

Mersey Long Term Reactive Power Services RFI

Q&A Webinar

10:15 – 11:45 on 1 May 2019

Agenda

About the RFI

Latest updates

Frequently asked questions

Q&A



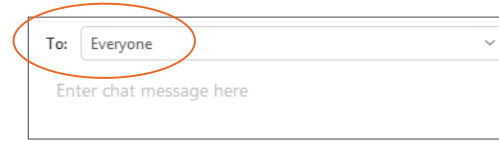
How to ask us a question today?

If you would like to ask us a question today, please use the online chat box.

1. Click on the chat button in Webex  to enable the chat box function

2. Select who you want to share your questions with

- Everyone on the call
- Only the host & presenter

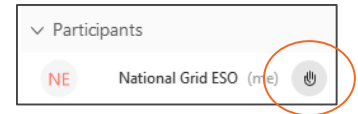


Note: We have representatives from NGET (TO) and SPEN (DNO) on the call and may get them to answer TO/DNO related questions. **If you don't want us to share your questions with them, please let us know when you send the message.**

3. Type your questions and send

You can do this **anytime during the webinar**. We'll try to response towards the end of the webinar.

Your Webex will be set to listen-only mode during the webinar. If you prefer to ask us a question over the phone, please use the “raise hand” function when prompted during the Q&A session so we can unmute your line.



About the RFI



Background

This Request for Information (RFI) is the next step in expanding the process for voltage solutions to include the assessment of market-based options against Network Owner options.

We published the Mersey Long Term Reactive Power Services RFI on 29 March 2019.

We have been running a case study through the ENA Open Networks Project to expand the Network Options Assessment (NOA) approach to consider transmission voltage needs and assess options to meet those needs.

We are focusing on system needs to control high voltage as we have seen an increasing need to absorb MVAr in recent years resulting in increased costs to voltage management overall.

The outcome of the expanded process will be a recommendation of the most economic and efficient whole system solution which should be taken forward.

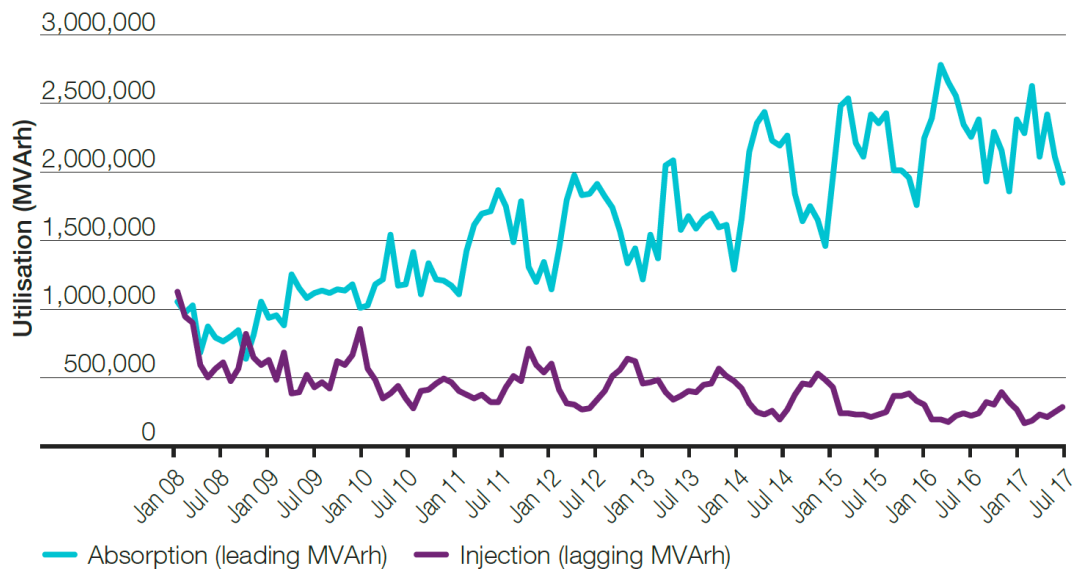
The recommended solution could consist of

- only market-based options
- only Network Owner options
- a mix of market-based and Network Owner options.

For the avoidance of doubt, an outcome could be that we accept no market tender and/or no Network Owner options if none of the options considered in the process provides benefits against forecast Balancing Mechanism (BM) cost to control high voltage.

Balancing cost

Reactive power utilisation (GB transmission network)



- An increased need to absorb more reactive power on the transmission network since 2008
- Caused potentially by a continual decrease in minimum demand and reactive power consumption at Grid Supply Points (GSP)
- Annual spend of reactive power utilisation in 2017/18 circa £93m

New Reactive Power Services

We are looking for Reactive Power Services to help manage high voltages in the Mersey in the longer term.

Providers

- Any providers who can meet the service and technical requirements
 - Providers can offer other balancing services in conjunction with Reactive Power Services, as long as this does not impact the reactive power range contracted
 - Only benefits of the Reactive Power Services to help manage high voltages will be considered. Benefits of additional services provided (if applicable) will not be considered in the assessment.
-

Availability

- Availability payment for Reactive Power capability contracted
 - Procure only Reactive Power – providers are expected to manage any Active Power actions required to achieve the Reactive Power output required
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Utilisation

- Utilisation of Reactive Power paid as per contract structure
 - Reactive Power to be dispatched as required
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Market information for 2021 to 2031

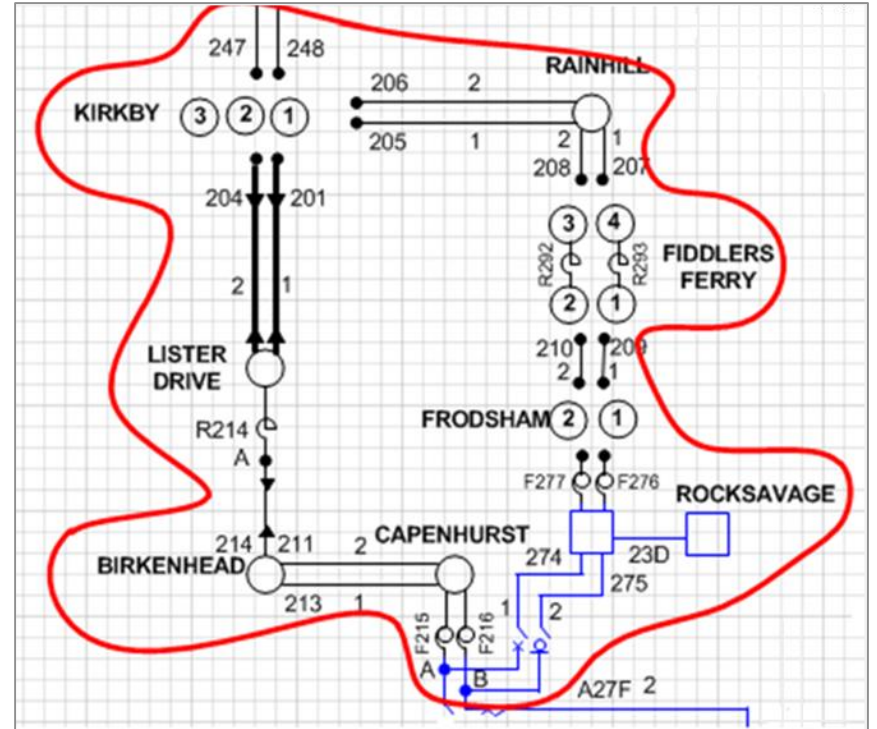
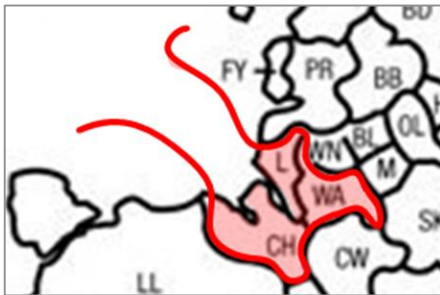
Market-based options will be compared with potential Network Owner options as part of a NOA-style assessment to establish the most economic and efficient solution to meet control requirements for high voltages.

Long-term requirement is sensitive to uncertainty over future assumptions. Based on the high voltage analysis we have carried out, at this point in time we will consider procurement for the following Reactive Power capabilities:

- Procurement options will be considered for **a maximum of 10 years between 2021/22 and 2030/31**.
- We would require availability year-round between 28 March 2021 and 30 March 2031.
- Actual utilisation will vary across the times of day and year and will depend on system conditions.
- **Reactive Power requirement to absorb up to 200MVar**. This is the requirement post the application of any effectiveness assessment and as such this may lead to procurement of volume in excess of 200MVar.
- The reactive requirement is measured from selective sites in the transmission system, and volumes depend on the exact location of the reactive capability required.

Technical requirements - location of services

- Prospective Reactive Power Service Providers must be connected within the red boundary to be considered.
- Where providers are connected at distribution level, you may wish to confirm where you are connected on the transmission network.
- Where postcode and technical drawings differ the technical diagram is seen as the authority.



Technical requirements

Prospective Reactive Power Service Providers must meet the following technical requirements to be considered:

-
- Minimum size**
- Minimum Reactive Power absorption is 15MVar and connected at 33kV or above
 - From a single unit or aggregated from several units

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- Maximum size**
- Maximum size of a solution is restricted by the voltage step change limits
 - Exact size restriction depends on the point of connection

-
- Dispatch**
- Single point of dispatch
 - Capable to respond to dispatch request on instruction
 - Capable to receive instructions 24/7 for the duration of the contract period
 - Reach a target MVar level within two minutes
 - Through NGENSO computer systems
-

Aims

We would like to understand through this RFI:

- The ability of the market to provide alternative options to Network Owner options to meet the identified Reactive Power needs to control high voltage
- The level of interest to provide a Reactive Power service to meet the identified long-term needs
- The likelihood of achieving a more economic and efficient overall solution by considering a wider range of options
- The delivery timescale of market-based options
- The potential framework restrictions

We would also like to seek feedback on:

- Assessment criteria and principles
- Contract options



How to submit information

Deadline for submission of information is 24 May 2019.

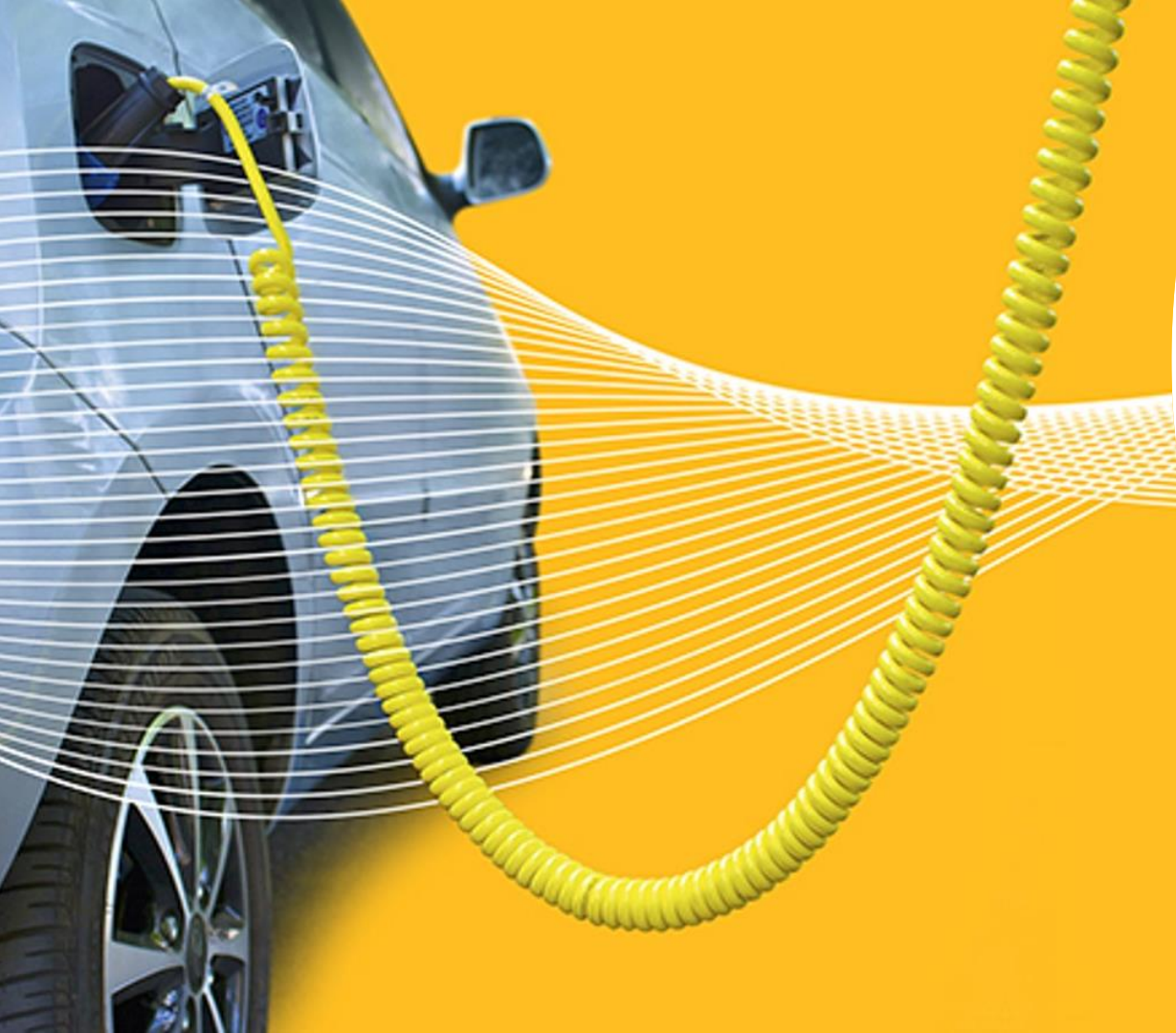
Interested Reactive Power Providers are requested to submit information with an outline of their capability to provide a Reactive Power Service including but not limited to:

- Technical description of the assets
- Reactive Range
- Control mode, if applicable
- Active Power range required to deliver Reactive Power range, if applicable
- Dispatch mechanism
- Date from which Reactive Power range is valid
- Location of asset and connection point
- Contract option preferred
- Duration of contract preferred
- Any other relevant information

We kindly request indicative costs. This is optional.

Please send your responses via email to box.networkdevelopment.roadmap@nationalgrid.com

You can find the Request for Information pack on our [website](#).



Latest updates

Effectiveness

Utilisation

Contract options

Effectiveness

Indicative only

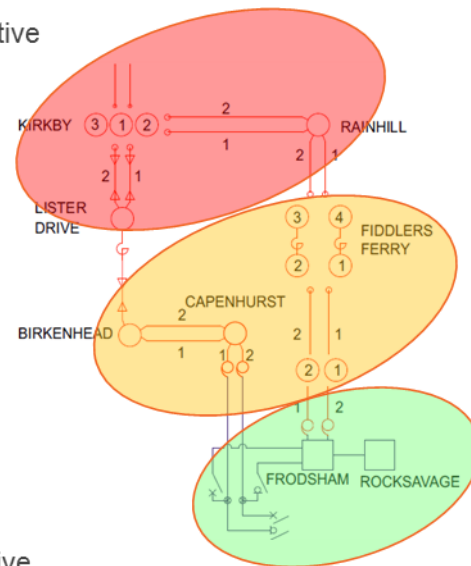
	Effectiveness	Sites covered
400kV	>90%	Frodsham, Rocksavage
275kV	60% - 90%	Birkenhead, Capenhurst, Fiddlers Ferry, Kirkby, Lister Drive, Rainhill
132kV	>30% *	
66kV & 33kV	>20% *	

* Indicative figures based on analysis at selected sites

Least Effective

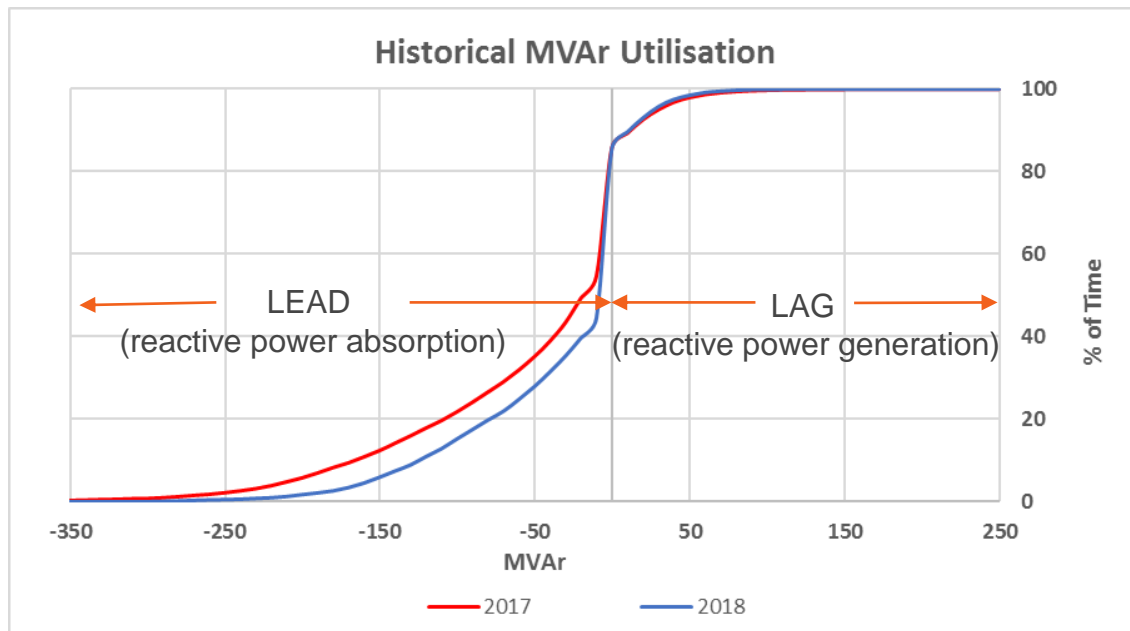


Most Effective



Utilisation

- Based on historical information we have required leading reactive power in the Mersey ring for about 85% of the year.
- Utilisation (lead) in 2017 was 477 GVARh
- Utilisation (lead) in 2018 was 328 GVARh
- Future Utilisation can go up or down, depending on system conditions.



Contract options

2 types of contract structure are proposed in the RFI

	Availability payment	Utilisation payment
Option 1	A fixed fee for being available during the contracted period (£/h)	A variable fee depending on the actual utilisation of the service contracted (£/MVAh) <ul style="list-style-type: none">• paid at Obligatory Reactive Power Service (ORPS) or equivalent rate
Option 2	A fixed fee for being available during the contracted period (£/h)	No payment for utilisation

Duration of contract: 1 to 10 years (up to 2031). We invite views from potential participants on the desired contract length.

Providers do not necessarily need to be available in year 1 (2021). We will also consider solutions whose first year of operation is later than this date, e.g. 2022, 2023, etc.

Contract options – T&C's

- The requirements in the Mersey area are for SQSS compliance. This means that under some conditions we may not be able to take alternative actions in the balancing mechanism to resolve network issues.
- Therefore we propose to include penalty terms for unavailability/non-delivery in any contract to ensure security and operability of the network.
 - We intend to take learning from Black Start and Capacity Market contracts to create appropriate risk sharing between service providers and the ESO.
 - e.g. Tracking progress against milestones for new connections / service delivery, availability below a certain level, etc.
 - We also would like to hear your views on what might be appropriate both in terms of measures and financial penalty.

Frequently asked questions



Frequently asked questions

Q. Are you only looking for services from existing generators?

A. No, we are interested in hearing from both existing generators and new participants. We are interested in services which are available from 2021 and beyond.

Q. Will you consider storage options (e.g. battery)?

A. Yes, we're interested in all types of options/technologies which can meet the technical requirements set out in the RFI.

Q. Is it necessary to have a connection agreement in place before submitting to this RFI / the tender?

A. For participating in this RFI, you do not need a connection agreement in place. We're currently considering the implications of not having a connection agreement in place and if it is practical and feasible to accept it at the tender stage.

Q. Will you also consider the capability provided to generate reactive power?

A. Only the capability provided to absorb reactive power (and its benefits) will be considered in our assessment for this service.

Frequently asked questions

Q. What is the assumption to footroom cost if a provider have to generate at a min. MW level (e.g. SEL) to provide the Reactive Power Service?

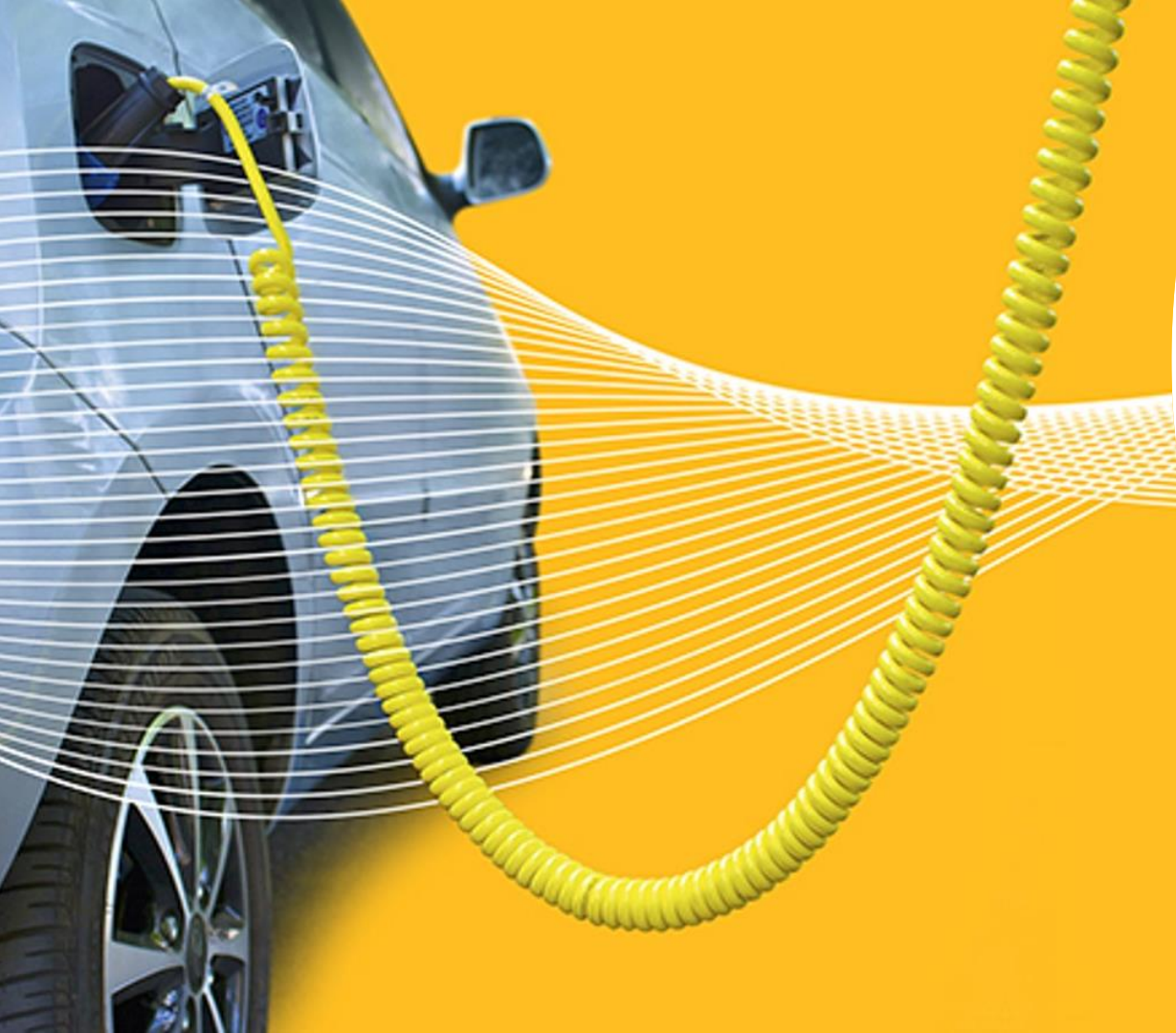
A. We procure only Reactive Power for this service. Providers are expected to manage any Active Power actions required to achieve the Reactive Power output required.

Q. In the assessment principles, the formula in Step 3 suggests that for tender options the cost of connecting any new asset (if applicable) to the electricity system will be counted towards the capital cost. If an option is expected to provide multiple services, how will this cost be allocated to each service?

A. We're considering a generic per MVA_r (£/MVA_r) connection cost to be applied to all tender options which do not currently have a connection. This provides a balance between considering the further potential of any options to provide multiple services and the full costs of each options. We'd like your feedback on this approach as part of the RFI response.

Q. I read about your recently published “Zero carbon operation of the electricity system by 2025”. Will CO₂ reporting be considered in the assessment?

A. No.



Q&A

Timeline

- 29 March 2019 – Mersey Long Term RFI published
- 1 May 2019 – Webinar
- 8 May 2019 – Q&A document published on our [website](#) (update every Wednesday)
- **24 May 2019** – Deadline to submit information for Mersey Long Term RFI
- By 30 June 2019 – Decision on next steps (including decision to tender) published

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Upcoming events

- **NOA methodology consultation (early May and open for six weeks):** The NOA methodology sets out how we assess solutions to identify the most efficient. New this year is our new voltage assessment processes. This sets out how we identify future voltage needs. Solutions for these needs will potentially be sought through commercial tenders.
- **Long Duration Constraint Management webinar (13 May):** This webinar will discuss initial results and future plans from feasibility studies for a potential long duration constraint management product.
- **Commercial Solutions to Network Challenges event (16 May):** Come along and help us develop our processes to enable commercial solutions to compete alongside network asset solutions to address future network development needs. We will be exploring what sort of contract arrangements would interest potential providers, how we communicate future needs and the role new types of solutions can play.
Updated timings: 10am arrival, for 10:30 start. 3pm finish (Faraday House, Warwick Technology Park, CV34 6DA)
- **ESO role in CATO regime (22 May):** We are seeking views on what role the ESO should play in the CATO (Competitively Appointed Transmission Owner) regime in RIIO 2.

nationalgrideso.com

National Grid ESO, Faraday House, Warwick Technology Park,
Gallows Hill, Warwick, CV346DA

nationalgridESO