

# Signposting of distribution system needs

*A consultation on visualisation and data provision*

# Contents

1 Overview .....	3
2 Signposting.....	3
3 Forecasting and Accuracy .....	4
4 Flexibility Process .....	5
5 Representative Signposting Information .....	5
6 Visibility, Compatibility and Simplification .....	6
7 Service Conflict.....	7
8 Network Access.....	7
9 Summary .....	8
10 Responding to this consultation .....	8
11 Next steps .....	8
Appendix A: Signposting information visualisation .....	9
Appendix B: Signposting geographic boundary .....	10
Appendix C: Signposting layout visualisation .....	11
Appendix D: Consultation Response Template .....	12

## 1 Overview

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Western Power Distribution (WPD) is the distribution network operator (DNO) for the Midlands, South West and South Wales. We are responsible for delivering electricity to approximately 7.8 million customers in the UK.

The UK's electricity system is undergoing a rapid period of change as distribution network customers invest in generation and alter their consumption behaviours to affect a lower carbon future. To enable a greater volume of demand, generation and storage to be connected, our networks are becoming smarter and more active. Creating a more efficient and flexible system will benefit all customers and empower them to be at the centre of the energy revolution.

We recognise that the change from a Distribution Network Operator (DNO) to a Distribution System Operator (DSO) is essential to driving performance and efficiency from our network and to ensure it can meet the future energy demands of all our customers. The enhanced capabilities we are developing will also give our customers the freedom to access other opportunities within the developing energy system.

As part of the transition to managing more active networks, we will begin to actively partner with distributed energy resources (DER) to enable them to provide non-build alternatives to solving distribution constraints. Whilst in some circumstances it may be appropriate for flexibility to be a premium option used to mitigate uncertainty, we expect the largest benefits to the whole system to be gained by employing flexibility at lower costs and timescales than traditional reinforcement. In order to deliver this, the market must be aware of potential distribution system needs well ahead of the timescales DSOs anticipate deploying flexibility. This will enable DER providers to manage the stacking of their revenues and any exclusivity arrangements so they can respond quickly and reactively to DSO flexibility tenders.

## 2 Signposting

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Facilitating new neutral markets around flexibility is a key objective in WPD's DSO Strategy. This will require us to provide a greater level of information on the performance characteristics of our network than ever before and in a format which is understandable and transparent. We aim to develop this new style of information presentation through close engagement with our stakeholders. As this signposting activity will inform the market ahead of us requesting tenders for flexibility, the data published must match the purpose that we anticipate it will be used for.

A signpost provides general directions to a number of destinations, though does not describe the exact path in the way a map would. In the same sense, WPD's signposting information will

direct flexibility providers to the different distribution system needs required under a range of scenarios and timings.

Signposting will provide information on WPD's distribution system needs in areas which we expect to become constrained for demand in the near future. We will begin providing this information for our Grid Supply Point and Bulk Supply Points, as these voltage levels require the most costly and time-bound reinforcements. Through this signposting work, we are aiming to describe what generation turn up/demand turn down behaviour we would want (months required, MWs needed, predicted availability windows) and also to try quantify a likely market volume of energy (MWhs per month).

By itself, this information doesn't represent a tender or a request for expressions of interest in providing a services, but it should give an indication to the customer DER market on what WPD's likely requirements are.

Question 1: Does "signposting" adequately describe the information being provided? Is there another term that may be more appropriate?

Question 2: Would signposting of system needs be useful in all areas or just those defined as having near-term reinforcement requirements?

### 3 Forecasting and Accuracy

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Customer provided flexibility can deliver significant benefits to the network by providing a quick and competitive alternative to conventional reinforcement, particularly where there is uncertainty in future demand and generation uptakes. However, due to the uncertainty, it may not be possible to accurately provide a single view of system requirements. For longer term forecasting, we will use a scenario modelling based approach which will provide multiple potential outlooks for system requirements. The methodology used for the scenario modelling will be aligned to our [Strategic Network Investment reports](#), which in itself is based on National Grid's Future Energy Scenario work.

Signposting information will be provided ahead of operational build timescales, so the requirements may be based on long term forecasts and extend many years into the future. As this will not be as accurate as the week-ahead forecasting we'll be using to call off the services, we are keen set the context of how we envisage this information being used. The availability windows for services required should be fairly accurate – the maximum MW sizing and the timings are unlikely to be massively affected by seasonal or short term variations. However the volume of services (MWh per month) will be liable to change, either due to short-term variations or by underlying changes to the network causing those constraints to manifest earlier or later. This could mean that we revise the service volumes within the tender, up or down, compared to the original signposting information.

Question 3: Would signposting long term distribution system needs ahead of service tenders be beneficial?

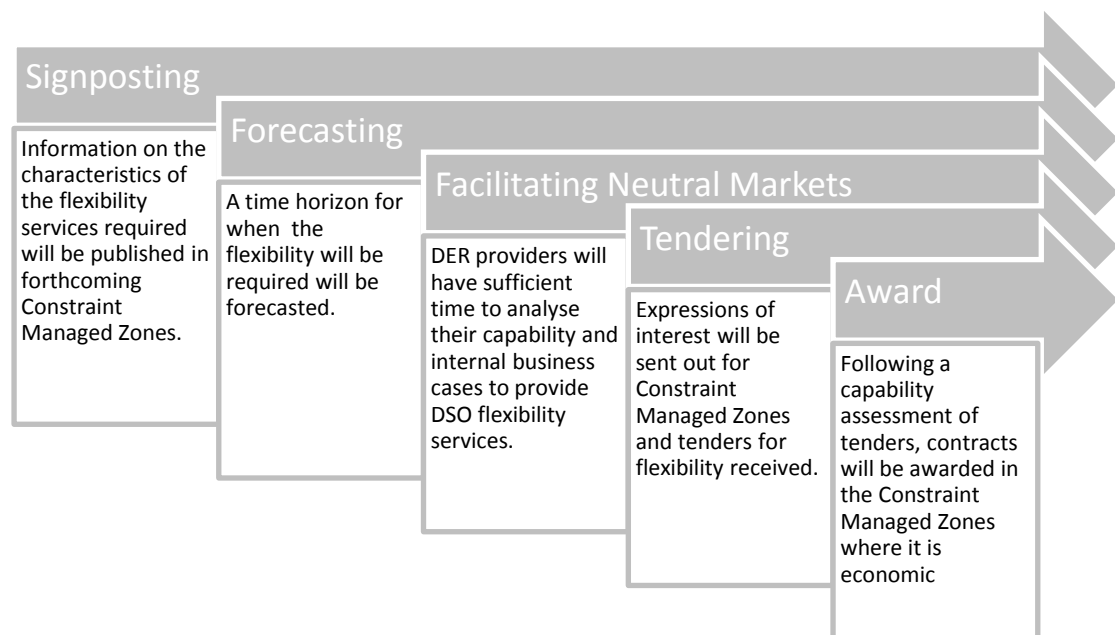
Question 4: Do you agree that using scenario modelling to describe a number of potential outlooks for future system requirements is sensible?

Question 5: What further caveats or explanatory material would be helpful in understanding the level to which the information should be relied upon or the possible risks to investing based upon the information?

Revising these volumes will have an impact on the services required in subsequent years and also the longevity of using flexibility as a solution – i.e. if the constraints become too onerous, conventional reinforcement will become the preferred option, or the constraints may lessen to such a degree that no flexibility is required.

In order to keep the information provided up to date, all signposting information will be refreshed every 6 months, in line with our Long Term Development Statement (LTDS).

## 4 Flexibility Process



## 5 Representative Signposting Information

Appendix A is a sample of the type of signposting information we are looking to provide and in the format we are proposing to publish. We would provide similar information for every zone where we expect the distribution network to become constrained for demand in line

with the growth scenarios studied within our [Strategic Network Investment reports](#). This information would be accompanied by a geographic boundary (Appendix B) where DER needs to be located and an expected season/year when we will require the services. Initially, most of our constraints will be demand-led and we expect the procurement cycle to follow: Signposting in Spring, tenders & contract in Summer, operate in Autumn/Winter. However, where services are required in the Summer, they will follow a different procurement cycle.

Question 6: Is the information provided in Appendix A clear? Is there any further information that would be useful?

Question 7: Could the information be presented in another way which may be more helpful?

Appendix C shows a visualisation of how this may look on WPD's current online Network Capacity Map (<https://www.westernpower.co.uk/Connections/Generation/Network-Capacity-Map.aspx>)

Question 8: Would an interactive mapping tool, similar to WPD's Network Capacity Map, help describe the boundaries where these services are geographically required?

Question 9: Would you use an interactive mapping tool which could show information on signposting as well as the live tenders being run by WPD? Should this tool also make the raw data available?

## 6 Visibility, Compatibility and Simplification

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Transparency of distribution system needs within the WPD licence areas will begin to stimulate a competitive market for our flexibility requirements, but to properly facilitate a neutral market for flexibility services, there needs to be comparable information on other services being procured by System Operators, Aggregators and Suppliers. WPD will be working on increasing the visibility and compatibility of services through [ENA's Open Networks Project](#).

Workstream 1 Product 6 of the Open Networks Project aims to publish regional service requirements for resolving transmission and distribution network constraints. Workstream 2 Product 4 will review how information should be provided to customers on potential flexibility services. A summary of the responses received to this consultation will be shared with the relevant groups to inform both products.

WPD has designed its flexibility products to align with the Reserve products being procured by the National Electricity Transmission System Operator. Expressions of interest sought in the Spring would be for availability/suitability, declared through an online platform which will allow participants to submit their availability schedules. WPD would provide confirmation of actual service requirements in the week ahead, going out to participants at noon on Thursday, for a window of operation from Monday through to Sunday.

Question 10: Would it be desirable to have the system requirements for multiple compatible services simplified into regional system requirements?

Question 11: Would a DSO service such as that presented be stackable with other revenue streams you are likely to pursue?

## 7 Service Conflict

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From speaking to providers of flexibility and reviewing the results of our [consultation](#) on Energy Storage Growth Scenarios and Operating Modes, we understand that the stacking of revenues will play a crucial part in securing the business case for development of flexibility. For any commercial contract WPD offers for a flexibility service, we will not be requesting exclusivity for periods where the service is not required.

Question 12: Do you agree with WPD not imposing exclusivity terms within its flexibility contracts?

Question 13: Are there any other services whose exclusivity may prove a barrier to participation with WPD's services?

## 8 Network Access

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For flexibility to provide benefit to distribution networks, it must be situated within an area of network that is constrained. WPD offers a suite of alternative connection options, which allow connection within constrained networks without triggering conventional network reinforcement options. Flexibility that is dispatched by WPD to manage constraints will not be curtailed if connected under these arrangements, as it will be alleviating the network loadings. Nested constraints under those being managed by the flexibility are unlikely to cause conflicts, but where these arise, they will be co-ordinated by WPD.

## 9 Summary

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We are keen to start facilitating neutral markets around flexibility, particularly at a local level to provide non-network alternative solutions to distribution constraints. By engaging directly with the stakeholders who will be operating in that market, we aim to develop an agreed style of information presentation which would provide sufficient transparency and stimulate wider participation in the provision of flexibility.

## 10 Responding to this consultation

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We want to hear your views on the proposals presented in this consultation. It is important that we get a broad range of stakeholders' opinions and we are keen to get your feedback on the specific questions we have included throughout this consultation.

To assist with your response we have produced a questionnaire with the specific questions from the consultation reproduced in Appendix D.

Responses should be returned by 18<sup>th</sup> May 2018 to:

Network Strategy Team  
Western Power Distribution  
Feeder Road  
Bristol  
BS2 0TB

Or emailed to: [wpdnetworkstrategy@westernpower.co.uk](mailto:wpdnetworkstrategy@westernpower.co.uk)

If you wish for your response or any of its content to remain confidential, please clearly mark it to that effect.

## 11 Next steps

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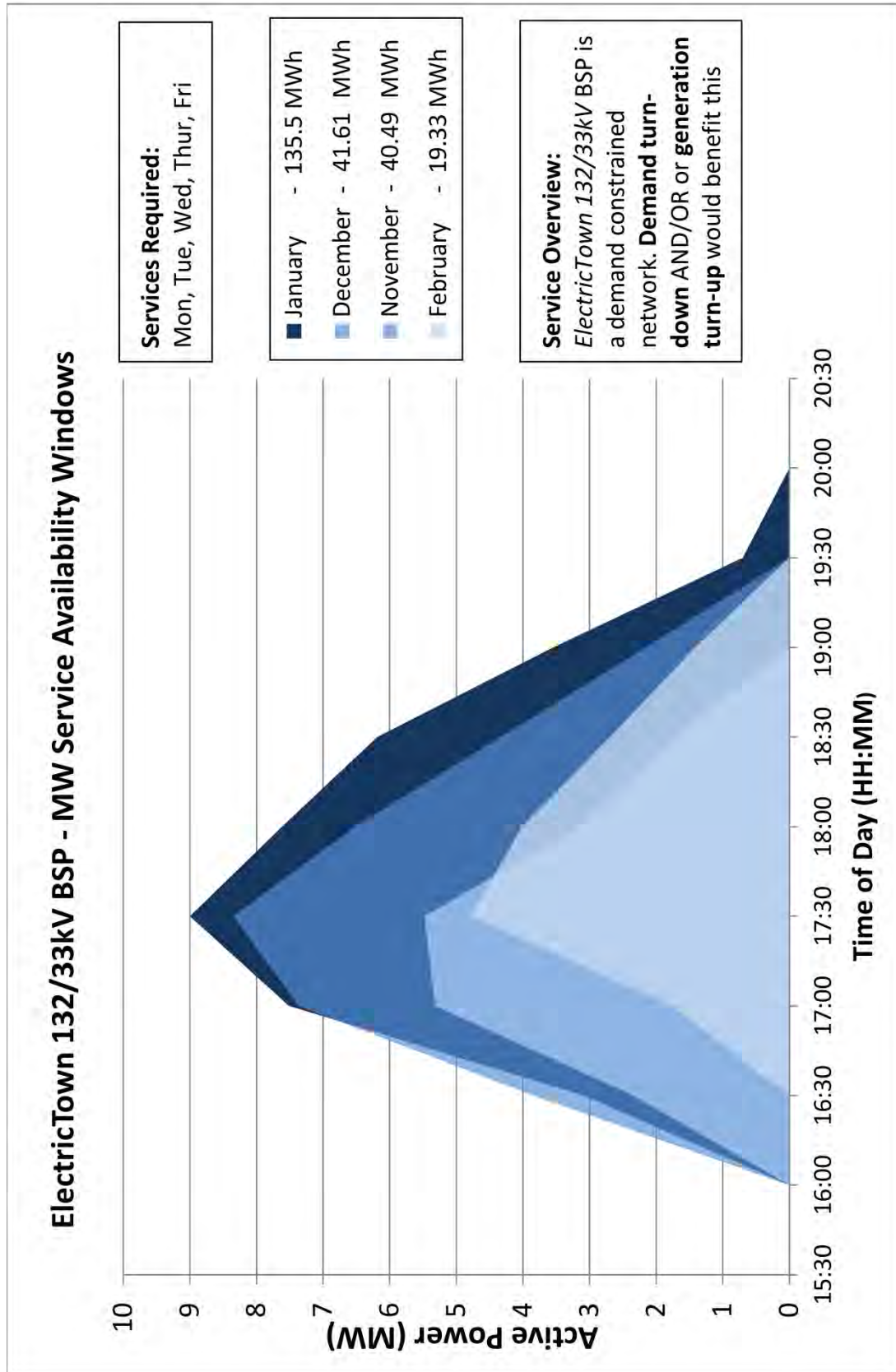
Following review of the responses to this consultation we will begin to publish signposting information in an agreed format across all four WPD regions from June 2018. Areas of our network with flexibility requirements that are currently being procured will also be published on our main website and expressions of interest will be handled through our Flexible Power brand.



[www.flexiblepower.co.uk](http://www.flexiblepower.co.uk)



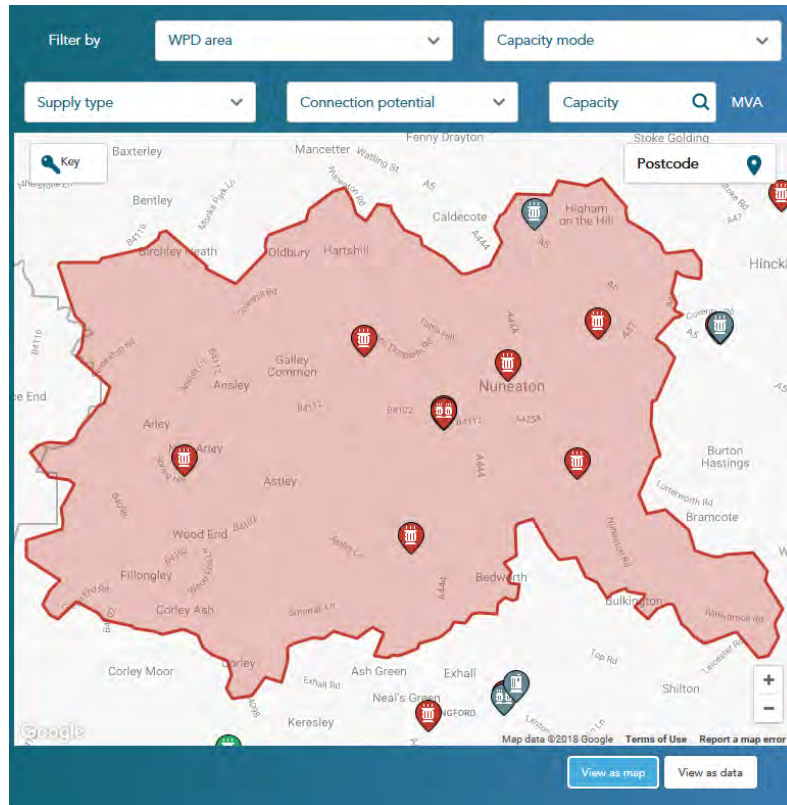
## Appendix A: Signposting information visualisation



## Appendix B: Signposting geographic boundary

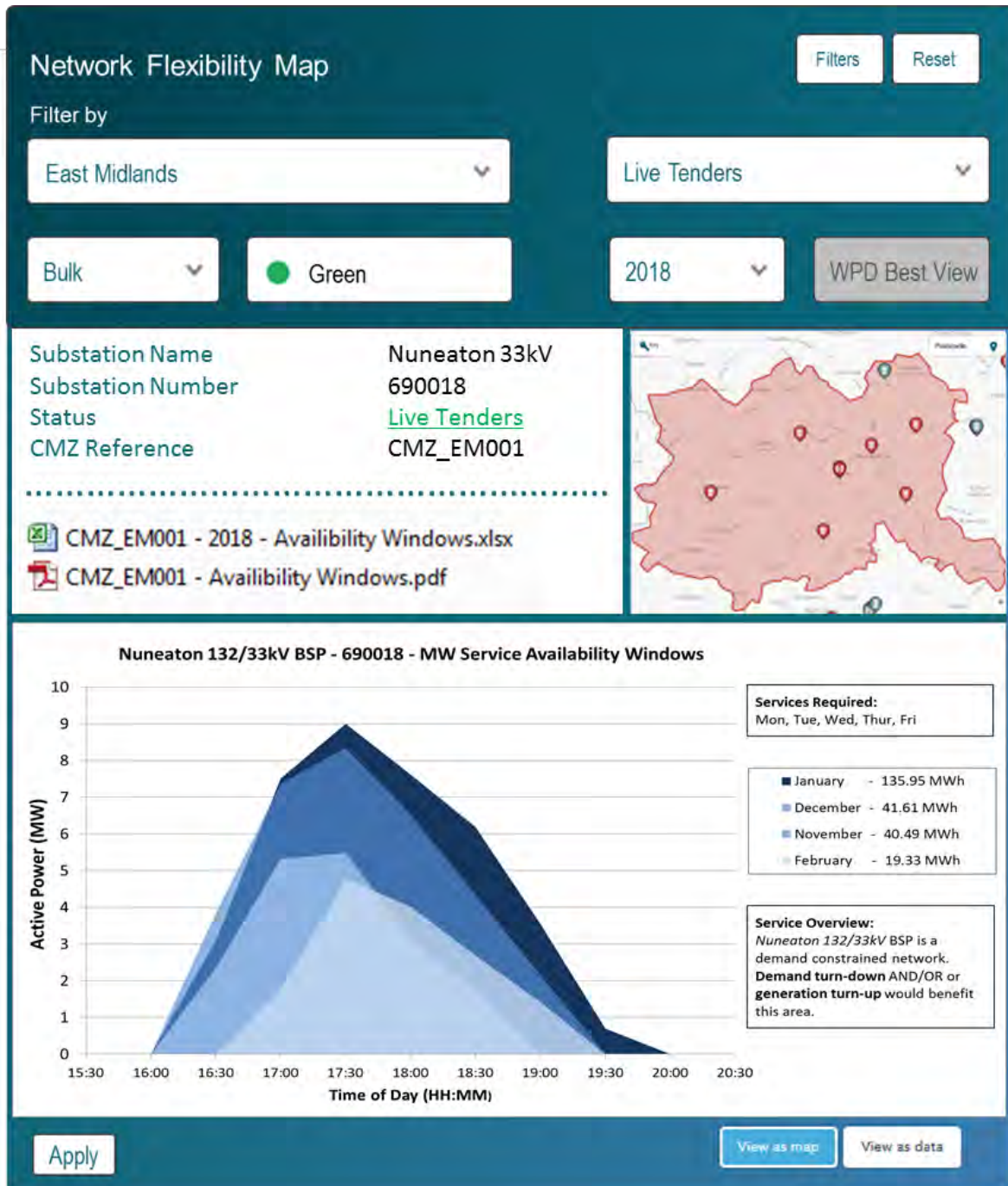
Example geographic boundary of area where flexibility would be required, as used in WPD's Network Capacity Map

(<https://www.westernpower.co.uk/Connections/Generation/Network-Capacity-Map.aspx>)



## Appendix C: Signposting layout visualisation

A visualisation of how this information may be presented on WPD's online Network Capacity Map.



## Appendix D: Consultation Response Template

Please provide your responses in the template set out below. A standalone editable version of this template is available on our website and upon request.

Please indicate the type of stakeholder you represent

1.Domestic customer (or representative)	<input type="checkbox"/>	7. Community energy scheme	<input type="checkbox"/>
2.Business customer (or representative)	<input type="checkbox"/>	8.Consultant	<input type="checkbox"/>
3.Local authority / council officer	<input type="checkbox"/>	9.Energy / utility company	<input type="checkbox"/>
4.Parish councillor	<input type="checkbox"/>	10.Regulator / government	<input type="checkbox"/>
5.Developer / connections representative	<input type="checkbox"/>	11.Academic / education institute	<input type="checkbox"/>
6.Distributed Generation developer	<input type="checkbox"/>	12.Other	<input type="checkbox"/>

### Signposting of distribution system needs: A consultation on visualisation and data provision

Question	Response
<b>Question 1: Does “signposting” adequately describe the information being provided? Is there another term that may be more appropriate?</b>	
<b>Question 2: Would signposting of system needs be useful in all areas or just those defined as having near-term reinforcement requirements?</b>	
<b>Question 3: Would signposting long term distribution system needs ahead of service tenders be beneficial?</b>	
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<p><b>describe a number of potential outlooks for future system requirements is sensible?</b></p>	
<p><b>Question 5: What further caveats or explanatory material would be helpful in understanding the level to which the information should be relied upon or the possible risks to investing based upon the information?</b></p>	
<p><b>Question 6: Is the information provided in Appendix A clear? Is there any further information that would be useful?</b></p>	
<p><b>Question 7: Could the information be presented in another way which may be more helpful?</b></p>	
<p><b>Question 8: Would the overlay with WPD's Network Capacity Map boundaries be sufficient to understand where these services are geographically required?</b></p>	
<p><b>Question 9: Would you use an interactive mapping tool which could show information on signposting as well as the live tenders being run by WPD? Should this tool also make the raw data available?</b></p>	
<p><b>Question 10: Would it be desirable to have the system requirements for multiple compatible services simplified into regional system requirements?</b></p>	

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<p><b>Question 12: Do you agree with WPD not imposing exclusivity terms within its flexibility contracts?</b></p>	
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