

Short Term Operating Reserve Participation Guidance Document

Introduction

This guidance document should be read in conjunction with the following documentation which is available on the NGENSO website:

- Form A (Provider Registration)
- Form B (STOR)
- Form C (STOR)
- STOR Auction Rules
- STOR Assessment Principles
- STOR Service Terms
- STOR General Terms and Conditions
- STOR Glossary of Terms

Version	Effective Date	Change	Page
1.0	01/04/2021	Version 1	

Version 1.0

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Overview of STOR Requirements

This document provides an overview of the Short Term Operating Reserve (STOR) 'day ahead' service and information designed to assist those who wish to become STOR Day Ahead service providers.

STOR is procured to meet some of our reserve requirement through balancing services when it is economic to do so. This requirement is to provide additional energy in megawatts (MW) in short timescales.

Reserve is needed for frequency management when there is an imbalance between supply of energy and demand for energy. When the instantaneous supply is not enough to meet the demand, the frequency falls and extra energy is needed very quickly to re-establish this balance. This can be supplied by additional generation or demand reduction. Initially this is provided by frequency response which initiates automatically. Response is only maintained for a maximum of 30 minutes. Reserve is then instructed within 2-30 minutes in order to replace the frequency response.

STOR Windows

The need for STOR varies depending on the time of year, the time of week and time of day, being a function of the system demand profile at that time. To reflect this, NGESO splits the year into six (6) Seasons, for both Working Days (including Saturdays) and Non-Working Days (Sundays and bank/public holidays in England and Wales) and specifies the periods in each operational day (05.00 to 05.00, the 'STOR service day') that STOR is required. The periods each STOR service day when NGESO requires STOR are referred to as Committed Windows, and there are additionally Optional Windows which cover the remaining portions of the STOR service day (described below).

Details of the Seasons and STOR Windows (the Committed Windows and the Optional Windows) are published each year on our [website](#), on or around the end of each calendar year for the upcoming STOR year April to March. NGESO would not expect to change the STOR Windows at any other time, although may do so for a particular day if an existing bank/public holiday is moved or a new one created.

Whilst the Committed Windows are the periods during which the Reserve Provider is required to be available to operate its STOR Unit at its contracted MW, it is possible that a STOR Instruction may be issued before the Committed Window begins, or that a STOR Instruction may require STOR delivery for a period after the end of the Committed Window. Each Committed Window therefore has an associated Pre-Window Instruction Period and Post-Window Ramping Period, described below.

Pre-Window instruction period

- Instructions may be issued prior to the Committed Window in order for the STOR Unit to achieve its contracted MW by the time that the Committed Window starts.
- The Pre-Window instruction period is equal to the response time, which is the time that it will take the STOR Unit to reach its contracted MW level after receiving an Instruction from NGESO.

Post-Window

- Where delivery of contracted MW is up to the end, or close to the end, of the Committed Window, there may be energy delivered outside the Committed Window whilst the STOR Unit is returning to its default state.
- The Post-Window Ramping Period is equal to the Cease Time: the time required for the STOR Unit to return to its default state, following the Instruction from NGESO.

Optional Windows

The periods each day when NGESO requires STOR are referred to as Committed Windows. Those periods falling between Committed Windows are referred to as Optional Windows, when NGESO may have a requirement for STOR.

Non-BM providers can offer a service outside of the Committed Windows. All periods outside the Committed Windows are defined as Optional Windows. Non-BM providers may indicate for each operational day their availability in Optional

Windows. Where they indicate availability NGENSO may utilise the STOR Day Ahead service by issue of a STOR Instruction, but no Availability Payments will be made for service availability within any Optional Windows.

Service Parameters

Both Balancing Mechanism (BM) and non-BM participants with a connection to either the electricity transmission or distribution network are able to provide STOR. The STOR Day Ahead service is open to any technology with the ability to increase generation or reduce demand by at least 3 MW. The contractual requirements for the STOR Day Ahead service are described more fully in the STOR Auction Rules and the STOR Service Terms, but the key elements are:

- Minimum 3MW capacity of generation or steady demand reduction (which can be a STOR Unit aggregated from more than one constituent asset (termed, once validated by NGENSO, an Eligible Asset))
- Open to BM and non-BM provider assets, but non-BM must be compliant with our ASDP/PAS dispatch system (see below)
- STOR Units must have the capability to:
 - respond to an instruction within a maximum of 20 minutes
 - sustain the response for a minimum of two hours
 - respond again with a recovery period of not more than 1200 minutes
- STOR contracts will be awarded upon acceptance of bids submitted under a daily auction process
- Bids must offer at least the minimum capacity of generation or demand reduction (in whole MWs), over each of the Committed Windows in a STOR service day
- STOR contracts require the STOR provider to offer STOR throughout each of the Committed Windows, at the offered MW volume, and as an optional STOR service, STOR providers with a STOR contract may also additionally offer a MW volume during all of the Optional Windows
- Also as an optional STOR service, any non-BM Participating provider without a STOR contract in a STOR service day may choose to offer to operate during any or all of the Committed Windows, and/or during all of the Optional Windows
- Providers with STOR contracts will be paid Availability Payments over the Committed Windows, and (if non-BM) a Utilisation Payment when dispatched.
- Non-BM providers dispatched pursuant to the optional STOR service will receive a Utilisation Payment
- BM providers will be dispatched (and paid for utilisation) through the Balancing Mechanism
- Non-BM participants will be instructed and metered through our ASDP/PAS dispatch system
- Service stacking is not possible for STOR providers with STOR contracts for Committed Windows, however, it is possible to provide other services in the Optional Windows, as long as doing so does not impact on STOR delivery.

Registration Procedure – Prequalification for STOR

In accordance with Article 163 of the System Operator Guidelines (SOGL) and Article 16.1 of the European Balancing Guidelines (EBGL), NGENSO is required to develop a registration and prequalification process for STOR.

For an entity to participate in the procurement by NGENSO of the STOR Day Ahead service, it must become a Registered Service Provider and become prequalified for the STOR Day Ahead service by acceding to the new contract documentation (which is done via Forms A, B and C) and completing the STOR Data Template to register and allocate Eligible Assets to STOR Units.

This section outlines the process and associated timings for registration, and sufficient time should be allowed to register and prepare for participation.

The following documents comprise the registration and prequalification process:

- Form A – Registered Service Provider application form

- Form B – Registered Service Provider application to become prequalified to participate in the procurement by NGENSO of the STOR Day Ahead service
- Form C – Completed by NGENSO and provides confirmation that the provider is fully pre-qualified to participate in the procurement by NGENSO of the STOR Day Ahead service
- STOR Data Template - A Registered Service Provider must submit details of all assets under its operation or control for registration with NGENSO as Eligible Assets and to allocate to STOR Units, which can be submitted into the STOR Day Ahead procurement process

Please note that all STOR Units must have the appropriate instruction/dispatch communication systems in place prior to NGENSO issuing Form C:

- For BM providers this is through the existing BM Grid Code EDL/EDT data
- Non-BM providers are required to have the necessary web-based solution in place (and tested) for communications with ESO via the Platform for Ancillary Services (PAS). Please refer to [PAS specifications](#) on our website for more information or contact the team box.support.pas@nationalgrid.com

For existing STOR providers who are already registered on NGENSO's systems, please see Appendix 1 for the registration and prequalification process.

Registration Forms A & B

To become a Registered Service Provider and to prequalify to participate in the procurement by NGENSO of the STOR Day Ahead service, a new participant must submit fully complete Forms A & B and the STOR Data Template, returning the fully completed and signed documents to commercial.operation@nationalgrideso.com.

Forms A and B are published alongside this document and word versions can be requested from your NGENSO account manager or contact the above email account prior to any formal submission. Please complete the Form A and B using the Word versions and return as a PDF. Form A can be issued on its own for initial registration as a Registered Service Provider.

For participants who wish to register on behalf of multiple SPVs (Special Purpose Vehicles), the “related entities” sections of Forms A and B can be used.

STOR Data Template

Registered Service Providers must register their Eligible Assets with NGENSO using the STOR Data Template. This template contains all the necessary information for NGENSO to validate the eligibility of assets for participation in the STOR Day Ahead service, in particular its maximum registered STOR capacity.

The STOR Data Template also enables an Eligible Asset to be allocated to a STOR Unit, and describes the technical parameters associated with each STOR Unit.

Please note, a single Eligible Asset can be allocated to a STOR Unit, or multiple Eligible Assets can be aggregated to a STOR Unit, for participation in the STOR Day Ahead service. Every STOR Unit registered onto NGENSO's system must have at least one Eligible Asset allocated to be capable of delivering STOR.

For BM providers the STOR Unit ID will be the existing unique BMU identifier. For Non-BM the STOR Unit ID will be confirmed by NGENSO during the prequalification process.

Registration Form C

NGESO will validate all the information provided in Forms A & B and the STOR Data Template and where satisfactory, shall complete and issue Form C providing confirmation that the participant is now a Registered STOR Participant and is prequalified for the STOR Day Ahead service. This confirmation will also confirm the unique STOR Unit ID and its associated unique Contract Number. Form C is not indicative of any commitment on the part of NGENSO to procure or pay for the STOR Day Ahead service.

The unique Contract Number will link each STOR Bid to the STOR Unit details held within our NGENSO Auction Platform as provided in the STOR Provider Data Template and this Contract Number will be applied to each individual STOR contract awarded following the auction. Please note that all BM or Non-BM STOR Units must have the appropriate instruction/dispatch communication systems in place prior to NGENSO issuing Form C.

Timelines for Prequalification registration process

- Submission of Form B and the STOR Data Template - within eight (8) weeks of a formal application, NGENSO shall confirm that the application is complete (from the perspective of information required). If the application is

incomplete, the applicant shall provide the missing information within four (4) weeks of a report from NGENSO or it will be presumed that the application has been withdrawn; and

- within three (3) months of confirming that all information has been provided, NGENSO shall issue Form C providing confirmation that the participant is now a Registered STOR Participant and is prequalified for the STOR Day Ahead service – this timeline will be subject to the completion of full test of the required communications (e.g PAS) being in place.

The timelines for registration and prequalification as set out in SOGL are the maximum times. In most instances, we would expect the process to take weeks, rather than up to five (5) months. The focus of the three (3) months is the completion of any necessary systems (e.g. PAS/ASDP) and for NGENSO to enter all STOR Unit information into our NGENSO Auction Platform and various registration and downstream systems. For any provider that requires a new PAS/ASDP system, they can begin development of this prior to submitting their application so may not need the full three (3) months. Additionally, if a provider already has the necessary systems in place and only wishes to prequalify an additional STOR Unit, or modify an existing prequalified STOR Unit then the above timescales would not apply.

Making Changes to the STOR Data Template

If Registered STOR Participants wish to change the registration status of Eligible Assets and/or STOR Units, for example by removing Eligible Assets or reallocating Eligible Assets from one STOR Unit to another STOR Unit, this must be done by submitting an updated STOR Data Template clearly showing what has changed.

The STOR Data Template must be submitted to commercial.operation@nationalgrideso.com and no other NGENSO email account.

If any data within the STOR Provider Data Template is changed then a new unique Contract Number will be allocated by NGENSO.

NGESO will aim to approve and make any necessary changes to the NGENSO Auction Platform and various registration and downstream systems within ten (10) working days of receipt of the updated STOR Data Template.

Daily Auctions

This section outlines the process for the submission of STOR Bids in the daily auctions, and associated timescales.

STOR Bids

A Registered Service Provider can only participate in the STOR auction process once its STOR Unit(s) are prequalified and they have received the Form C signed by NGENSO which includes a unique STOR Unit ID and Contract Number for each STOR Unit.

Access to the NGENSO Auction Platform will be provided following return of the Form C to the Registered Service Provider with details of the NGENSO Auction Platform web address along with log in details for the STOR Provider / nominated Agent.

The Registered Service Provider will then become a Registered STOR Participant, and may offer its STOR Unit(s) for STOR service delivery by submitting the required STOR Bid parameters to NGENSO using the NGENSO Auction Platform.

Each STOR Bid will only include the availability price £/MW/h and the MW (up to the pre-qualified MW) and any other additional parameter(s) as may be specified in the STOR Auction Rules. There will be no requirement to provide any existing technical parameters submitted through the prequalification process.

Each STOR Bid is required to cover all Committed Windows for the STOR service day, with a single availability price and MW value covering each Committed Window, as set out in the STOR Auction Rules.

Note that multiple STOR Bids will not be accepted in respect of any STOR Unit for the same STOR service day.

The auction for each STOR service day will open on a rolling 8-day ahead basis. This will allow providers to submit STOR Bids well ahead of the daily auction close. STOR Bids can be submitted, replaced or withdrawn right up to auction close.

All STOR Bids, and any resubmissions, shall reflect and be consistent with the Eligible Asset and STOR Unit

registration details (notably the maximum registered STOR capacity and Technical Parameters specified in the STOR Data Template).

All STOR Bids will be assessed in accordance with STOR Assessment Principles, and will be ranked in price ascending order against a buy curve to identify the marginal STOR Bid which will set the clearing availability price.

The auction timescales are as follows:

- Daily auction open on a rolling 8-day basis at 05:00 on D-8
- Ability to withdraw and re-submit their availability price or MW offering up to daily auction close
- Daily auction close is at 05:00 on D-1
- The result of each auction will be issued by email to each auction participant at 06:00 on D-1 and will confirm the (Pay as Cleared) Availability Price.

Where the STOR Bid is accepted, the confirmation email will formally confirm the STOR contract for the relevant STOR Unit.

- NGENSO will aim to publish all auction results in full on our website/data portal each day at approximately 10:00 on D-1

Example Auction timeline

D-8	D-7	D-6	D-5	D-4	D-3	D-2	D-1	D
24 Mar 21	25 Mar 21	26 Mar 21	27 Mar 21	28 Mar 21	29 Mar 21	30 Mar 21	31 Mar 21	1 Apr 21
Auction opens for service delivery on 1 April 2021. Registered STOR Participants can submit for their STOR Unit/s anytime and can amend, replace or withdraw.							05:00 Auction closes	05:00 STOR service day

Clearing price

The daily auction process will establish a clearing Availability Price for each STOR service day, which will apply to all STOR contracts formed for that STOR service day. Please refer to the STOR Assessment Principles for further details.

Availability Declarations

Once a STOR contract has been awarded, the STOR provider will be required to submit an availability declaration for the relevant STOR Unit, which for Non-BM providers must be by no later than ninety (90) minutes prior to each Committed Window. Availability declarations must be submitted in accordance with the STOR Service Terms and include confirmation of MW available and a utilisation price (£/MWh). Declarations can be submitted ahead of time (either before, during or after auction/STOR contract award) provided that the MW value in a service provider’s STOR contract and availability declaration match.

Where no declaration/redeclaration has been submitted by the deadline, the STOR Unit will be assumed to be unavailable and similarly will be deemed unavailable where the declared MW value does not match the awarded STOR contracted MW value.

For BM providers, declarations must be made by way of BM Unit Data submissions, by no later than gate closure for the pre-window instruction period for each Committed Window.

Whilst STOR providers are only obligated to declare/redeclare availability and utilisation price by the deadlines specified above, NGESO would appreciate if declarations/redeclarations could be submitted by 11.00 hours on the day of STOR contract award (day ahead of service delivery) in order to assist our control room with our daily scheduling.

For the avoidance of doubt, these declarations/redeclarations will be submitted into the normal PAS/ASDP route for Non-BM and via Grid Code EDL/EDT data for BM.

Dispatch

Dispatch instructions to BM providers will be by way of Bid-Offer Acceptance via EDT/EDL and shall be acknowledged and accepted/rejected within normal BM timescales.

A Non-BM provider will be dispatched via the Platform for Ancillary Services (PAS) system and shall be accepted/rejected within two (2 minutes) of receipt.

All STOR providers must start to provide STOR within the response time specified through prequalification and continue provision until the earliest of the following:

1. issue by NGESO of a cease instruction
2. expiry of the Maximum Utilisation Period (as specified through prequalification)
3. the end of the Committed Window.

Where NGESO instructs the STOR provider to cease the provision of STOR, the STOR provider must acknowledge receipt of any instruction. For BM providers this shall be within normal BM timescales, and for Non-BM providers this shall be within 2 minutes.

Payment

There are two forms of payment that NGESO will make for the Day Ahead STOR service:

- **Availability Payments.** Where a STOR provider with a STOR contract makes its STOR Unit available for STOR for the Committed Windows, NGESO will pay for that availability on a £/MW/h basis based at the (Pay as Cleared) availability price.
- **Utilisation Payments.** A Non-BM provider with a STOR contract will also receive a payment for the energy delivered on a £/MWh basis if instructed to deliver STOR in a Committed Window. Additionally, where NGESO instructs delivery of STOR from a Non-BM STOR Unit which is declared available on a voluntary basis outside of a STOR Contract by way of the optional STOR service, then it will pay for the energy delivered on a £/MWh basis. (All Utilisation Payments will include the energy delivered in ramping up to and down from the instructed MW level). For BM providers, energy delivered will be paid for through the Balancing Mechanism.

Settlement

Availability Payments and Utilisation Payments will be settled by NGESO on a monthly basis, subject to deductions for service delivery failures following performance monitoring, described below. For further information regarding how payment is calculated, and payment terms, please refer to the STOR Service Terms and the STOR General Terms and Conditions.

NGESO shall apply STOR energy volumes within Applicable Balancing Services Volume Data (ABSVD) for BM units only. It is the responsibility of each STOR provider to ensure that the relevant BM Unit Lead Party has made the appropriate election.

In addition, where it has not already done so, each Registered STOR Participant must ensure that it has completed the necessary vendor setup forms that are outlined on our Settlement webpage to be set up as a vendor on NGESO's systems. These should be submitted as soon as possible so that we make payments in a timely manner in accordance with the STOR General Terms and Conditions.

Performance Monitoring

Where instructed to provide the Day Ahead STOR service, a minimum of 95% of the offered MW must be delivered by STOR Unit throughout the instructed period. Failure to deliver will trigger an Event of Default (EOD). In addition, there

are a number of other service delivery failures which can trigger an EOD. Where a STOR Unit triggers an EOD, it will forfeit Availability Payments for most, or all, of the relevant Committed Window.

In addition to the performance EOD penalties, NGENSO will conduct regular performance monitoring of the STOR Units service delivery over a greater period than the individual STOR service day in order to establish overall delivery against the 95% performance measure. There will be no further financial penalties associated with this performance monitoring, but in order to ensure that we do not award STOR contracts to STOR Units with continued poor performance, we will link the performance monitoring to the STOR Units prequalification status. Where a provider continues to deliver below their offered MW we will ultimately seek to suspend the pre-qualification status of the Registered Service Provider or the relevant Eligible Assets. Depending on the root cause, we would expect either a re-proving test or possibly revised base parameters (e.g. reduced maximum MW) before we would reconfirm pre-qualification status and access to the daily auction process.

Transparency

NGESO will seek to publish data in line with our other balancing services in the Monthly Balancing Services Summary (MBSS). NGENSO will also seek to provide a service specific report covering performance of the STOR Day Ahead service and daily auction results. The NGENSO website shall be used for publishing documentation on the STOR Day Ahead service.

We will also publish details of all Non-BM STOR service instruction data (anonymised) in near to real time from our Ancillary Services Dispatch (ASDP) System on our website.

Active Network Management Zones

Eligible Assets will not normally be registered by NGENSO for participation in the STOR Day Ahead service if they have a condition in their DNO connection agreement whereby they are signed up to an Active Network management (ANM) Scheme / Flexibility Connection. However, NGENSO will consider this on a case by case basis and may (at its sole discretion) enable such participation if there is reasonable evidence to demonstrate that the asset has very high forecasted availability (for example as shown by Curtailment Assessment Reports from DNOs). NGENSO shall continue to keep this under review and any changes to this position shall be consulted accordingly.

Existing Long-Term STOR Contracts

For the avoidance of doubt, NGENSO currently holds a small number of firm long-term STOR Contracts for approximately 400MW which endure out until 2025. These contracts were awarded under, and are governed by, the existing STOR SCTs and these will not migrate to the new contract structure but will continue under their existing terms.

Appendix 1

How will the new contracting framework be introduced?

All new participants must follow the Registration Procedure set out in this document.

We will need to work with existing STOR providers over the coming months to transfer to the new contracting framework as we also support any new STOR providers through the onboarding process.

The following outline requirements will apply;

- Existing pre-qualified STOR providers will need to submit the new Form A and B to facilitate registration for the new STOR Day Ahead service.
 - The STOR Data Template will be pre-populated with the existing data we hold for current STOR providers.
 - This data will be shared with existing STOR providers in early 2021 for checking and validation of the assets that will participate in the STOR Day Ahead service. Where there is missing data, existing STOR providers will be asked to complete this to enable participation in the STOR Day Ahead service.
 - NGENSO will then issue Form C. On receipt of Form C from NGENSO existing STOR providers will then be pre-qualified and eligible to submit STOR Bids for the day ahead STOR Day Ahead service.
- Any existing STOR provider (NBM) with a Framework Agreement, but not PAS/ADSP compliant, will be required to commence the process for establishing the required web-based PAS platform before or in parallel with submitting Forms A and B to register for the new STOR Day Ahead service along with a STOR Data Template setting out the details for each STOR Unit and/or Eligible Assets (aggregated) and the base parameters. Form C will not be issued until a successful “end to end” test of the PAS interface has been completed. On receipt of Form C from NGENSO existing STOR providers will then be pre-qualified and eligible to submit STOR Bids for the day ahead STOR Day Ahead service.