

SHORT TERM OPERATING RESERVE

General Description of the Service

14th April 2017

1. Introduction

This document provides a summary of the service of Short Term Operating Reserve (STOR) as set out in detail in the current Standard Contract Terms (SCTs) Issue #9, which came into effect on the 1st April 2017.

The document is intended as a guide to the service of Short Term Operating Reserve and for full details of contractual provisions; the reader should refer to the SCTs. This document will be issued within each Invitation to Tender, and will be modified to reflect any future change to the SCTs.

In the unlikely event that there is inconsistency between this document and the SCTs, then the SCTs will take precedence.

2. Background to Reserve Requirements

At certain times of the day National Grid needs access to sources of extra power, in the form of either generation or demand reduction, to be able to deal with actual demand being greater than forecast demand and/or unforeseen generation unavailability. These additional power sources which are available to National Grid are referred to as 'Reserve' and comprise synchronised and non-synchronised sources.

National Grid procures the non-synchronised requirement primarily by contracting for Short Term Operating Reserve, which is provided by a range of service providers by means of standby generation and/or demand reduction.

The need for Short Term Operating Reserve 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, National Grid splits the year into a number of Seasons, for both Working Days (including Saturdays) and Non-Working Days (Sundays and most Bank Holidays), and specifies the periods in each day that Short Term Operating Reserve is required. These periods are referred to as Availability Windows.

3. Overview of Short-term Operating Reserve

3.1 Introduction

Short-Term Operating Reserve is a contracted Balancing Service, whereby the service provider delivers a contracted level of power when instructed by National Grid, within pre-agreed parameters. The main, minimum capability requirements for the service are as follows:

- Minimum Contracted MW capability = 3MW.
- Contracted MW must be achievable no later than 240 minutes after instruction from National Grid.
- Contracted MW must be deliverable for no less than 2 hours.

The service can be provided by both BM and non-BM participants. Utilisation of the service from BM participants is via the Balancing Mechanism. For non-BM service providers, a bespoke monitoring and despatch system, STOR Despatch, is installed (formerly known as SRD - Standing Reserve Despatch).

3.2 Forms of the service

There are three forms of the STOR service:

- i) Committed Service.
- ii) Premium Flexible Service
- iii) Flexible Service

Under the Committed Service, a service provider must make the service available* for all Availability Windows within the contracted term. Both BM and non-BM service providers can offer the Committed Service.

(* - apart from when the unit/site is technically unable to provide the service and subject to the rejection by the service provider (in relation to an existing STOR Contract) of new Availability Windows introduced in a Subsequent Year).

Tender Round 22 was the first opportunity for Providers to tender for the Premium Flexible Service. The premium windows (windows which National Grid considers to be of greater value) are communicated below and identified on a season by season basis for the entire two year contracting opportunity. The remaining Premium Flexible windows are as follows:

Year 11 (2017/18) are:-

Season 1 – Window 1
Season 2 – Window 1
Season 3 – Window 2
Season 4 – Window 2
Season 5 – Window 2
Season 6 – Window 2

Year 12 (2018/19) are:-

Season 1 – Window 1
Season 2 – Window 1
Season 3 – Window 2
Season 4 – Window 2
Season 5 – Window 2
Season 6 – Window 2

Premium windows are Monday to Friday only.

Where a 'premium' window is offered by a flexible unit, National Grid will commit to accepting 85% of the entire days offered availability on a per unit basis within that season, subject to the devaluer as described in the latest version of the STOR Assessment Principles document.

Providers will have the opportunity to be considered for the standard flexible market should their Premium Flexible tender be unsuccessful under the Premium Flexible assessment process.

The Flexible Service is only open to non-BM service providers. Flexible service providers have greater freedom as to how many hours they wish to make the service available, and when that availability is offered. However, National Grid may choose to reject Flexible Service availability and, provided the rejection is issued in the defined timescale, National Grid will not make Availability Payments for rejected Flexible Service availability.

3.3 Payment Structure

There are two forms of payment that National Grid will make as part of the service:

1. **Availability Payments.** Where a service provider makes its unit/site available for the STOR service within an Availability Window, National Grid will pay for that availability on a £/MW/h basis.
2. **Utilisation Payments.** Where National Grid instructs delivery of STOR from a unit/site, then it will pay for the energy delivered on a £/MWh basis. (This includes the energy delivered in ramping up to and down from the Contracted MW level). For BM service providers this payment will be effected through the Balancing Mechanism.

A service provider has the option to elect to link their Availability and/or Utilisation Prices applicable in Subsequent Years (i.e. for year 2) to a standard indexation methodology. This methodology - to be specified in the provider's STOR Framework Agreement - may be either a specific methodology agreed with National Grid or a standard methodology selected from the Indexation Principles Document which will be published by National Grid in due course.

3.4 Contract Structure

The service is procured by National Grid by means of a periodic tender process, and each tender contains the service provider's plant technical data as well as the prices for the service.

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

The STOR Framework Agreement will list the units/sites that a service provider may wish to tender at some stage in the future, and tenders may only be submitted in respect of units/sites listed in a STOR Framework Agreement.

In the event that National Grid accepts a tender, then the formal acceptance letter to the service provider will create the contract (STOR Contract). Each STOR Contract incorporates the technical and price details specified in the tender and tender acceptance letter and will be governed by the STOR Framework Agreement and the SCTs.

3.5 Tender Rounds

It is envisaged that 3 tender rounds will be run each year. Providers are invited to tender for the Committed, Premium Flexible and the Flexible service.

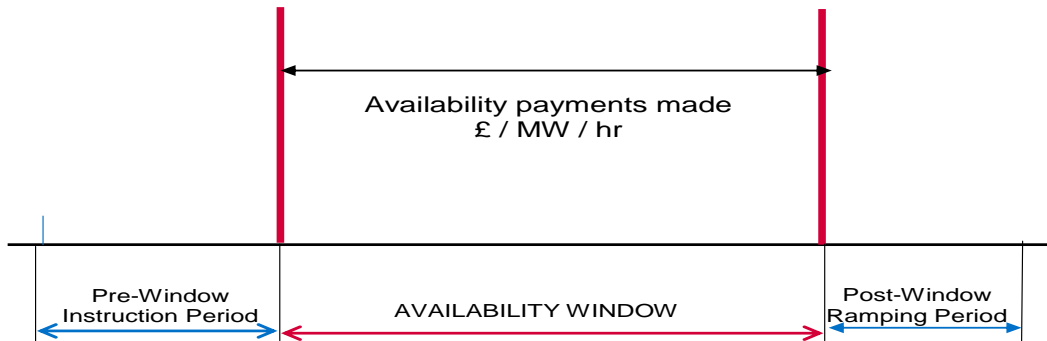
National Grid is currently inviting the Committed, Premium Flexible and Flexible services to be tendered for 1 or more Seasons up to 2 complete financial years.

The tender (completed and submitted by service providers) will contain all of the required technical parameters associated with the service, as well as the Availability and Utilisation Prices.

4. STOR - Operation of the service

4.1 Availability Window

The Availability Window is defined as being the period during which the service provider is required to be available to operate at Contracted MW. As a result of this, there is the possibility that a STOR Instruction may be issued prior to commencement of the Availability Window (i.e. in order to achieve Contracted MW by the time that the Availability Window starts).



The Pre-Window Instruction Period is equal to the Response Time, which is a tendered parameter. Response Time is defined as being the time that it will take a unit/site to reach the Contracted MW level after the service provider receives an Instruction from National Grid.

The Post-Window Ramping Period is the time required for the unit/site to return to its default state, following the Instruction from National Grid. It is equivalent to the Cease Time, which is also a tendered parameter.

Where a service provider declares availability from a unit/site, Availability Payments are made for the duration of the Availability Window, unless, in the case of a Premium Flexible or Flexible Service window, the availability is rejected by National Grid.

4.2 Committed Service

A Committed Service provider makes the service available to National Grid in all Availability Windows over the contract term. The only acceptable reason for unavailability is where the unit/site is technically unable to provide the service (for example plant breakdown or planned maintenance) and where the service provider has rejected (in relation to existing STOR Contracts) new Availability Windows in Subsequent Years.

Initial availability Declarations for each week ('week' being the 7 days from Monday 05:00 Hours) are made to National Grid no later than 10:00 Hours on the previous Tuesday. (Declarations may be made via OC2 for BM service providers and via STOR Despatch for non-BM service providers).

Declarations are made on a per whole Availability Window basis. I.e. a service provider is available for the whole window, or none of it.

A Re-declaration in respect of a particular Availability Window may be made at any time (but always based on technical capability) until shortly before the start of an individual Availability Window. Re-declarations must be made as soon as the change in technical capability becomes apparent to the service provider.

4.3 BM Unit Data submissions

For a BM service provider its BM Unit data submissions will need to be consistent with its availability Declaration, and its tendered prices and technical parameters.

4.4 Utilisation of the service

Where National Grid issues a STOR instruction, the service provider must start to provide Reserve within the Response Time and continue provision until the earliest of the following times:

- i) National Grid issues a cease instruction;
- ii) Expiry of the service providers' Maximum Utilisation Period;
- iii) The end of the Availability Window.

4.5 Non-BM service providers and Optional Windows

Within STOR there is the opportunity for non-BM service providers to offer a service outside of Availability Windows.

All periods outside Availability Windows (and the associated pre- and post- Window periods) are defined as 'Optional Windows'.

Service providers may indicate for each day their availability in Optional Windows. Where they indicate availability National Grid may utilise the service at the Optional Energy Utilisation Price. Please note that no Availability Payments will be made for service availability within any Optional Windows.

4.6 Premium Flexible and Flexible Service (non-BM service providers only)

In its week ahead Declaration, a Premium Flexible or Flexible Service provider may choose the Availability Windows in which it wishes to make the service available to National Grid. (Unlike the Committed Service, the service provider may elect at this stage to make the service unavailable for any reason).

Between the initial Declaration and Friday 10:00 Hours, the service provider may issue a Re-declaration at any time, again for any reason.

Where at 10:00 Hours on each Friday, Premium Flexible and Flexible Service availability is being declared in respect of Availability Window(s) in the following week, National Grid will assess whether to accept or reject the declared Premium Flexible or Flexible Service availability. National Grid may reject any Premium Flexible or Flexible Service availability up to 16:00 Hours, in which case no Availability Payments will be made in respect of such rejected window(s).

Where availability in any Availability Window(s) is offered as at Friday 10:00 Hours, and is not rejected by National Grid, the service provider is then committed to providing the service in such windows. The availability may only then be withdrawn for technical reasons. From this point, the service obligations apply in the same way as for the Committed Service. National Grid also becomes committed at this time to paying for the accepted availability (providing there is no subsequent Re-declaration withdrawing the availability).

Where a 'premium' window is offered by a flexible unit, National Grid will commit to accepting 85% of the entire days offered availability on a per unit basis within that season.

Where availability has been rejected by National Grid, the service provider may continue to offer the availability. If it does so and National Grid actually utilises the service, then the Reserve energy provided will be paid for at the Optional Energy Utilisation Price.

5. SERVICE MONITORING

In order to confirm that National Grid is paying for the service as agreed, it monitors availability and delivery. Where a service provider fails under the service terms then the associated consequence is set out in the SCTs. Broadly speaking, failures fall into 3 categories:

- i) Availability Declarations
- ii) BM Unit Data submissions
- iii) Delivery failures

5.1 Availability Declarations failures

These apply where a Committed Service provider fails to comply as follows:

- i) Unavailability is for reasons other than related to the technical capability of the plant.
- ii) The service provider does not re-declare as soon as it is apparent that there is change in the unit/site's technical capability.
- (iii) There is a late Re-declaration of unavailability ("late" meaning after Gate Closure in respect of the Pre-Window Instruction Period, associated with a specific Availability Window).

Note these failures also apply for Premium Flexible and Flexible Service providers where availability has been accepted.

The consequence of these failures is to withhold Availability Payments associated with the affected Availability Window.

5.2 BM Unit Data submissions

BM Unit parameters that are monitored in the relevant periods to verify availability in line with the requirements of the STOR Contract are as follows:

- Maximum Export Limit (MEL)
- Physical Notification (PN)
- Offer Price
- Bid Price
- Stable Export Limit
- Dynamic Parameters (i.e. Run Up / Run Down rates etc.)

MEL is monitored to check availability and the failures / consequences are as per the previous paragraph.

PN – if a positive PN is submitted, the Availability Payment is withheld for the entire availability window.

Offer/Bid Price. The Offer Price submitted in the Balancing Mechanism must be identical to the tendered Utilisation Price and the Bid Price must be not less than the Offer Price. Failure to submit a compliant Offer Price in a Settlement Period will result in that Settlement Period's Availability Payment withheld. Failure to submit a compliant Bid Price may result in the STOR service provider refunding to National Grid the difference between the tendered Utilisation Price and the non-compliant Bid Price multiplied by the volume of energy delivered following the issue of an instruction to provide STOR.

SEL must be no greater than MEL. Dynamic Parameters must be consistent with the Technical Parameters specified in STOR Contract. If not, Availability Payments will be withheld for each Settlement Period in which the failure occurred.

5.3 Delivery Failures

These comprise:

- i) Late achievement of Contracted MW.
- ii) Delivery of less than the energy associated with the STOR instruction.
- iii) Non-continuous delivery of Contracted MW.

A 10% tolerance applies in respect of these delivery failures. Failure under each of these would result in withholding of Availability Payments for the Availability Window in question.

5.4 Monthly Price Adjustment

In the event of one or more service failures within a month, then the availability price for that month will be reduced. For each Availability Window containing a failure, there will be a 1% reduction applied to the price, subject to a limit of 30%.

5.5 Mandatory Works Provisions

In order to guarantee an income before committing to any capital monies, providers may tender for STOR before installation of an asset. In this case, a set of standard works provisions are required to be agreed and included in the service provider's STOR Framework Agreement prior to the submission of the tender. National Grid will monitor work progress in accordance with the mandatory works provisions and commence payment from the commencement of provision of the service.

Where there is a delay in the mandatory works provisions a provider can provide National Grid with a Cure Plan. The Cure Plan will set out the proposed actions that the reserve provider intends to undertake to remedy the delays or, where this is not possible, specify a reasonable extension to the Works Programme.

Following submission of a Cure Plan to National Grid the STOR Contract will be suspended from the Target Completion date until the earlier of:

- successful commissioning;
- National Grid determining (acting reasonably) that the Reserve Provider had abandoned the works or was otherwise non-compliant with the Cure Plan;
- any revised Target Completion Date determined by an Expert; or
- The long stop date.

During the suspension period no Availability Payments will be made. Where a delay is due to Force Majeure the period of suspension will be excluded from the seasonal availability payment reconciliation to ensure that the Reserve Provider is not unduly penalised. If the Cure Plan is accepted and completed to National Grid's satisfaction the unit may return to service. If the plan is not accepted or completed to National Grid's satisfaction then National Grid may go ahead with the termination of the contract.

5.6 Termination rights

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

- i) Persistent failure to make available or provide STOR from a contracted unit/site;
- ii) Either (in the case of a BM provider) the BM provider ceases to be the lead party for a contracted BM unit or (in the case of a non-BM provider) a site either becomes a BM Unit or is a BM Unit and in either case actively participates in the Balancing Mechanism;
- iii) Where a contracted unit/site contracts to provide another service and this interferes with the ability of the contracted unit/site to provide STOR;
- iv) there are, in respect of a contracted unit/site, either three or more service failures in a season or eight or more service failures in a 12 month period (in this circumstance there is a long stop date of 60 days within which National Grid must notify it's intention to terminate the STOR contract);
- v) A contracted unit/site fails two or more tests to prove that the unit/site has the capability to provide STOR;
- vi) Where new availability windows are introduced, a provider may elect to retender for the existing windows together with the new windows. If the retender is accepted by National Grid, a new STOR contract will be formed to replace the existing service terms;
- vii) in certain circumstances where a provider fails to complete or commission the unit/site in accordance with the standard work provisions set out in the STOR Framework Agreement by the commencement of the STOR Contract;
or
- viii) In the circumstances specified in the STOR Framework Agreement.

5.7 Remedial Plan

Before exercising any termination right for multiple Events of Default, failed Repeating Assessments or Force Majeure, National Grid must notify the Reserve Provider of its intention to terminate. The Reserve Provider then has 20 Business Days to prepare, at its own cost, and submit a Remedial Plan.

As soon as National Grid gives this notice of its intention to terminate, the STOR Contract is suspended until the earlier of:

- the Reserve Provider failing to submit a Remedial Plan within the required timescales;
- National Grid rejecting the Remedial Plan and the Reserve Provider not disputing the decision within the required timescales;
- the Remedial Plan is completed to National Grid's reasonable satisfaction;
- National Grid determining that the Reserve Provider has abandoned the remedial works or is otherwise in non-compliance with the Remedial Plan; or
- The long stop date.

During the suspension period no Availability Payments will be made. As with the Cure Plan, where a delay is due to Force Majeure the period of suspension will be excluded from the seasonal availability payment reconciliation to ensure that the Reserve Provider is not unduly penalised.

If the remedial plan is accepted and completed to National Grid's satisfaction the unit may return to service. If the plan is not accepted or completed to National Grid's satisfaction then National Grid may go ahead with the termination of the contract.

6 SUBSTITUTION / REPLACEMENT

Where a service provider wishes to substitute the contracted unit or site temporarily, then it may request that the STOR Contract be amended to effect this substitution.

Replacement is similar to substitution, but results in a permanent change to the contracted unit/site for the remainder of the STOR Contract term.

7 WEEKLY & ANNUAL UTILISATION LIMITS

Within its tender a service provider may indicate weekly and annual limits on the number of times National Grid may utilise the service or indicate an annual limit on the number of hours National Grid may run the Unit(s) for. Should either of these limits be reached then the service provider may notify National Grid of a revised Utilisation price to apply for the remainder of the week / financial year, as applicable.

8 RECONCILIATIONS

8.1 Seasonal Delivery Reconciliation

National Grid assesses the aggregate MWh energy delivered across all utilisations within a Season for each contracted unit/site. Where there is a shortfall of total delivered MWh against STOR-instructed MWh, then National Grid applies reconciliation against Availability Payments made in respect of that Season.

Where the total delivered MWhs is greater than 95% of STOR-instructed MWhs then no Seasonal Delivery Reconciliation applies.

Where there are very few utilisations within a Season the reconciliation is scaled to reduce the amount repayable.

8.2 Availability reconciliation

For Committed Service providers a high percentage availability is expected, on the basis that there can only be unavailability for reasons relating to the technical capability of the plant.

In the event that the aggregate availability within any financial year is less than 85%, then a process applies whereby a proportion of the Availability Payments paid over the term becomes repayable. The basis of the reconciliation is 1% repayment for each percent of availability less than 85%.

The Availability Reconciliation takes account of any reconciliation already carried out under the Seasonal Reconciliation process.

A form of Availability Reconciliation also applies to Premium Flexible and Flexible Service providers. It only applies in respect of availability that has been declared at the week-ahead stage and has not been rejected by National Grid. This is the stage at when a Premium Flexible and Flexible Service provider becomes committed to its declaration. The 'actual' availabilities are assessed for the Availability Windows in which the service provider had week ahead availability accepted by National Grid. Where across any financial year there is less than 85% of the availability which the provider committed to provide at the week ahead stage, then reconciliation of Availability Payments will apply.

9 ROLE OF AGENTS AND AGGREGATORS

9.1 Agents

A service provider may procure that an Agent administers its tender, availability declarations and settlements process on its behalf. The STOR Standard Contract Terms contain specific schedules dealing with this arrangement.

9.2 Aggregator

A service provider may choose to be an aggregator. The role of an aggregator is to develop and operate multiple sites (STOR Sub Sites) and offer these to National Grid as single STOR site(s). This role is specifically different to that of an agent in that an aggregator is responsible for;

- Framework Agreement and Formation of a contract.
- Despatch of multiple sites.
- Availability Declarations.
- Metering and Monitoring.
- Settlements.

For more information on the aggregator role please see the following documents;

- Specimen STOR Aggregator Framework Agreement
- Description of Aggregator Special Conditions

Responsibility	Aggregator	Agent
Framework Agreement	Yes	No
Despatch	Yes	No
Availability Declarations	Yes	Yes
Metering and Monitoring	Yes	No
Settlements	Yes	Optional
Tendering	Yes	Yes

10 FURTHER USEFUL INFORMATION

- **Further information such as End of Year Market Reports and Frequently Asked Questions** can be found on the STOR page of our Website: <http://www2.nationalgrid.com/uk/services/balancing-services/reserve-services/short-term-operating-reserve/>

If you have any STOR queries then please contact your Account Manager or email us at commercial.operation@nationalgrid.com.