Procurement Guidelines

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Version Control

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21.09.01	1.1	Revision to initial version to incorporate new intentions on the procurement of Fast Reserve
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01.05.03	3.0	Revision following annual review
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04.11.22	22.0	Revision following additional review to incorporate changes required for the Demand Flexibility Service
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1.04.23	23.1	Revision following annual consultation, incorporating iterations requested by the Authority

02.11.23	24.0	Revision following additional review to incorporate changes required for Demand Flexibility Service, Local Constraint Market, MW Dispatch and Enduring Auction Capability.
01.04.2024	25.0	Revision following additional review

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 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 System Operator Limited (NGESO) is required to establish in accordance with Standard Condition C16 of NGESO's 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 types 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 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 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 Market Services. 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 classed 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 service 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

2. Procurement Principles

The ESO is incentivised by new licence conditions to establish a Forward Plan and to report on progress throughout the year. Full details of our incentives including monthly performance reporting is available on the ESO website.

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

- 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.

- We will seek to procure 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 statement 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.

- We shall advertise 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.

- The ESO may use trials to test new approaches. The ESO will seek to ensure that trial arrangements are fair and do not materially distort established markets where ever possible. Bilaterally agreed (bespoke) trial arrangements should only be remunerated ‘at cost’ and/or should be time or cost limited unless or until the opportunity to participate has also been opened up to the rest of the market.

3. 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.

- 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.

- 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 stability.
- System management contracts – agreements for services that help us manage system issues such as stability or voltage; we use these mainly for longer term system requirements or accessing non-BM generation or demand. These ~~are~~ may be ~~often~~ optional contracts that are enacted at day-ahead or within day.
- You'll find more detail on our website at https://www.nationalgrideso.com/. Look under Balancing services, and then https://www.nationalgrideso.com/industry-information/balancing-services/tradingTrading.

- Where standard energy related services 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.

- To manage interconnector flows to help manage system issues such as stability or import/export constraints, NGESO may need to limit changes to the interconnector scheduled flow occurring during the intraday market, or in the day-ahead market where an intraday market does not exist. We achieve this by using the following mechanism:

  Net Transfer Capacity (NTC) – bilateral or trilateral agreement to limit the amount of capacity released into the day-ahead or intraday auction. This can also be used to prevent a previously

traded position from being unwound back in the other direction. For further information on NTC, please refer to the GB Commercial Compensation Methodology.

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 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 (throughout this document please read 'Black Start' interchangeably as 'Restoration Services' consistent with new Electricity System Restoration Standard (ESRS) which was introduced on 19th October 2021 and

will come into effect by December 2026, 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 Electricity System Restoration (formerly known as Black Start Capability) service, and in line with ~~our published Black Start Strategy and Procurement Methodology 2021-22~~the Electricity System Restoration Assurance Framework 2023/24, ~~(soon to be replaced by the Assurance Framework that will~~which outlines the ESO's restoration strategy for the future~~),~~. ~~w~~We will seek to introduce competition to our procurement process by incorporating new categories for Distributed Energy Resources to apply for at distribution level as well as the primary service requirements ~~at~~for transmission-~~level~~ connected generators. We will procure the best technical solutions wherever it is economic and efficient to do so.

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, however this is an ongoing review

Dynamic Services

Dynamic Containment (DC), Dynamic Moderation (DM) and Dynamic Regulation (DR) make up our new suite of Dynamic Response Services. These new response services are designed to support our operations as the electricity system is decarbonised.

DM, designed to rapidly deliver between +/-0.1 and +/-0.2 frequency deviation, provides fast acting pre-fault delivery for particularly volatile periods. DR is our staple slower pre-fault service which is designed to slowly correct and deliver between +/- 0.015 and +/-0.2 frequency

deviation. DC is our post-fault service which was released in October 2020.

DC, DM and DR are currently procured separately at day-ahead by EFA blocks on EPEXSPOT auction platform. After Enduring Auction Capability (EAC) launches, the procurement of these new Dynamic Response Services will be co-optimised in a single, simultaneous, day-ahead, pay-as-clear auction. The auction clearing algorithm will select between alternative provider offers and alternative ESO requirements to maximise the overall market welfare across all services.

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 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.

- **Reserve:** is required to operate the transmission system securely, and provides the reserve energy required to meet the demand when there are shortfalls or surpluses in generation, 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 service provider 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 provider 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. Where appropriate, changes to loss of mains protection may be procured to reduce or prevent a constraint. We break down constraints into three groups:
    - Thermal Constraints
    - Voltage Constraints
    - Stability Constraints
- **Stability:** is the inherent ability of the system to quickly return to acceptable operation following a disturbance. The term is used to describe a broad range of topics, including inertia, short circuit level and dynamic voltage. If the system becomes unstable it could lead to– partial or total system shut down, leading to the disconnection of consumers.

  ~~**As part of our Network Development Roadmap we are developing services to allow us to compare commercial solutions with regulated asset build and find the most**~~

economic solution. Pathfinder projects will be used to procure services on an ad-hoc basis ahead of this new approach being included in the Network Options Assessment (NOA) methodology.

The assessment principles that we intend to apply across the Pathfinders are published in our annual NOA methodology, however as we are undertaking a learning by doing approach, if a different approach is identified as appropriate, this will be clearly highlighted as part of the tender documents and updated in the subsequent NOA methodology review.

The principles we will apply are:

- Setting out our requirements, which may vary by location and/or year.
- A total cost for tendered options will be calculated along with their contribution to the requirements.
- Their cost will be made up of the price submitted for an options availability and/or utilisation, and any other costs to consumers such as, the cost of infrastructure assets (which are recovered through TNUoS) or the costs of procuring capacity during outage periods.
- Their contribution may depend on their location or voltage level, or be weighted according to the specific requirements of the pathfinder.
- TO-build assets will be assessed alongside tendered options in a similar way, but with their total cost made up of their capital costs to build the asset, operating costs, and any other costs to consumers such as the cost of energy losses (which are not directly faced by the TO).
- All options will be checked against defined criteria such as minimum size, availability, start date and technical specifications before progressing into the economic assessment.

~~• Where the requirements could also be solved through alternative actions, such as using units in the Balancing Mechanism, these alternatives will also be considered in the assessment. If tendered options and TO-build options do not offer a benefit against these alternative actions, the result may be to procure less than the stated requirement.~~

~~• The lowest-cost solution which meets the requirements of the pathfinder will be accepted. In some tenders this may be a portfolio of several options which meet the requirements when operating together. This solution will be verified with any necessary technical study.~~

- **Balancing Reserve:** will fulfil the Control Room requirements for synchronised reserve, which is used to manage imbalance between generation and demand in real-time. The reserve should be held on units able to start delivering a contracted volume in the form of an increase or decrease in generation or demand starting within 2 -minutes of an instruction. Balancing Reserve will be procured from BM providers at Day Ahead for next day delivery. The providers will be paid an Availability Payment when awarded the contract at Day Ahead and a Utilisation Payment (in the form of their Bid or Offer payment) when dispatched through the BM during contracted Service Windows. The product will be procured in both directions, Negative Reserve and Positive Reserve, which will be procured independently.

2. Description of Commercial Ancillary 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 Maximum Generation or BM Start-Up.

2.1 Commercial Ancillary Services we expect to procure

Reserve

STOR – daily auction

Short-term Operating Reserve (STOR) allows us to have extra power in reserve for when we need it through an increased output from generation or a reduction in consumption from demand sources. 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 service is split into six seasons, which specify the Availability Windows where STOR is required each day. STOR is procured on a daily basis via a daily auction for delivery on the next operational day. You can find more detail about STOR on our website at **www.nationalgrideso.com**. Look under Balancing services, and then Reserve services.

Optional Fast Reserve

Optional 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 NGESO. The Optional Fast Reserve service can be procured from BM and NBM providers and is contracted on the day. Delivery must commence within two minutes following instruction, at rates of 25MW or greater per minute and providing a minimum of 25MW. You can find more detail about Fast Reserve on our website at

www.nationalgrideso.com. Look under Balancing services, and then Reserve services.

New Reserve Services

NGESO are developing a suite of new Reserve services to replace the existing suite of positive and negative Reserve services. System conditions are changing, and faster-acting reserve is required to support the new frequency response services, Dynamic Containment, Dynamic Regulation, and Dynamic Moderation.

These services include Positive and Negative Slow Reserve and Positive and Negative Quick Reserve. Reserve is needed for frequency management when there is an imbalance between supply of energy and demand for energy. We intend to introduce these services as both an Optional service (contracted within-day with no availability payment) with the intention to procure and a Firm service (contracting firm capacity at 'day-ahead' via a daily auction). The operational day will be split into a series of Service Windows during which participants can submit prices and volumes.

These new services intend to replace the existing STOR and Fast Reserve services, which we seek to phase out dependent on when Slow and Quick Reserve are established.

Please visit the following pages on the ESO website to track progress and timelines as these services are implemented:

- Slow Reserve
- Quick Reserve

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 services will be reviewed as per our recent Road Map publication.

Response

Firm Frequency Response – tendered

We procure Firm Frequency Response (FFR) as and when required. We will procure Dynamic FFR (DFFR) through monthly tenders and Static FFR (SFFR) through daily auctions. 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.

Alongside the introduction of the new frequency products, Dynamic Containment (DC), Dynamic Moderation (DM) and Dynamic Regulation (DR) we will begin the phase out of some of our existing frequency services notably Dynamic FFR and Enhanced Frequency Response (EFR). More information can be found in the Monthly Information Reports on the data portal, and in the overarching C16 consultation document.

Dynamic Containment (DC)

Dynamic Containment is designed to operate post-fault, i.e. for deployment after a significant frequency deviation in order to meet our most immediate need for faster-acting frequency response. Dynamic Containment is procured at day-ahead on a pay as clear auction platform, as referenced above for DM and DR.

For further information on how to get involved please visit:
https://www.nationalgrideso.com/industry-information/balancing-services/frequency-response-services

Reactive Power

Obligatory Reactive Power Service – mandatory

The vast majority of reactive power is procured through the Obligatory Reactive Power Service, a Part 1 System Ancillary Service, or through localised constraint management actions and tenders. A wider review of Reactive Power will be undertaken, likely from 2021, once learnings from a series of ongoing projects are understood. These projects include Power Potential (accessing dynamic voltage support from embedded providers), NOA Pathfinder tenders (identifying alternatives to network asset investment) and network boundary transfer discussions with the DNOs.

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

Voltage Network Services Procurement (formerly Voltage Pathfinder)

Where longer term reactive power needs are identified, ESO may run tenders to procure capability from either new build assets or additional capability from existing assets to ensure compliant operation of the network and/or reduce costs to manage system voltage. The location of need and duration of contracts will be determined by technical studies carried out by the ESO.

Constraint management services

Import and export constraints – commercial
Voltage constraints – commercial
Thermal constraints – commercial
Stability constraints - commercial
System to generator intertrip – commercial

We expect that we will require constraint management services 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.

MW Dispatch

This ~~:~~ ~~i~~s a transmission constraint management service and the first service to be developed through our joint Regional Development Programmes with DNOs. This service, expected to go live in 2023, is initially only open to Distributed Energy Resource (DER) connected to specific Grid Supply Points in National Grid Electricity Distribution (Southwest) and UK Power Networks (South East Coast region) DNO areas. This enables those DER with specific connection terms and conditions to fulfil these obligations and the ESO expects to open this service up to more parties and geographies in the coming months.

The service, regardless of technology, requires providers to reduce real power output to zero (‘turn to zero’) when instructed by NGESO under certain network conditions and when it is economic to do so. If instructed, and providing they comply with the instruction, MW Dispatch Service Providers will be paid for the volume of energy they have curtailed.

Generation Export Management Scheme (GEMS):

This is a transmission thermal constraint management system developed to manage a reconfigured radial network between Kilmarnock South 400kV substation and Tongland 132kV substation. The scheme was developed when the outcome of the 2016 Strategic Wider Work (SWW) assessment carried out for the future transmission network in Southwest Scotland, in conjunction with Scottish Power Transmission (SPT), concluded that a 'non- build' is likely to be the most cost-effective solution as an alternative to the proposed SPT transmission reinforcements.

The system will be delivered in two releases. Release 1 is targeting BMUs which is expected to be operational towards the end of 2023. The operational principle of this part is being designed to work within the current BM rules but in an automated manner to increase efficiency.

Release 2 is targeting DERs which is expected to be operational around 2024/25. The service principle of this part is expected to be similar to MW Dispatch above, subject to agreement with Scottish Power Distribution.

In both BMUs and DERs case, only the new connectees (any connection offers issued from ~2017) are mandated to be part of the scheme. This is based on the assessment that any existing generation will not cause constraint issues on their own and by controlling additional generation the network will be compliant. However, this does not prohibit any existing generation joining the scheme should they wish to.

ESO expect to use the system when high wind output is expected as this area is predominantly wind generation. When the system is active it will only use the generation who are participant of the scheme to manage constraint by issuing BID instructions to BM parties and turn to zero instructions to DERs as appropriate. BM parties will be settled via usual BM settlement process and DERs as per MW Dispatch principles.

More details can be found on the National Grid ESO **Regional Development Programmes (RDPs)** web pages.

Local Constraint Market (LCM):

This is a thermal constraint management service which will provide an interim solution over the next three to four years to help manage the high and rising costs at the England/Scotland boundary. LCM will be instructed ahead of BM actions and will not replace BM action on constraints entirely.

Historically, we have only been able to use generation turn down from BM registered assets. The new service will engage new flex providers and will be an additional option where it is more cost-effective than the BM. It will be available to generation turn down and demand turn up Providers who are non-BM, including those registered in the Capacity Market (CM).

Constraint Management Intertrip Service (CMIS) – formerly Constraint Management Pathfinders

The CMIS service connects contracted generators to intertripping schemes to allow for the automatic tripping (usually within 200 milliseconds) or de-loading (within 10 seconds) of a network fault. This service provides an economic alternative to curtailing generation in the BM pre-fault.

The location of the network where contracts are entered into are determined by network studies and bidders will be paid for the duration of time they are armed to the scheme as well as if they are tripped or de-loaded by the scheme.

~~Optional Downward Flexibility Management (ODFM)~~

~~: is a service which allows the ESO to access downward flexibility that is not currently accessible in real time and expand our ability to control output from providers we cannot currently access through the Balancing Mechanism and the Platform for Ancillary Services, this will be treated as a last resort service. The service was reinstated for summer 2021 as there were credible forecast scenarios in which it was required, however, it was not utilised in this period.~~

~~During 2023 the decision has been taken following review to not remove ODFM from our applicable balancing services as a potential option for the control room, although the requirement is considered unlikely.~~

Demand Flexibility Service (DFS)~~:~~

This ~~–~~is a service which allows the ESO to access upwards flexibility (when additional flexibility is required to balance demand and generation), that is not currently accessible in real time. This will expand our ability to control output from providers that we cannot currently access through the Balancing Mechanism and the Platform for Ancillary Services.

The ESO expects to use DFS from 30 October 2023 to 31 March 2024 ~~subject to OFGEM approval of service~~with a potential extension beyond that date if required.

Stability

Stability Markets

To ensure the electricity network is able to withstand a disturbance e.g. circuit fault, ESO may instruct units in the BM or enter into contracts for the provision of stability services. Previously, stability contracts were procured through ad-hoc tenders offering longer term contracts.

The ESO has introduced new markets that will procure stability on a more regular basis, with varying lead times and across a range of contract lengths.

These new markets are:

- Y-4 – Four year lead time with contract length dependant on system requirements
- Y-1 – One year lead time with contract length of one year
- D-1 – Day ahead contracts with delivery period for EFA blocks.

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 service suite 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
- BM Warming
- Non-tender Fast Reserve no low frequency trigger

***** Demand turn-up service is a tendered service, but we do expect it to be part of the reserve service suite review. In addition to the review we expect that some elements of demand turn up to be part of the Optional Demand Flexibility Management service

Response

Other Response – commercial moving to tendered

We intend to remove the following frequency response services 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.

- Enhanced Frequency Response – ceases summer 2022
- Non-tendered Fast Reserve with low frequency trigger

For further information NGESO about our plans for future response services please see the **response sectionresponse section** of our website, and the Future of Bbalancing Sservices **product roadmaps**.

Reactive Power

Enhanced Reactive Power Service (ERPS)– removing

We have signalled our preference to remove Enhanced Reactive Power Service, which is run every six months in line with the CUSC, from our suite of services in lieu of locational tenders and other projects in the voltage space, i.e. Power Potential and NOA Pathfinders. This matter is currently being considered within a modification working group, the outcome of the modification process will determine whether it should be removed or updated. For the avoidance of doubt bi-annual (six months) tenders will run until any decision to remove the service is made.

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.

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.

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 Commercial Ancillary Services as defined in section 1 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 provided 2.1. Demand side providers are encouraged to

participate in the standard market tender process we use to procure the 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.

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~~ in bilateral contracts.

Commercial Ancillary Services

As indicated in Part B of these Guidelines, we will seek to contract for Balancing Services via some form of market mechanism. Where possible we will not enter into new contracts procured outside of market mechanisms for the provision of Commercial Ancillary Services. In some circumstances, such as constraint management services, we may 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.

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.

Bilateral Contracts

Wherever possible we will use a market approach to the procurement of Commercial Ancillary Services, but in some situations 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.

2. Procurement Communication Media

We shall communicate service requirement through market information reports or other relevant pages 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.

3. Procurement Summary

Table 1 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 Commercial Ancillary Services we 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 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
Intraday Trading Limits/ Net Transfer Capacity	Bilateral / trilateral 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		
• Restoration Services	Derived from Market Tenders or Bilateral contracts. Entered into pursuant to the CUSC	Up to life of asset
• Fast Start		Up to life of asset
• System to Generator		
• Operational Intertripping		

Table 2 ACTIVE COMMERCIAL ANCILLARY SERVICES

Active commercial ancillary services will be procured on an as required basis, in line with the Clean Energy Package which requires all volumes of balancing capacity services be procured at day-ahead. However, there is currently one open derogation and the possibility of more in the future. Providers will be given adequate notice of any revisions to tendering frequency and rationale for changes.

ANCILLARY SERVICES	***MEANS OF PROCUREMENT***
Reserve	
• Fast Reserve	Contracted on the day via the Optional Service.
• STOR	Contracts derived from daily auctions
• New Reserve services	Potentially contracted via a within-day Optional service initially with day-ahead market procurement to follow later.
Frequency Response	
• Dynamic Firm Frequency Response (DFFR)	Contracts derived from monthly market tenders or auction
• Static Firm Frequency Response (SFFR)	Contracts derived from day-ahead market tenders or auction
• Dynamic Containment (DC)	Contracts derived from market tenders or auction
• Dynamic Moderation (DM)	Contracts derived from market tenders or auction
• Dynamic Regulation (DR)	Contracts derived from market tenders or auction

Reactive Power~~Commercial Ancillary Services~~ • Voltage Network Services Procurement ~~Constraint Management Services~~ ~~• MW Dispatch constraint management service~~ ~~• Generation Export Management Scheme (GEMS)~~ ~~• Local Constraint Market (LCM)~~	~~Bilateral Contracts or Contracts derived from market tenders~~ ~~Tri-party Contracts with NGED and providers~~ ~~For BM participants, via their connection agreement. For DERs Tri-Party contracts subject to agreement with DNO.~~ ~~Contracts procured from tender platform~~ • Contracts derived from market tenders
Commercial Ancillary Services Constraint Management Services • MW Dispatch constraint management service • Generation Export Management Scheme (GEMS) • Local Constraint Market (LCM) **Constraint Management Intertrip Service (CMIS)~~Frequency Response~~** ~~• Dynamic Firm Frequency Response (DFFR)~~ ~~• Static Firm Frequency Response (SFFR)~~ ~~• Dynamic Containment (DC)~~ ~~• Dynamic Moderation (DM)~~	Bilateral Contracts or Contracts derived from market tenders Tri-party Contracts with NGED and providers For BM participants, via their connection agreement. For DERs Tri-Party contracts subject to agreement with DNO. Contracts procured from tender platform Contracts derived from market tenders ~~Contracts derived from monthly market tenders or auction~~ ~~Contracts derived from day-ahead market tenders or auction~~ ~~Contracts derived from market tenders or auction~~ ~~Contracts derived from market tenders or auction~~

• ~~Dynamic Regulation (DR)~~	~~Contracts derived from market tenders or auction~~
• ODFM ~~Demand Flexibility Service~~**~~Reserve~~** ~~• Fast Reserve~~ ~~• STOR~~ • ~~New Reserve services~~	Contracts derived from market tender process, required according to system conditions Contracts derived from market tender process, required according to system conditions ~~Contracted on the day via the Optional Service.~~ ~~Contracts derived from daily auctions~~ ~~Potentially contracted via a within-day Optional service initially with day-ahead market procurement to follow later.~~
~~•~~ Stability Markets~~ODFM~~ • Y-4 • Y-1 • D-1 ~~• Demand Flexibility Service~~	Contracts derived from market tenders ~~Contracts derived from market tender process, required according to system conditions~~ ~~Contracts derived from market tender process, required according to system conditions~~

Table 3 COMMERCIAL ANCILLARY SERVICES UNDER REVIEW

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

ANCILLARY SERVICES	***MEANS OF PROCUREMENT***	***TIMESCALES***
Frequency Response • Enhanced Frequency Response • Non-tendered Fast Reserve low frequency trigger	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. EFR - we are not actively looking to procure any additional volume and any requirement will be met by existing agreements	Service review carried out as per our Response and Reserve Roadmap
Reserve • BM Start Up • Maximum Generation • Hydro Optional Spin Pump • Hydro Rapid Start • BM Warming • Non-tendered Fast Reserve no low frequency trigger	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.	Service review will be carried out as per our Response and Reserve Roadmap.
Reactive • Enhanced Reactive Services	Service will be removed.	This matter is currently being considered within a modification working group, the outcome of the modification process will determine whether it should be removed or updated.

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 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 Market Services
National Grid Electricity System Operator
Faraday House
Warwick Technology Park
Gallows Hill
Warwick CV34 6DA

Email: BalancingServices@nationalgrideso.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 Monthly Balancing Services Statement section on our website.

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 Services. 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 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 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
- 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 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

Balancing Services	Requirement and tender outcome	Price and volume information	Timescale	Link to service information
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/industry-information/balancing-services/trading https://trades.nationalgrid.co.uk/ https://extranet.nationalgrid.com/BSAD/
Intraday Trading Limits/ Net Transfer Capacity	N/A	MBSS	as required	
System Ancillary Services				
Part 1 Services				
Reactive Power	website	MBSS	monthly	https://www.nationalgrideso.com/industry-information/balancing-services/reactive-power-services
Frequency Response	website	MBSS	monthly	https://www.nationalgrideso.com/industry-information/balancing-services/frequency-response-services

Part 2 Services				
Restoration Services	website	MBSS	as required	https://www.nationalgrideso.com/industry-information/balancing-services/system-security-services/restoration-services
Fast Start	no additional requirement	MBSS	monthly	
System to Generator Operational Intertripping	website	MBSS	as required	https://www.nationalgrideso.com/industry-information/balancing-services/system-security-services/intertrips
Active Commercial Ancillary Services				
Constraint Management Services	website	MBSS	as required	https://www.nationalgrideso.com/industry-information/balancing-services/system-security-services/intertrips https://www.nationalgrideso.com/industry-information/balancing-services/system-security-services/transmission-constraint-management
Static Firm Frequency Response	website	ESO data portal	Daily	ESO Data Portal: Ancillary Services | National Grid Electricity System Operator (nationalgrideso.com)
Dynamic Firm Frequency Response	website	ESO data portal	Monthly	ESO Data Portal: Ancillary Services | National Grid Electricity System Operator (nationalgrideso.com)
Fast Reserve	website	MBSS	As required	https://www.nationalgrideso.com/industry-information/balancing-services/reserve-services/fast-reserve

STOR	website	MBSS	As required	https://www.nationalgrideso.com/industry-information/balancing-services/reserve-services/short-term-operating-reserve-stor
Maximum Generation	no additional requirement	website	ad hoc	https://www.nationalgrideso.com/industry-information/balancing-services/system-security-services/maximum-generation
Demand Flexibility Service (DFS)	ESO data portal	ESO data portal	DFS Live events Ad hoc	https://www.nationalgrideso.com/data-portal
Commercial Ancillary Services under review				
Response				
Enhanced Frequency Response	website	MBSS	monthly	https://www.nationalgrideso.com/industry-information/balancing-services/frequency-response-services
Non-tendered Fast Reserve with low frequency trigger	N/A	MBSS	monthly	
Reserve				
BM Start Up	website	MBSS	monthly	https://www.nationalgrideso.com/industry-information/balancing-services/reserve-services/bm-start
Hydro Optional Spin Pump	N/A	MBSS	monthly	
Hydro Rapid Start	N/A	MBSS	monthly	
Non-tendered Fast Reserve without low frequency trigger	N/A	MBSS	monthly	
Reactive				
Enhanced Reactive Power	website	MBSS	monthly	https://www.nationalgrideso.com/industry-information/balancing-services/reactive-power-services
