

Frequently Asked Questions

Mersey region reactive power service

14 October 2019



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Frequently Asked Questions

General

What service are you buying specifically (last updated: 14 Oct)

We are seeking static reactive power absorption in the Mersey region, plus contingency volume to cover the largest contracted provider. We are tendering for a one year service between 1 April 2020 and 1 April 2021. The service is required overnight (23:00 - 07:00) year-round.

Who can participate in this tender? (last updated: 14 Oct)

We invite tender submissions from any provider which can meet the technical requirements for reactive power provision and are located within the highlighted region in the tender pack, connected by 1 April 2020 and available for the full 12-month period. We are offering different contract types to accommodate most technology types and service providers.

Can aggregators participate? (last updated: 14 Oct)

Aggregators can participate as an agent of a single site. However traditional aggregator terms (allocation/reallocation of sub-units) cannot be facilitated due to the complexity of accommodating and modelling multi-site assets.

Am I allowed to stack additional balancing services revenues if I'm successful? (last updated: 14 Oct)

Providers can stack additional balancing services provided that it does not impact the ability for the provider to deliver the contracted reactive power services if instructed to do so.

Requirement

Is there a minimum and maximum size for the reactive power solution? (last updated: 14 Oct)

The minimum size for participating in the tender is 5 MVar.

The maximum size is limited by the voltage step change limits in the event of the credible faults and will depend on the voltage levels at which the provider is connected. The maximum size will broadly be in line with the following guidelines: 200 MVar at 400kV, 100 MVar at 275 kV, 60 MVar at 132kV, 30 MVar at 66kV, 15 MVar at 33kV. The technical assessment carried out by the DNO will determine whether each proposed solutions will be within the voltage step change limits.

When should I notify you of unavailability? (last updated: 14 Oct)

Contract A, B and C providers should notify NGESO of unavailability as soon as possible. Contract D providers will be contacted to ascertain availability when required.

I'm due to connect / will be available after 1 April 2020, can I participate? (last updated: 14 Oct)

Unfortunately, the requirement is from 1st April 2020, and due to timescales reducing the options available to NGESO, we cannot accept tenders from anyone not connected and available by 1st April 2020.

If successful, what are the availability expectations within year? (last updated: 14 Oct)

- For contract type A - Successful providers will be expected to be available 23:00 - 07:00 every night year-round, except for technical outages / reasons.
- For contract type B - Successful providers will be expected to be available 23:00 - 07:00 every night year-round, except for technical outages / reasons.
- For contract type C - Successful providers will be expected to be available 23:00 - 07:00 every night year-round, except for technical outages / reasons.

- For contract type D – Successful providers will be expected to deliver the reactive service when available and instructed to do so.

Technical

How do I know where I am connected / connecting? (last updated: 14 Oct)

You should contact National Grid Electricity Transmission for your connection to the transmission network, or SP Energy Networks for your connection to the distribution network in the Mersey region. For distributed providers, the DNO will be able to provide an indication of your nearest Transmission connection point for referring to the diagram in the tender pack.

National Grid Electricity Transmission: <https://www.nationalgrideso.com/connections/applying-connection>

SP Energy Networks: https://www.spenergynetworks.co.uk/pages/which_type_of_connection.aspx

What is Power Factor Mode? (last updated: 14 Oct)

It is a mode of operation whereby an equipment will adjust its reactive power output such that there is always a constant ratio between its reactive power output and its active power output. If a device is set to operate in Power Factor Control mode at a power factor of 0.95, the ratio of reactive power to active power will be approximately 1:3.

How do I know how effective I will be? (last updated: 14 Oct)

The effectiveness of any proposed options varies according to their points of connection. It will impact the total volume of Reactive Power procured. Options in different locations, connected at different voltage levels or of different sizes have different impacts on the transmission system voltage. The ESO work with SPEN to calculate the effectiveness factors when all bids are received. Please see the effectiveness factor assessment methodology for details on how effectiveness factors are calculated.

Due to the timescale set for this tender, we're unable to provide your effectiveness factor(s) before the tender closes.

Can I provide a substitute unit if my contracted unit becomes unavailable? (last updated: 14 Oct)

Yes in short, but the substitute unit must be located at the same connection point as the contracted unit and have the same technical parameters.

Commercial

If I absorb reactive power outside the contract window, or if I haven't been instructed, will I be paid for doing so? (last updated: 14 Oct)

- For contract type A - Contract A providers who are obligated to provide reactive power will receive ORPS payments both in and out of the service period. Non-obligated providers will only be paid during the service period.
- For contract type B - Contract B providers who are obligated to provide reactive power will receive ORPS payments both in and out of the service period, regardless of whether the contract was enacted. Non-obligated providers will only be paid during the service period when the contract has been enacted.
- For contract type C - Contract C providers will only receive utilisation payments for delivery during the service period when the contract has been enacted. Availability payments will be made based on provider capability.

- For contract type D - Contract D providers will only receive activation and utilisation payments during the service period when instructed to deliver the reactive service.

What is the contract length? (last updated: 14 Oct)

The contract is for a 12-month period, running 1st April 2020 23:00 to 1st April 2021 07:00.

What is the payment structure within the contract? (last updated: 14 Oct)

- For contract type A - Providers are paid an availability fee (£/SP), subject to 50% of contracted reactive volume being available. Providers are also paid utilisation at ORPS or equal rate.
- For contract type B - When NGESO enact the contract, providers are paid the difference between the tendered option price and the day ahead dark/spark spread price for the contracted MW position. Providers are also paid ORPS or equal rate.
- For contract type C - Providers are paid an availability fee (£/MVA/SP) for every settlement period during the service period (23:00-07:00) if available. When NGESO enact the contract, providers will also be paid a utilisation fee equal to ORPS.
- For contract type D - When NGESO enact the contract, providers will be paid an activation fee (£/MVA/SP) for every settlement period they are under instruction within the service period. Providers will also be paid a utilisation fee equal to ORPS.

What is the utilisation price? (last updated: 14 Oct)

All providers will be paid the same utilisation rate in £/MVA/Sp. Obligatory Reactive Power Service (ORPS) providers will receive this as ORPS payments, non-obligated will receive utilisation rates equal to ORPS. The ORPS rate is a varying monthly rate, details can be found here: <https://www.nationalgrideso.com/balancing-services/reactive-power-services/obligatory-reactive-power-service-orps?market-information>.

What are the penalties for unavailability? (last updated: 14 Oct)

If the provider is not available they will not get paid, there are no further performance penalties; however the agreements will allow the ESO to terminate the agreements under certain circumstances. Please refer to the Termination Clause.

- For contract type A - If capability is <50% contracted capability providers are considered unavailable.
- For contract type B - If capability is <50% contracted capability providers are considered unavailable.
- For contract type C - If capability is <50% contracted capability providers are considered unavailable.
- For contract type D – Not applicable.

What are the penalties for underperformance? (last updated: 14 Oct)

As above, however if we observe poor performance, the ESO can request a re-proving test.

What agreements do I need to have in place with NGESO? (last updated: 14 Oct)

If you are intending to participate in Contract Type A - BM Firm and Type B - BM Call-off you must have an MSA in place and be signatory to the CUSC. For all contract types you must have the relevant connection agreement in place and in the case of an embedded provider any necessary connection modifications to allow you to operate at the specified power factor.

What contract types can I tender for? (last updated: 14 Oct)

- For contract type A - Providers with an MSA for Reactive Power capability, are CUSC signatories, are Transmission connected and can operate in voltage control mode can tender for contract type A.

- For contract type B - Providers with an MSA for Reactive Power capability and are CUSC signatories can tender for contract type B. Transmission connected will need to operate in voltage control mode, distribution connected will need to operate in power factor control mode.
- For contract type C - Anyone connected at 132kV or below i.e. connected to the distribution network can tender for contract type C. Providers will need to operate in power factor control mode.
- For contract type D – Anyone connected at 132kV or below i.e. connected to the distribution network can tender for contract type D. Providers will need to operate in power factor control mode.

What if I'm available 5 days a week, what contract can I tender for? (last updated: 14 Oct)

As you are not able to guarantee long-term year-round availability, you can only tender for Contract Type B or D. If you are BM participant and Transmission connected, you can tender for Contract Type B. If you are distribution connected, you can tender for Contract Type D.

Assessment

How will I be assessed? (last updated: 14 Oct)

The assessment will calculate the total cost per effective MVar of each contract using the parameters provided and our forecast utilisation to create a price stack. Contracts will then be awarded until our requirement has been fulfilled. We will procure enough additional reactive power to cover outages and unavailability of the largest accepted provider. Due to the granularity of the product this may result in some overholding.

All tenders are compared against the BM counterfactuals although at times there may be no alternative BM actions to take due to generator outages and unavailability. NGENSO is licensed to manage the system in an economic and efficient manner and the cost of the contracts will be compared to the historic cost of managing voltages in the Mersey region and other voltage areas. If the total costs of the contracts required to obtain 200MVars absorption is excessively high compared to these costs, NG may reject tenders with Effective £/MVar costs that show significant deviation from the average accepted tender price. Providers are expected to be price reflective in line with the market. If the lowest cost solution is a combination of options, the ESO will collaborate with SPEN to perform a validation. This is to validate that when all the selected options are working together to provide the reactive power services, no system limits will be exceeded inadvertently as a result. Shall the lowest cost solution prove to cause other system issues, the next-lowest cost solution will be selected instead. This validation step will be repeated until a solution is found to clear the validation process.

What is the counterfactual for the assessment? (last updated: 14 Oct)

All tenders are compared against a BM alternative i.e. the cost of buying on a generator in the BM. Where a BM alternative is not available, we will compare tenders against historic costs for the Mersey region and other regions. If the total cost to procure the full requirement, NGENSO may reject tenders where effective £/MVar differ significantly from the average accepted tender price.

Will I be disadvantaged if I'm an active power generator? (last updated: 14 Oct)

Providers will not be directly disadvantaged in the assessment due to any level of active power generation. However, the active power will be considered during the technical assessments, meaning maximum reactive capability may not be able to be accommodated on the network reducing the reactive volume considered in the assessment. For providers tendering for Contract Type B, cost is based on level of active power output so will therefore be considered in the commercial assessment.

Testing

Will I be subjected to an initial proving test? (last updated: 14 Oct)

Parties with no MSA and are not CUSC signatories will be tested prior to service delivery and the ESO must be satisfied with the outcome before the service commences.

What are the potential consequences from the initial proving test? (last updated: 14 Oct)

Potentially NGENSO may reduce the contracted MVAr capability, or the service will not commence. However, depending on the circumstances we may ask the provider to carry out a further proving test. This will be discussed with ESO and the provider at the time.

Dispatch

How do I declare whether I'm available or not? (last updated: 14 Oct)

- For contract type A - Contract A providers are assumed available unless the provider submits the declaration of unavailability, as soon as they become aware. Providers must submit a redeclaration of availability once they are available again.
- For contract type B - Contract B providers declare their availability via REMIT and TOGA and for the purposes of the contract deemed available. If their reactive capability reduces below the contracted capacity or not available at all, the provider must notify NGENSO as soon as possible using the forms in the contract appendix.
- For contract type C - Contract C providers are assumed available unless the provider submits the declaration of unavailability, as soon as they become aware. Providers must submit the redeclaration of availability once they are available again. The declaration forms are contained within the contract appendices.
- For contract type D – Contract D providers do not need to declare availability. NGENSO will contact the provider to ascertain their availability.

What level of utilisation can I expect? (last updated: 14 Oct)

Based on our studies and historic actions, we expect to have a requirement on ~60% of service periods (23:00-07:00). However, depending on the number of successful providers and the exact requirement on a given night, the level of utilisation per provider will vary.

Settlement

How will my performance be monitored? (last updated: 14 Oct)

We will be monitoring performance using data from EDL/EDT if you are in the BM. If you are not in the BM, data should be provided to the ESO via an IEC104 server, or manually on a monthly basis. The ESO will be using this to monitor performance.

How will I be paid, and how often? (last updated: 14 Oct)

Payment terms are specified in each contract, however you will be paid through the normal monthly settlement process and paid a month in arrears. So for service delivery in April 2020, you will be paid in May 2020 and so forth.

Embedded providers

I'm connected below 33kV, can I participate? (last updated: 14 Oct)

Providers connected below 33kV cannot participate in this tender. One of the minimum criteria for providers to participate in the tender is be connected at 33kV or above. Previous analysis we have carried out suggests that the majority of connections below 33kV will have limited effectiveness at transmission level.

My current connection agreement with the DNO only allows me to operate between 0.95 lead and unity power factor. Can I still participate? (last updated: 14 Oct)

Yes, all providers who can meet the minimum technical requirement will be able to participate in the tender even if there are existing limitations in their connection agreement. Providers who win a contract for operating at a power factor outside their current connection agreement will need to submit a modification notice to the DNO soon after the contract award to change their connection agreement. The DNO will then process the modification notice and approve as appropriate following their standard process. Please note that the DNO will do their best endeavour to process the modification notice as soon as reasonably possible so that providers are available to provide a service from 1 April 2020.

If I need to submit a modification notice to change my Power Factor, will I need to pay the application fee? (last updated: 14 Oct)

As the DNO will carry out an assessment to determine the most optimum power factor for each provider during the technical assessment stage we expect that, for the large majority of cases, the modification application process should be straight forward. However, please note the modification application process may have associated fees.

What happens if my capability is restricted by the DNO during the contract (last updated: 14 Oct)

This would be classified as a Force Majeure event and if the capability is reduced to below 50% of the contracted absorption capacity the provider would be deemed unavailable and receive no payment. Depending on the length of restriction, the ESO may consider Termination rights, however it is expected that we would be discussing this with the provider and trying to agree a way forward.

Do I need to notify the DNO I want to tender / have tendered in? (last updated: 14 Oct)

No. NGENSO will inform the DNO of all potential providers once the tender closes.

What happens if I cannot control my power factor on a regular basis? (last updated: 14 Oct)

The reactive power service is being sought from 23:00-07:00 and distribution-connected providers will have to be in power factor control mode when providing the service during the above time window. Outside this time window, NGENSO will not be paying for the reactive power output and providers may be expected to move to a different power factor depending on the system conditions on the distribution network. If providers are not able to change their power factors on regular basis, please do let us know when filling in the tender proforma.