

SP Energy Networks

Future Networks

04 / December / 2020

FUSION Flexibility Services Requisition for Leuchars V1.5

FSR – Leuchars

1. Flexibility Services Requisition for Leuchars

Overview

The Flexibility Services Requisition (FSR) articulates the service requirements for Leuchars trials in 2021 (see Appendix 1) and has been developed to ensure trials occur during normal business hours. The learnings developed from these initial trials will inform subsequent FSR's in later years of FUSION which will provide a greater understanding of the application of the Universal Smart Energy Framework (USEF) to the use of flexible assets in delivering network services.

USEF Compliance

All participants¹ must be USEF compliant² as FUSION will use USEF protocols for the delivery of flexibility in the initial trials.

The following documents define what is required for USEF compliance in Project FUSION:

- [Specification of communication protocols between market participants](#)
- [Compliance to the USEF Flexibility Trading Protocol \(UFTP\) version 1.01](#)

Any costs that you would incur in responding to the needs of this FSR (e.g. UFTP development costs) may be reflected in your pricing schedule when you come to respond to the Invitation to Tender (ITT)³. The following study provides an indication of the scale of costs aggregators might anticipate for implementing USEF.

- [Quantification of market participant costs for Implementing USEF Interface compatibility](#)

Location of Flexibility

All flexible units, including distributed energy resources (DERs) and flexible assets, must be located within the areas normally supplied by Leuchars primary substation as indicated in Table 1.

¹Participants can be an individual entity or a consortium.

²Participants are not required to be currently USEF compliant provided full compliance can be demonstrated prior to the commencement of the earliest contracted availability period.

³ An 'ITT response proforma' is included within the ITT pack issued in Dec 2020. Respondents will be invited to populate this with any costs they would like to include.



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Table 1: Post Codes applicable for providing flexibility for the Leuchars trials

Post codes served by the Leuchars Primary Substation								
KY16 0AA	KY16 0EN	KY16 0HA	KY16 0HQ	KY16 0JE	KY16 0JT	KY16 0LJ	KY16 0UN	KY16 9SQ
KY16 0DP	KY16 0EP	KY16 0HB	KY16 0HR	KY16 0JF	KY16 0JU	KY16 0LQ	KY16 0UP	VKY00728
KY16 0DR	KY16 0ER	KY16 0HD	KY16 0HS	KY16 0JG	KY16 0JW	KY16 0LR	KY16 0UQ	
KY16 0DU	KY16 0ES	KY16 0HE	KY16 0HT	KY16 0JH	KY16 0JY	KY16 0UA	KY16 0UZ	
KY16 0DX	KY16 0ET	KY16 0HF	KY16 0HU	KY16 0JJ	KY16 0JZ	KY16 0UE	KY16 0XA	
KY16 0EE	KY16 0EU	KY16 0HG	KY16 0HW	KY16 0JL	KY16 0LA	KY16 0UF	KY16 0XB	
KY16 0EF	KY16 0EW	KY16 0HH	KY16 0HZ	KY16 0JN	KY16 0LB	KY16 0UG	KY16 0XD	
KY16 0EG	KY16 0EX	KY16 0HL	KY16 0JA	KY16 0JP	KY16 0LF	KY16 0UH	KY16 0XE	
KY16 0EJ	KY16 0EY	KY16 0HN	KY16 0JB	KY16 0JQ	KY16 0LG	KY16 0UJ	KY16 0XF	
KY16 0EL	KY16 0EZ	KY16 0HP	KY16 0JD	KY16 0JR	KY16 0LH	KY16 0UL	KY16 0XJ	

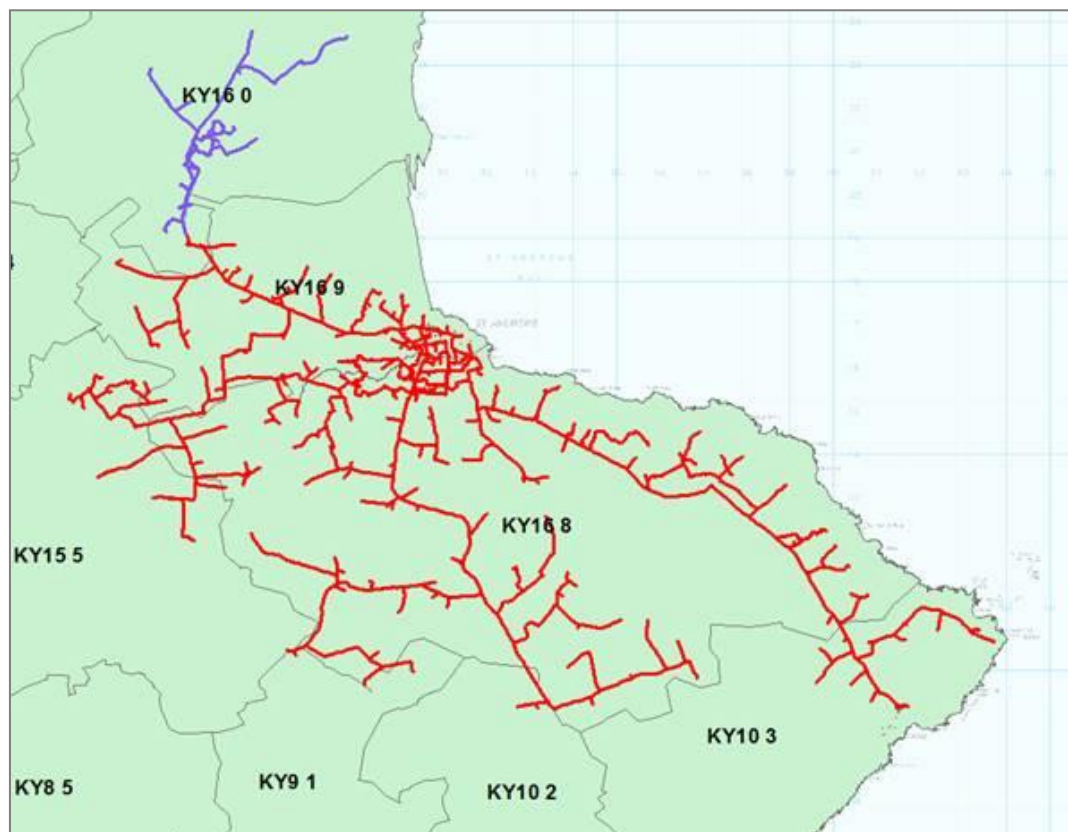


Figure 1: Leuchars network shown in purple.



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Appendix 1 Leuchars 2021 Flexibility Services Requisition (FSR)

Table 2: Flexibility Service Requisition – Flexibility availability required during the Leuchars trials

Ref	Year	Response Type (+ is increase demand or export; - is opposite)				Period	Service Window	Days	Service Type	Maximum Response Time	Minimum Run Time (mins)	Maximum Run Time (mins)	Recovery Time *	Ramp Down Time *	Ramp Up Time *	Estimated Runs (No.)
		Demand (kW)	Gen. (kW)	Demand (kVAr)	Gen. (kVAr)											
1	2021	-250	250	N/A	N/A	Oct - Dec	09:00 – 10:30 11:00 – 13:00 15:00 – 17:00	Mon - Fri	Sustain Peak Management	17 hrs	15	60	30	30	30	12
2	2021	-250	250	N/A	N/A	Jul – Sep	09:00 – 10:30 11:00 – 13:00 15:00 – 17:00	Mon – Fri	Sustain Peak Management	17 hrs	15	60	30	30	30	8
3	2021	-250	250	N/A	N/A	Oct - Dec	14:00 - 16:00	Mon – Fri	Secure DSO Constraint Management (Pre-Fault)	30 mins	15	60	30	30	30	12
4	2021	-250	250	N/A	N/A	Jul - Sep	14:00 - 16:00	Mon – Fri	Secure DSO Constraint Management (Pre-Fault)	30 mins	15	60	30	30	30	8
5	2021	-250	250	N/A	N/A	Jun - Dec	14:00 - 16:00	Mon – Fri	Dynamic DSO Constraint Management (Post-Fault)	15 mins *	15	60	30	30	15	20

* Can be reviewed subject to asset / DER capabilities

Table 2 Identifies the total flexibility requirements for the Leuchars initial trials;

- Participants shall use the 'ITT response proforma' to indicate the extent to which they can provide all the above services and their technical specification.
- The service(s) should be delivered from flexible units located within one or more of the postcodes described in section 1.
- The capacities reflected in this FSR have been deliberately kept low to minimise the impact of these trials on the network. (Subsequent flexibility tenders in the FUSION project are expected to procure greater capacities of availability in the same trial area).
- The minimum total aggregate capacity of a group of assets that can qualify for bidding is 1kW.
- The capacity that is called upon to be 'utilized' in any given event may be lower than the total amount of 'availability' procured under this 'availability' contract.
- A summary overview of the service descriptions is provided in Appendix 3 of this document.
- Exact characteristics of these services will be defined in schedule 1 of the Flexibility Services Agreement (FSA) which is scheduled for signing by no later than Feb 2021. A template FSA is available on the Project FUSION website and is also included in the ITT pack.



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Appendix 2 – Summary of Pre-Trial Tests

Table 3: Flexibility Service Requisition – Pre-trial tests during FUSION

Ref	Year	Response Type (+ is increase demand or export; - is opposite)				Period	Service Window	Days	Service Type	Duration (mins)	Indicative Test Windows
		Demand (kW)	Generation (kW)	Demand (kVAr)	Generation (kVAr)						
T1	2021	-250	250	N/A	N/A	–Feb - May	09:00 - 17:00	Mon - Fri	Sustain Peak Management	30	09:30 – 11:30 12:00 – 14:00 14:30 – 16:00
T2	2021	-250	250	N/A	N/A	Feb - May	09:00 - 17:00	Mon - Fri	Secure DSO Constraint Management (Pre-Fault)	30	09:30 – 11:30 12:00 – 14:00 14:30 – 16:00
T3	2021	-250	250	N/A	N/A	Feb - May	09:00 - 17:00	Mon - Fri	Dynamic DSO Constraint Management (post-fault)	30	09:30 – 11:30 12:00 – 14:00 14:30 – 16:00

Table 3 indicates suggested utilisation windows to consider for pre-trial testing of end-to-end service delivery.

Pre-trial testing is intended to allow flexibility service providers the opportunity to test the various elements of their service delivery process prior to the commencement of their contracted availability period.

The successful delivery of the contracted availability sought in Table 2, will rely upon tenderers having successfully integrated various constituent elements of the service delivery chain. These necessary elements will include (but not necessarily be limited to) the tenderer:

1. Enabling any necessary flexible **assets in the field** (including the installation of any necessary controls etc and conclusion of necessary contracts with customers)
2. Enabling their **own platform** so that it complies with the [UFTP communications specification](#).
3. **Integrating** their own platform with SP Energy Networks 'FUSION Flexibility Procurement' (FFP) platform (to allow for demonstrative end-to-end delivery of flexibility ahead of commencement of contracted availability period).

The objective of this pre-trial testing window is to allow for successful tenderers to conclude and demonstrate the successful implementation of these necessary elements prior to the commencement of contracted availability period.

The exact timing and nature of the tests would depend on the readiness of the elements and/or interactions being tested.

A suggested approach is provided below for indicative purposes only;

- Feb - Apr: Develop and test communications and processes only; no delivery of flexibility is expected during this time period;
- Apr - May: Integrate platforms and hardware and test various aspects of the service delivery in order to demonstrate full end-to-end readiness in advance of the commencement of the contracted availability period.

Table 3 is not prescriptive. It is intended simply to suggest indicative test windows for your consideration.

There will no availability payment for any of the pre-trial tests shown in Table 3 but SPEN agrees to pay a nominal utilisation fee, the value of which is yet to be determined at SPEN's sole discretion.



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Appendix 3 – FUSION Service Descriptions

Table 4: Service descriptions

Service to be Trialled	Summary of Service
Sustain Peak Management	A service to provide the DSO with a planned reduction in demand or increase in generation in advance of a forecast capacity constraint at peak time, e.g. to reduce the loading on a transformer during tea-time peak.
Secure DSO Constraint Management (pre-fault)	A service to provide the DSO with an immediate reduction in demand or increase in generation during a planned outage of one or more critical assets or in the event of network disturbances to maintain security standards and avoid any customer minutes lost.
Dynamic DSO Constraint Management (post-fault)	A service to provide the DSO with an immediate reduction in demand or increase in generation following an unplanned outage of one or more critical assets to maintain security standards and avoid any customer minutes lost.

