services that are procured.](#) –In doing so we will seek to provide market participants and other interested parties with sufficient information without compromising the commercial position of any contracting party.

As part of the provision of information we will provide BSAD. The calculation methodology used is set out in a separate document entitled "BSAD Methodology Statement" established by National Grid ~~Electricity Transmission plc~~ [Electricity System Operator](#) under the Transmission Licence.

2. Information Provision Contacts

All queries regarding the provision of Balancing Services we intend to procure should be made, in the first instance, to:

[Head of Future Markets](#)
[National Grid Electricity System Operator](#)
[Faraday House](#)
[Warwick Technology Park](#)
[Gallows Hill](#)

~~Warwick CV34 6DA~~
~~Head of Market Change – Electricity~~
~~National Grid~~
~~National Grid House~~
~~Warwick Technology Park~~
~~Gallews Hill~~
~~Warwick CV34 6DA~~

Email: BalancingServices@nationalgrid.com

2. **Information Provision Detail**

In the circumstances where tenders are held we publish information on the outcome of these processes via market reports, which are available on our web-site. This is currently the case for Reactive Power (every six months), STOR (as required), Fast Reserve (monthly), and Firm Frequency Response (monthly). In addition information will also be published for Maximum Generation Service on a disaggregated basis.

3. **Volumes of Balancing Services**

Cost and Volumes of Balancing Services procured can be found in the [Annual Procurement Report Monthly Balancing Services Statement](#) at the following link

<https://www.nationalgrid.com/uk/electricity/market-operations-and-data/system-balancing-reports>

4. **Information Provision Summary**

Table 2 sets out the information on Balancing Services that we will make available to market participants and other interested parties. A number of services set out in Table 1 have been aggregated in Table 2 to ensure that we provide market participants and other interested

parties with sufficient information without compromising the commercial position of any contracting party.

Table 2 sets out the volume and price information we are able to make available and the timescales over which the information will be updated. In many cases the information will be provided pursuant to the BSAD Methodology Statement. In addition, Table 2 sets out the source of the information, Hard copies of this information may be requested from the Head of Market Change - Electricity. Full contact details are set out in Section 2 above.

5. Future Developments

Information provision in the future will be integral to the development of new services and will follow the following principles:

- Information in relation to balancing activities undertaken by National Grid ~~Electricity Transmission plc~~Electricity System Operator will be made available if it helps the efficient operation of the wider market;
- Ex-ante information will be made available if it helps the market to be in a position to balance without SO intervention; and
- Information will be made available to all parties at the same time, on an equal basis without discrimination or favour.

In conjunction, National Grid ~~Electricity Transmission plc~~Electricity System Operator will aim to ensure that:

- Information transparency does not undermine an individual party's commercial confidentiality;
- Provision of information does not result in the SO becoming a 'distressed buyer';
- Information will not highlight where the SO has a locational specific ~~constraint; and constraint; and~~
- any benefit to the wider industry from the provision of increased information should justify the costs of its provision.

6. Disclaimer

All information published or otherwise made available to market participants and other interested parties pursuant to these Procurement Guidelines is done so in good faith. However, no warranty or representation is given by National Grid ~~Electricity Transmission~~ Electricity System Operator, its officers, employees or agents as to the accuracy or completeness of any such information, nor is any warranty or representation given that there are no matters material to any such information not contained or referred to therein. Accordingly, no liability can be accepted for any error, misstatement or omission in respect thereof, save in respect of a misrepresentation made fraudulently.

TABLE 2: Balancing Services Information Provision Summary

<i>Balancing Service</i>	<i>Volume information</i>	<i>Price information</i>	<i>Timescale</i>	<i>Information Source</i>
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<i>Balancing Service</i>	<i>Volume information</i>	<i>Price information</i>	<i>Timescale</i>	<i>Information Source</i>
Reactive Power	Historical utilisation figures set out in Reactive Power Market Report.	Default utilisation prices set out in CUSC Schedule 3, Part 1.	Invitation To Tender issued every 6 months.	Invitation To Tender available on our website.
	Utilisation volumes per BM Unit in the Reactive Power Market Report.	Full successful tender details by BM Unit in Reactive Power Market Report.	Market Report published every 6 months after each tender round (as set out in CUSC).	Market Report available on our website.
	Utilisation data on a lead and lag basis per BM Units.	Contractual information, including price, capability, commencement and term.	Information updated in line with Market Report.	Utilisation and contractual information to be available on our website.

<i>Balancing Service</i>	<i>Volume information</i>	<i>Price information</i>	<i>Timescale</i>	<i>Information Source</i>
	Reactive Power capability requirement index.		Index published from Tender Round 9 (i.e. contracts starting 1 April 2002, tender pack issued Sept/Oct 2001)	Index contained in the Reactive Power Invitation To Tender which is available on our website.

<i>Balancing Service</i>	<i>Volume information</i>	<i>Price information</i>	<i>Timescale</i>	<i>Information Source</i>
Frequency Response	Primary, secondary and high frequency response volume requirement curves and tables to indicate system need.	Part 1 System Ancillary Service— Holding rates for primary, secondary and high frequency response. Tendered Commercial Frequency Response— Price of tendered primary, secondary, and high frequency response.	Part 1 System Ancillary Service— Prices will be published monthly. Tendered Commercial Frequency Response— Prices will be published when tenders are received. System response volume requirement tables will be published monthly Requirement curves will be updated annually.	Primary, secondary and high frequency response prices, requirement curves, and tables are available on our website.

<i>Balancing Service</i>	<i>Volume information</i>	<i>Price information</i>	<i>Timescale</i>	<i>Information Source</i>
	MWh of Primary, Secondary and High-Frequency Response held in each day of the Utilisation Month	The volume of response held will be broken down on a BMU basis	Response volumes will be published monthly.	Primary, secondary and high frequency response volumes are available on our website.
	Assumed Utilisation volumes (summed for all BM Units)	Total Imbalance Compensation (payment to all generators across the month)	Assumed utilisation and total imbalance compensation prices will be published monthly.	Assumed utilisation and total imbalance compensation prices will be published on our website.
STOR	Tendered volume and contracted volume from the latest tender round. System Reserve Requirements, and contracted volume from previous tender rounds in the year will be published in advance of next tender rounds	Tender price information	STOR Market Information Report updated after each tender round.	All Information will be contained within the Market Information Report available on National Grid's Industry Information website.

<i>Balancing Service</i>	<i>Volume information</i>	<i>Price information</i>	<i>Timescale</i>	<i>Information Source</i>
Fast Reserve	Indicative volume requirement by Settlement Period Historic utilisation by day and average by Settlement Period	Total historic volume reported by three price bands (Bids and Offers)	Requirements published monthly in advance	This information will be published on our website
BM Start Up	Estimated Capacity Level (MW)	Hourly BM Start Up Payment Rate	As soon as practical after the issue of a new BM Start Up instruction, or change in status of an existing BM Start Up instruction	This information will be published via our website on a reasonable endeavours basis
Maximum Generation Service	Contracted and available volumes to be provided on an ex-ante basis including the volume that is automatically	Price submitted in £/MWh as per the Maximum Generation Service Agreement	Information to be published at time of contract signature and updated as necessary.	This information will be published on our website

<i>Balancing Service</i>	<i>Volume information</i>	<i>Price information</i>	<i>Timescale</i>	<i>Information Source</i>
	guaranteed payment. Delivered volumes to be published on an ex-post basis.		Information also to be provided on an ex-post basis detailing aspects surrounding the utilisation of the service including instruction times, volume delivered and payments.	
Energy Products	Total MW contracted (buy and sell) pre-gate closure for Each Settlement period	Total cost (buy and sell) is contained within the BSAD	BSAD will be published at 5pm D-1. Also BSAD will be published half hourly at Gate Closure.	A version of BSAD will be published at 5pm D-1 on our website. This version shows energy related costs and volumes (buy and sell) BSAD calculated in accordance with the BSAD Methodology Statement will be made available to the BMRA for publication each half hour. National Grid will make half hourly BSAD available to be published on the BMRS.

<i>Balancing Service</i>	<i>Volume information</i>	<i>Price information</i>	<i>Timescale</i>	<i>Information Source</i>
Pre-Gate Closure BMU Transaction	For each Pre-Gate Closure BMU Transaction, the specific BMU, volumes and price will be published.		Accepted offer will be entered on the BMRS warning screen at the time the transaction is agreed. All offers will be published as soon as practicable but at any event on a reasonable endeavours basis before the end of D+1.	The accepted offer will be displayed on the BMRS warning screen. All offers will be published on the National Grid web site.
Demand Turn-Up	Tendered volume and contracted volume from last tender round	Tender price information	This information will be published on a monthly basis	This information will be published on our website
Balancing Services	<u>Requirement and tender outcome</u>	<u>Price and volume information</u>	<u>Timescale</u>	<u>Link to service information</u>

Balancing Service	Volume information	Price information	Timescale	Information Source
Balancing Mechanism bids and offers	N/A	BM Reports	daily	https://www.bmreports.com/bmrs/?q=balancing/
Forward Trading	N/A	Trading reporting site, BSAD, MBSS	daily, monthly	https://www.nationalgrideso.com/balancing-services/trading https://trades.nationalgrid.co.uk/ https://extranet.nationalgrid.com/BSAD/
System Ancillary Services				
Part 1 Services				
Reactive Power	website	MBSS	monthly	https://www.nationalgrideso.com/balancing-services/reactive-power-services
Frequency Response	website	MBSS	monthly	https://www.nationalgrideso.com/balancing-services/frequency-response-services/mandatory-response-services
Part 2 Services				
Black Start	website	MBSS	as required	https://www.nationalgrideso.com/balancing-services/system-security-services/black-start?overview
Fast Start	no additional requirement	MBSS	monthly	
System to Generator Operational Intertipping	website	MBSS	as required	https://www.nationalgrideso.com/balancing-services/system-security-services/intertips

<i>Balancing Service</i>	<i>Volume information</i>	<i>Price information</i>	<i>Timescale</i>	<i>Information Source</i>
Active Commercial Ancillary Services	-	-	-	-
Constraint Management Services	website	MBSS	as required	https://www.nationalgrideso.com/balancing-services/system-security-services/intertrips https://www.nationalgrideso.com/balancing-services/system-security-services/transmission-constraint-management
Firm Frequency Response	website	MBSS	monthly	https://www.nationalgrideso.com/balancing-services/frequency-response-services/firm-frequency-response-ffr
Fast Reserve	website	MBSS	monthly	https://www.nationalgrideso.com/balancing-services/reserve-services/fast-reserve
STOR	website	MBSS	monthly	https://www.nationalgrideso.com/balancing-services/reserve-services/short-term-operating-reserve-stor
Maximum Generation	no additional requirement	website	ad hoc	-
Commercial Ancillary Services under review	-	-	-	-
Response	-	-	-	-
Frequency Control by Demand Management	website	MBSS	monthly	https://www.nationalgrideso.com/balancing-services/demand-side-response-dsr
Enhanced Frequency Response	website	MBSS	monthly	https://www.nationalgrideso.com/balancing-services/frequency-response-services/enhanced-frequency-response-efr
Spin Gen with low frequency trigger	N/A	MBSS	monthly	-
Reserve	-	-	-	-

<i>Balancing Service</i>	<i>Volume information</i>	<i>Price information</i>	<i>Timescale</i>	<i>Information Source</i>
Demand Turn Up	website	MBSS	monthly	https://www.nationalgrideso.com/balancing-services/reserve-services/demand-turn
BM Start Up	website	MBSS	monthly	https://www.nationalgrideso.com/balancing-services/reserve-services/bm-start
Hydro Optional Spin Pump	N/A	MBSS	monthly	
Hydro Rapid Start	N/A	MBSS	monthly	
Spin Gen without low frequency trigger	N/A	MBSS	monthly	
Reactive				
Enhanced Reactive Power	website	MBSS	monthly	https://www.nationalgrideso.com/balancing-services/reactive-power-services