SSEN DISTRIBUTION FLEXIBILITY SERVICES

C31E Procurement Report (2022-2023)

Version 1.0, 26/04/2023

Scottish & Southern Electricity Networks

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EXECUTIVE SUMMARY

Scottish and Southern Electricity Networks (SSEN) Distribution is committed to delivering a safe, reliable supply of electricity to homes and businesses through infrastructure that aligns with UK and Scottish Governments' net zero commitments.

The use of flexibility services allows us to reduce our reliance on and improve delivery efficiency of costly reinforcement, particularly where the need for capacity is urgent, transitory, or uncertain, and to reduce our reliance on carbon-intensive generation to ensure security of supply during planned or unplanned outages.

In 2022/23, SSEN Distribution utilised 354 MWh of flexibility, and tendered for 54 MW of flexibility capacity across both our licence areas (Scottish Hydro Electric Power Distribution plc and Southern Electric Power Distribution plc), with six contracts awarded or due to be awarded soon across fifteen new zones and one existing zone.

The focus of procurement activity was for Secure services in our South licence area, where forecasts showed a risk of overload should peak load occur at the same time as planned or unplanned outages. The tender had a good response, with sufficient capacity contracted to defer the need for reinforcement. Operational testing of Secure processes began in April 2023 - the first time SSEN has used load forecasting to request availability and instruct utilisation of flexibility. SSEN has also adopted the Flexible Power system, developed and operated in partnership with three other DNOs, to manage dispatch and settlement for those providers integrating via API.

We are working with a broad representative stakeholder community to ensure we deliver the necessary frameworks that facilitate and grow flexibility services. We recognise that key to procurement success is ensuring that service providers are able and motivated to participate, and for us, this means making sure our processes are clear and straightforward, and giving the market as much certainty around requirements as possible.

1.INTRODUCTION

SSEN Distribution was the first UK Distribution Network Operator (DNO) to introduce flexibility services, realising significant benefits over the years whilst continuing to innovate and build the capability to scale operations significantly in the future.

We have historically made most use of flexibility services from low carbon assets as an alternative to diesel generation for maintaining the supply of electricity during planned or unplanned outages. In the past year, the main area of development has been services used to defer and potentially avoid the need for network reinforcement; the first Sustain service was used successfully to manage an area of over-generation, and new scheduled Secure services have been tendered in areas of high electricity usage, with contracts due to be awarded soon.

Across our two licensed network areas, Scottish Hydro Electric Power Distribution plc (SHEPD) in the north of Scotland and Southern Electric Power Distribution plc (SEPD) in southern England, SSEN Distribution identifies potential opportunities for the use of flexibility services by identifying areas of the network where forecasts show potential constraints. We call these Constraint Managed Zones (CMZs) or simply zones.

When a tender for flexibility services is announced, the zones and the requirements are published on our SSEN Distribution webpages and the Flexible Power website.[1]

The Electricity Network Association (ENA), in particular the Open Networks project, play an important role in the collaboration effort needed to deliver the frameworks necessary to promote and support flexibility services. It does this by bringing together industry participants across the UK to share best practice and develop consistent definitions and processes where this is beneficial. SSEN Distribution is a very active participant in this project, leading the way on several initiatives and market trials.

The purpose of this report is to provide an update to our stakeholders and interested parties on our procurement of flexibility services for the period 1 April 2022 to 31 March 2023. Specifically, it details the services that we have tendered for, contracted and dispatched over the year against the forecast view set out in our 2022/23 Flexibility Services Procurement Statement, published in March 2022. By publishing this looking-back report each year, we can track and capture our progress and developments, share what has worked well and where further improvements are warranted, and provide information on the processes and methodology followed.

Data tables pertaining to the services tendered for, contracted and dispatched in 2022/23 can be found here. We have also published the following reports that further support the work we are doing to increase the use of flexibility services to efficiently manage our network and achieve wider objectives to deliver net zero through a co-ordinated and economical distribution system:

- Our 2023/24 Flexibility Services Procurement Statement, which sets out our latest forecasts for Flexibility Services procurement for the year commencing 1 April 2023;
- Our Long-Term Network Development Statement (or LTDS), which sets out our network plans for next five year period;
- Our Network Development Plans (NDP) build upon the LTDS to set out our longer-term network plans and indicate potential areas of network constraint and opportunity for Flexibility Service providers over the long term horizon.

1 https://www.flexiblepower.co.uk/locations/scottish-and-southern-electricity-networks

SSEN Distribution is always keen to receive feedback from stakeholders on this report, on the things that work well as well as anything that could be improved in future years. Contact details are provided at the end of this report.

1.1 Year Highlights

- 354 MWh of Flexibility utilisation.
- Relaunch of the Dynamic Purchasing System (DPS)[2] with a greatly simplified commercial and technical pre-qualification. As well as being easier for providers, this gives us insight into market capacity/capability which feeds into planning and strategy.
- Increased engagement with stakeholders, in particular one-to-one meetings with potential providers.
- £500 bonus scheme for pre-qualifications on the DPS, to encourage greater take-up.
- Increased focus on identifying and procuring flexibility to defer or avoid reinforcement, with a good response to the Secure services tender.
- Adoption of Open Networks carbon reporting recommendations for flexibility services.
- Operational onboarding to Flexible Power.
- Progress on the HomeFlex project with the Association of Decentralised Energy (ADE), establishing a code of conduct for flex providers contracting with domestic customers.

1.2 Key Issues / Focus Areas

We continue to seek feedback from all stakeholders on areas that work well and those where further improvements could help to drive increased engagement and participation from both existing and potential future providers of flexibility services.

The key issues for 2022/23 are set out below, along with the steps we are taking to address these.

1. We continue to receive lower than expected numbers of provider registrations and pre-qualifications on the DPS, despite widespread promotion and a £500 bonus scheme in 2022. The inference is that many potential providers do not perceive a benefit of pre-qualification unless there is an upcoming tender. There is a similar challenge with securing contracts which are needed “just in case” of planned or unplanned outages, We have however seen greater participation with pre-tender webinars and are now collecting engagement data, such as how companies learned of tenders, in order to improve engagement further.

   To increase rates of pre-qualification (among other benefits) we are working towards establishing framework agreements under which procurement can take place closer to real time, whilst maintaining compliance with the Utilities Contracts Regulations (UCR). This is anticipated to involve a simplified online service/asset registration platform and framework agreement signup, and integration with a market platform for closer to real time procurement.

2 Scottish and Southern Electricity Networks – Dynamic Purchasing System for Constraint Managed Zones (delta-esourcing.com)

2. We have legacy contracts and manual operating processes that, whilst delivering value, create challenges with moving towards standardised industry processes and automation platforms such as Flexible Power.

   To address this, hybrid processes and agreements are being introduced that are designed to support the gradual move from manual working to digital platforms.

For more details on SSEN Distribution's plans for Flexibility Services procurement year 2023/24, please refer to the latest Procurement Statement, which can be found on the SSEN Distribution website Flexibility Services Document Library.

1.3 Services Summary

SSEN Distribution currently procures four active power services: Sustain, Secure, Dynamic and Restore. These services align with the Open Networks Service Definitions.

	Pre-Fault	Post fault
Utilisation Payments	**Sustain** Defer/avoid reinforcement by peak lopping at times of high forecast load under normal running conditions.	**Restore** Required to support restoration activities following an unplanned power outage.
Availability and Utilisation Payments	**Secure** Defer/avoid reinforcement by peak lopping at times of high forecast load under First Circuit Outage conditions. OR Alternative to network reconfiguration/generators for planned works.	**Dynamic** Support for network restoration in cases of secondary faults occurring during planned works.

Fig 1: Standard Flexibility Services

2.FLEXIBILITY PROCUREMENT AND USAGE

2.1 Summary

The majority of our flexibility services procurement in 2022/2023 were for services to defer or avoid the need for reinforcement. This reflects the change in strategy to focus on services which have a greater likelihood of being used and therefore are of more interest to providers.

Measure	Value	Supporting narrative

Total new capacity contracted in reporting year (MW)	75.5 MW	Most of this capacity is for Secure services in the south of England.
Total dispatch in reporting year (MWh)	354 MWh	Mainly Sustain generation curtailment.
Needs not met in reporting year (MW)	16.3 MW	Shortfall based on max bid capacity and max required capacity over term of contract.
Projected Service Procurement as per 2022 Procurement Statement	16	Total number of services projected to be tendered, excluding those on the “may retender” list.
Tendered Services	19	Total number of services tendered. The difference from the projected number above was the tender for Islay which was on the “may retender” list.
Services Procured	19	Newly (or soon to be) contracted services.
Procurement Success Rate	69%	Contracted capacity / Required capacity.

Table 1: Procurement and Usage Summary

2.2 Services Tendered & Contracted

The following table summarises the number of flexibility services tendered and procured across both our licence areas in 2022/23.

Service	Forecast number of services according to our 2022/2023 Flexibility Services Statement	Number of services tendered	Number of services contracted
Sustain	0	0	0
Secure	16	17	17
Dynamic	0	1	1
Restore	0	1	1

Table 2: Tendered and contracted services compared with 2022/2023 Procurement Statement.

2.3 SHEPD Region Tenders

In our Scottish Hydro Electric Power Distribution plc (SHEPD) licence area, one zone was re-tendered, due to the expiry of an existing contract. A number of other existing zones were listed in the 2022/2023 Procurement Statement as potential zones for re-tendering, however further analysis revealed no requirement for these.

Service & Description	Zones	Postcodes (3 digit)
Secure, Dynamic & Restore Generation turn up or demand turn down flexibility is required in this area to support planned network outages or faults.	Islay	PA60

Table 3: SHEPD Services tendered by zone and postcode

The service requirements for the SHEPD distribution licence area were advertised through the following tenders:

Tender Ref.	Description	Services	Tender open dates
Flexibility Services - SHEPD Islay - 2022	Uncapped generation turn up and/or demand turn down flexibility, to support planned outages.	Secure, Dynamic, Restore	27/09/22 to 11/10/22

Table 4: SHEPD Tenders

Geographical Areas

The map below shows all the zones signposted and tendered in our north of Scotland licence area in 2022/23.

Figure 2: SHEPD zones advertised

2.4 SEPD Region Tenders

In our Southern Electric Power Distribution plc (SEPD) licence area, all new zones listed in SSEN Distribution's 2022 Procurement Statement were put out to tender.

Service & Description	Zones	Postcodes (Sector Level)
Secure Generation Turn Up and/or demand turn down flexibility is required in these areas to manage demand constraint in N-1 conditions	Alderton	GL8, SN14, SN16, GL9
	Alresford	GU34, SO24, SO21, GU32, SO32
	Amesbury	SP3, BA12, SP5, SP4, SP2, SP1, SP6, BH21, BA9, BA8, DT9, SP8, SP7, DT10, DT11
	Ashling Road	PO18, GU31, GU28, PO19, PO10, PO20
	Ashton Park	BA14
	Denham	HP7, HP8, HP6, WD3, SL9, HP9, UB9, SL3, UB8, SL0, SL2, HA6
	Egham	SL4, TW20, TW18, GU25, SL5
	Faringdon	SN7, SN6, OX12
	Fulscot	OX11, OX10, RG8, RG20
	Goring	RG8
	Harvard Lane	W4, W3, TW8
	Oxford	OX1, OX4, OX2, OX13, OX14
	Stokenchurch	OX49, HP14, OX39, RG9
	Upton	SL1, SL4, SL2, SL0, SL3, SL95, TW19, UB7
	Yeovil	BA10, BA7, BA22, BA21, TA11, BA9, DT9, BA8, BA20, DT2, DT10, DT11
	Yetminster	DT9, BA22, DT2, DT8, DT6, DT3

Table 5: SEPD Services tendered by zone and postcode

The service requirements for our SEPD distribution licence area were advertised through the following tenders:

Tender Ref.	Description	Services	Tender open dates
Flexibility Services - SEPD 16 Zones - Multisite 2022	Demand turn down and/or generation turn up flexibility is required in this area.	Secure	29/08/2022 to 27/09/2022

Table 6: SEPD Tenders

Geographical Areas

The map below shows all the zones signposted and tendered in our southern England licence area in 2022/23.

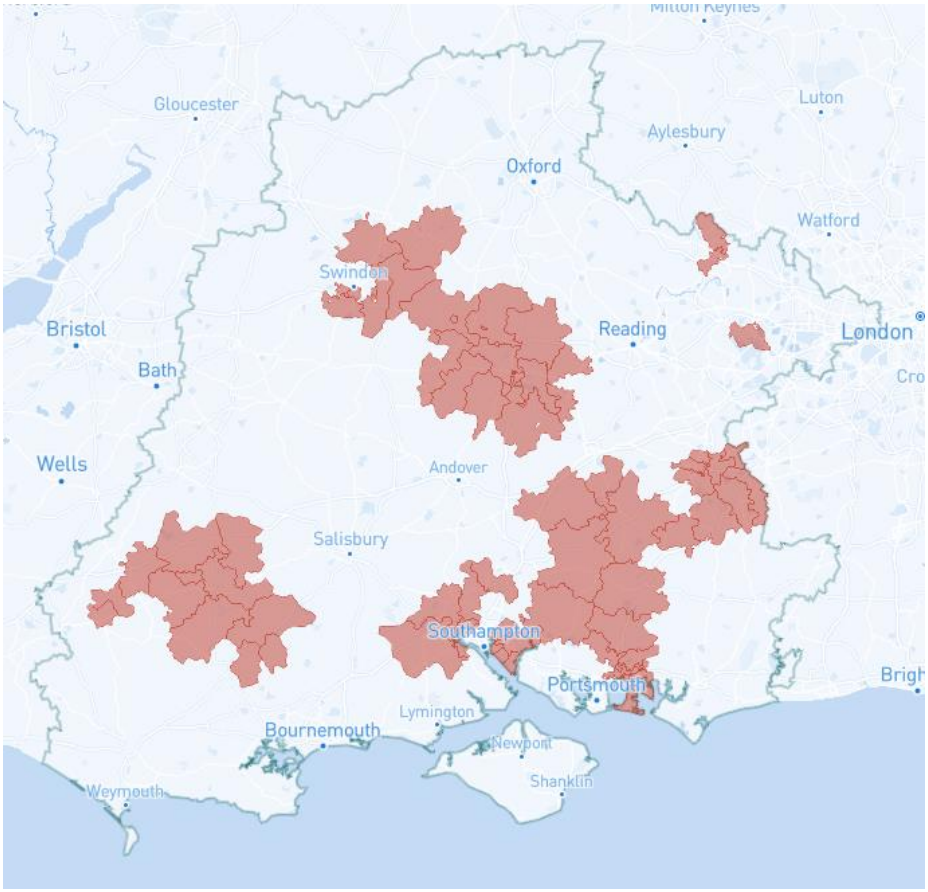

Figure 3: SEPD zones advertised.

2.5 Needs Not Met

Following the shift in focus to procuring forecast-led services, our metric for measuring procurement success is now the ratio of contracted capacity to tendered capacity. Taking the capacity bid in each zone against the advertised maximum requirement, the total shortfall was 16.26 MW against a requirement of 51.93 MW, giving an overall success rate of 69%. The picture per zone is more complicated, with the capacity bid significantly exceeding the requirement in a few zones. This over-subscription gives us more options when making dispatch decisions, however it is not considered relevant to the success rate measure.

2.6 Details of Service Usage

In 2022/23, SSEN Distribution utilised 354 MWh of Flexibility, all in the SHEPD licence area. More details on the services dispatched can be found on the supporting data spreadsheet here.

Sustain (Forecast Led) Services

In 2022/23 we instructed our first Sustain service to manage a constraint caused by over-generation in our SHEPD licence area. Under this contract, generator export is limited during summer months when demand is lowest and there is a risk of overload at maximum generation. The utilisation of this service in 2022/23 (based on average historical output) was 312 MWh.

Secure (Outage Led) Services

Secure services were used in support of planned outages in the following zones:

- Islay
- Kimelford

2.7 Procurement Timetable

SSEN Distribution do not currently follow a fixed procurement timetable. The timing of tenders is dependent on the output of the SSEN's neutral investment process to assess the technical and commercial viability of flexibility options. Internal process alignment and organisational changes have been established to accommodate a fixed timetable starting in 2023.

The dates of the 2022/23 tenders are shown in Figure 3 below. The dates of each tender were published in advance on SSEN's website and on the ENA Precedent timeline.

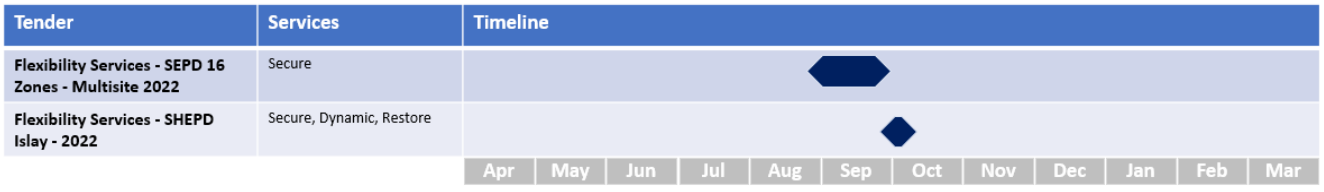

Figure 4: 2022 Procurement

3.STAKEHOLDER ENGAGEMENT

3.1 Market Engagement ahead of Tenders

At SSEN Distribution, we recognise the importance of engaging with the market and helping ensure all providers that wish to participate are able to do so. Key to this is making the processes around procurement as streamlined as possible, whilst adhering to Utilities Contracts Regulations, but also ensuring that providers have the information and motivation necessary to participate.

Before any large tender, we seek to engage all interested parties that own, operate or aggregate Distributed Energy Resources (DER) to raise awareness of the opportunities. In 2022/23 we also held an engagement session to share ED2 plans and encourage all potential providers to register and pre-qualify on the Dynamic Procurement System (DPS).

Main engagements and channels for 2022/23:

- Call for Registrations webinar (14th July 2022)
- South of England Tender webinar (10th August 2022)
- Engagement events were advertised through the following social media channels: LinkedIn, Facebook, Twitter, Instagram.
- General information on flexibility services shared with local authorities and community energy groups at regional capacity webinars.
- Tenders and requirements were shared on SSEN's website and the Flexible Power website.

We welcome questions and feedback from providers and contact details are provided at the end of this report.

We encourage any business who might be interested in providing flexibility service to SSEN Distribution to register and complete initial pre-qualification on the DPS (https://ssen.delta-esourcing.com/).

Only pre-qualified providers may participate in tenders.

Service Dates and Times

For Sustain and Secure service tenders, indicative service windows and seasons are provided through the relevant webinar and published on the Flexible Power map ahead of the tendering stage. The following service windows were published in 2022/23:

Zones	Season	Service Windows
Alderton	Winter/Spring/Autumn	17:30 - 20:00
Alresford	Winter/Spring/Autumn	17:00- 18:00
Amesbury	Spring/Summer/Autumn	07:00 - 19:30
Ashling Road	Winter/Spring/Autumn	07:30 - 08:30, 16:00 - 22:00

Ashton Park	Winter/Spring/Autumn	15:30 - 22:00
Denham	Spring/Autumn	17:00 - 21:00
Egham	Winter/Spring/Autumn	17:00 - 20:30
Faringdon	Winter/Spring/Autumn	15:00 - 22:00
Fulscot	Winter/Spring/Autumn	17:00 - 19:00
Goring	Winter/Spring/Autumn	16:30 - 21:00
Harvard Lane	Winter/Spring/Autumn	16:30 - 22:00
Oxford	Spring/Autumn	16:30 - 20:00
Stokenchurch	Winter/Spring/Autumn	07:30 - 08:30, 15:00 - 22:00
Upton	Winter/Spring/Autumn	14:30 - 22:00
Yeovil	Winter/Spring/Autumn	17:00 - 18:30
Yetminster	Winter/Spring/Autumn	07:30 - 08:30, 16:00 - 19:30

Table 7: Flexibility Services - SEPD 16 Zones - Multisite 2022 Service Windows

Service windows are usually not known at the time of tender where contracts are needed for planned or unplanned outages.

How Information was Conveyed

Information and specific requirements were conveyed to providers in the following ways;

Procurement Stage	Information Conveyed	Timescales	Audience	Format and location.
Pre-Qualification	• DPS (Procurement Process) Guidance. • Flexibility Introductory Guide. • Prequalification Evaluation Criteria. • Sample Contract. • DER Form (asset registration).	Periodically updated, not linked to specific tender.	Potential providers and other interested parties.	Documents published online (SSEN website).
	Pre-qualification questions and Standard contract terms and conditions.	Periodic update, not linked to specific tender.	Potential Providers.	Document published on DPS.

Signposting/Pre-Tender Stage	Tender Dates.	At least 1 month before tender.	Potential providers.	SSEN, Flexible Power and ENA websites.
	Constraint zone geographical areas.		Potential providers.	Interactive map (SSEN and Flexible Power websites).
	Service requirements per zone.		Potential providers.	Interactive map (Flexible Power website).
Regulated Tender Stage	• Invitation to Tender (ITT) questions. • Instructions to potential providers. • Tender evaluation criteria. • Bid Form.	Duration depends on scale and complexity of tender.	Pre-qualified providers.	Documents shared via DPS.

Table 8: Information shared by procurement stage

3.2 Stakeholder Feedback

Pre-tender webinars, meetings with providers and operational feedback are the main channels for flexibility services stakeholder feedback. In 2022/23 the feedback and resulting actions were as follows:

Feedback	Action
Some of the industry standard contract terms and conditions are not appropriate for aggregated domestic demand side response.	Feedback from providers passed to Open Networks WS1A – P4 for consideration in v2.1 and v3 of the standard agreement.
The effort involved in entering into long term, pre-priced contracts for services that may never be used is a barrier for some providers.	In common with other DNOs, we are making plans to move towards framework agreements and closer to real-time contract call off.
Preparation of manual performance reports in spreadsheets is time consuming.	We have now launched Flexible Power and are making plans to develop it further to support providers who are not able or willing to integrate via API.

Table 9: Stakeholder Feedback

3.3 Co-ordination with other DNOs and ESO

SSEN Distribution actively participates in the ENA's Open Networks programme, through which UK operators share best practice and collaborate on shared initiatives. Workstream 1A of the ENA's Open Networks project focuses on Flexibility Services and the key products 2022/23 were:

- Product 2: Evolution towards closer to real-time procurement. Based on the recommendation of this workstream we have gone a good way towards aligning technical and commercial pre-qualification questions.
- Product 4: Deliver version 2.1 of the industry standard Flexibility Service Agreement (FSA). This included some changes based on feedback from demand side aggregators.
- Product 6: Alignment of Flexibility Service parameters between DNOs.

SSEN Distribution are also a member of the Flexible Power collaboration. This group of four DNOs (NGED, SSEN, NPG and SPEN) are developing a set of software tools for managing availability, dispatch and performance reporting, which providers and DNOs can access via a web portal and API. In the past year, the collaboration group has delivered a number of new features including:

- Improved, integrated API documentation.
- Support for nominated baselines (static and timeseries).
- Multiple dispatch events per day and overnight events.
- E-mail daily utilisation schedules.

Finally, SSEN Distribution is working closely with the ESO on potential Regional Development Programmes (RDPs) as part of the Whole Electricity Joint Forum, which is made up of DNOs, Transmission Operators (TOs) and the ESO. A RDP is a project or study that looks at the electricity network across Great Britain. They identify areas of development between transmission and distribution networks in areas with large amounts of distributed energy resources (DERs). RDPs are designed to unlock additional network capacity, reduce constraints, and open new revenue streams for market participants. They aim to introduce new ways of working that significantly enhance transmission and distribution systems' coordination and control, and they provide new tools and resources to manage system constraints – ultimately reducing costs for consumers. They 'design by doing', creating whole system efficiencies as quickly as possible.

3.4 How to sign up for future engagement events.

If you would like to receive information about future stakeholder engagement events, please email stakeholder.engagement@sse.com. Stakeholders can also view and register for engagement events at https://ssen.engage-360.co.uk/

We encourage any business who might be interested in providing flexibility service to SSEN Distribution to register and complete initial pre-qualification on the DPS (https://ssen.delta-esourcing.com/).

Only pre-qualified providers may participate in tenders.

4.ECONOMIC VIABILITY

4.1 Requirements and Benefits Analysis

Our approach to establishing a requirement and assessing the economic benefit of using Flexibility Services varies depending on the type of service:

- **Sustain and Secure**: Flexibility used to defer or avoid reinforcement costs. The ENA defined Common Evaluation Methodology is used to establish optimum deferral period based on the Net Present Value (NPV) of deferred cashflows.
- **Secure (Outage Led), Dynamic and Restore**: Flexibility used as an alternative to mobile diesel generation or use of SSEN owned generators (on Scottish Islands). A cost comparison is carried out based on a range of potential availability/utilisation scenarios.

Sustain & Secure Services

SSEN Distribution has developed a neutral investment process to give technical and economic assurance for our decision making between flexibility services or invest in network reinforcement. The process starts with traditional systems planning identification of possible future constraints, based on annually updated DFES demand and generation forecasts. The constraint is assessed in detail to determine if Flexibility Services could be used to manage it, and then service windows, capacity and utilisation are forecast. An initial cost benefit analysis and market evaluation is carried out to determine which schemes should progress to tender and the prices at which they represent value for money.

In 2022/23, a number of opportunities were assessed with the following outcomes:

Candidate Zone	Licence Area	Neutral Investment Outcome
DUNVEGAN	SHEPD	Flexibility not cost-effective.
GISLA	SHEPD	Flexibility not cost-effective.
INSCH	SHEPD	Flexibility not cost-effective.
NEW PITSLIGO	SHEPD	Flexibility not technically viable.
TIRORAN BRIDGE	SHEPD	Flexibility not technically viable.
KEITH	SHEPD	Assessment deferred.
PORT ANN	SHEPD	Assessment deferred.
DRUMRUNIE	SHEPD	Flexibility not technically viable.
ABERNETHY	SHEPD	Assessment deferred.
SCORRADALE	SHEPD	Assessment deferred.
HALKIRK	SHEPD	Assessment deferred.
TRESSADY	SHEPD	Assessment deferred.

INVERBROOM	SHEPD	Assessment deferred.
YEOVIL	SEPD	Flexibility technically and commercially viable.
ASHLING ROAD	SEPD	Flexibility technically and commercially viable.
HARVARD LANE	SEPD	Flexibility technically and commercially viable.
STOKENCHURCH	SEPD	Flexibility technically and commercially viable.
EGHAM	SEPD	Flexibility technically and commercially viable.
ASHTON PARK	SEPD	Flexibility technically and commercially viable.
FULSCOT	SEPD	Flexibility technically and commercially viable.
NETLEY COMMON	SEPD	Flexibility not technically viable.
AMESBURY	SEPD	Flexibility technically and commercially viable.
UPTON	SEPD	Flexibility technically and commercially viable.
DENHAM	SEPD	Flexibility technically and commercially viable.
YETMINSTER	SEPD	Flexibility technically and commercially viable.
OXFORD	SEPD	Flexibility technically and commercially viable.
ALRESFORD	SEPD	Flexibility technically and commercially viable.
GORING	SEPD	Flexibility technically and commercially viable.
BEMERTON	SEPD	Assessment deferred.
WIMBORNE	SEPD	Assessment deferred.
WAREHAM	SEPD	Assessment deferred.
CALNE	SEPD	Assessment deferred.
ALDERTON	SEPD	Flexibility technically and commercially viable.
BRUTON	SEPD	Assessment deferred.
FARINGDON	SEPD	Flexibility technically and commercially viable.
YATTENDON	SEPD	Flexibility technically and commercially viable.

Table 10: Neutral Investment Assessment Outcome

Cost benefit evaluation is carried out using the Common Evaluation Methodology (CEM) tool. This spreadsheet, developed collaboratively through the ENA's Open Networks project, determines the optimum reinforcement deferral period based on maximizing positive NPV of deferral.

Secure (Outage led), Dynamic and Restore Services

Where services are procured to support planned work on our network, requirements are identified through a review of projects where planned outages are involved, or where there is potential for single circuit risk while works are being undertaken. For these sites, restoration plans are analysed to identify areas that might experience outages in the event of a secondary fault and therefore might require Mobile Diesel Generation (MDG) to restore or maintain supplies.

For Secure and Dynamic services, availability and utilisation prices are agreed at the point of contract. However, the capacity required and availability windows are determined closer to the point of need, and the economic viability of using Flexibility is also assessed at that point. To avoid entering into uneconomic contracts, bids are assessed using a set of potential usage scenarios and the estimated costs of traditional alternatives.

Restore utilisation prices are also agreed at the point of contract. Should faults occur, our control rooms determine if the use of flexibility is economically viable when compared with alternatives.

More information on the methodology followed to ensure economic viability can be found via the following links:

- 2022/2023 Flexibility Procurement Statement
- ENA Common Evaluation Methodology v2.0 (energynetworks.org)

4.2 Price Evaluation

As part of the tender evaluation process, SSEN Distribution scores providers per zone and service based on quality and price criteria, with a minimum score required to be awarded a contract. Details of the scoring mechanism are included with each invitation to tender.

Prices are scored relative to other bidders for the same zone and service, following a “pay as bid” principle. When there is only one bidder, relative scoring is not possible which could result in contracts being awarded that are not cost effective.

To avoid this, in the past year we have introduced ceiling prices for tenders in zones where there may be insufficient competition to result in competitive bids. Where services are needed to defer or avoid reinforcement, the ceiling prices are validated using the CEM tool.

For contracts awarded where there is no ceiling price, economic viability assessment is carried out close to the point of need. For example, the decision whether to use a Dynamic service to support planned work involves using the same methodology used to decide whether to use mobile diesel generation, by weighting the potential financial exposure under our loss of supply incentives (Customer Interruptions and Customer Minutes Lost incentives) against the risk of a power outage. Mobile or embedded diesel generation may be chosen over Flexibility Services if it is cheaper or has technical capabilities that is better suited to the situation.

The outcome of all tenders is published within 30 days of contract award and can be found here.

4.3 Market Assessment

In previous years there was little insight into the providers, capacity and capability that exists in our licence areas. In the past year we have increased our engagement with providers and have begun to build a simple asset register using data from pre-qualification. This has already enabled improved decision making when assessing potential new zones.

Provider Participation in other Markets

At SSEN Distribution we do not prevent providers from offering similar services to other operators, or from stacking revenues, providing it does not conflict with the provision of services to SSEN Distribution. No actions are taken that might assist or hinder providers from competing in other markets, nor is any advice given to providers about their obligations under other contracts.

4.4 Cost Benefits

In 2022/2023, £90.7k was spent on flexibility service payments, with a net benefit of £20.1k.

Service	Payments	Alternate Provision Cost	Annual proportion of deferral NPV	Deferred Capital Expenditure	Benefit
Secure	£6.3k	£17.0k	N/A	N/A	£10.7k
Sustain	£84.4k	N/A	£9.4k	£1,800.0k	£9.4k*

Table 11: Cost benefits

*For the sustain scheme, the alternative would have been costly reinforcement which might have only been needed until demand growth materializes. The decision on reinforcement has been deferred through the use of flexibility, so the saving per year reported here is the NPV of deferral divided over the years of the contract (the cost of the service was factored into the original NPV calculation). In terms of annual capital expenditure, the reinforcement costs avoided in 2022/23 amount to an estimated £1.8M.

5.CARBON REPORTING

5.1 Quantitative Carbon Assessment & Methodology

Carbon impact of using Flexibility Services is now calculated following the recommendations of ENA's Open Networks Carbon Reporting Methodology v1.2 published in Nov 2022. The methodology does not include counterfactual or relative emissions calculations, however where specific diesel generation has been avoided we have included this as a consequential carbon saving.

In 2022/23, the majority of utilisation was windfarm generation turn down, which is calculated as generation offset to the grid at the standard Grid Intensity CO2 factor. The Grid Intensity factor used is the average of consumption long-run marginal emission factors, taken from government green book data tables[3], giving a conversion factor of 0.2597 tCO2e/MWh.

Where services were used as an alternative to local diesel generation, the consequential carbon impact has been based on the reduced diesel burn, instead of a reduction in generic grid generation. The diesel fuel emission factor used is 0.25321 tCO_2e/MWh (gross calorific value for 100% mineral diesel) and plant efficiency of 36%, as taken from BEIS/Defra Conversion factors[4] and BEIS Electricity Generation Costs respectively[5].

SSEN Distribution will continue to contribute to the Ofgem & BEIS initiative to achieve common methodologies for carbon reporting and monitoring across DNOs, via Open Networks' carbon reporting workstream.

LC31 Technology Category	Requested Energy (MWh)	Delivered Energy (MWh)	Direct Carbon Impact (kgCO2e)	Consequential Carbon Impact (kgCO2e)
Wind	n/a	312	0	81,030
Waste Water (flowing water or head of water)	44	44	0	-30,970
			Net CO2	50,060

Table 12: Carbon Impact

3 https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal
4 Greenhouse gas reporting: conversion factors 2021 - GOV.UK (www.gov.uk)
5 https://www.gov.uk/government/publications/beis-electricity-generation-costs-2020

6.APPENDIX: SUPPLEMENTARY INFORMATION

6.1 Useful links to additional information

Name	Description	Link
DPS (Delta-esourcing)	Dynamic Procurement System, used for pre-qualification and tendering.	https://ssen.delta-esourcing.com/
Flexible Power Website	Service documentation, Interactive map of zones being tendered, requirements, and tender open/close status.	https://www.flexiblepower.co.uk/locations/scottish-and-southern-electricity-networks
SSEN Website	Information on Flexibility Services and links to documentation including procurement statement, service documentation, zone map and tender results.	https://www.ssen.co.uk/our-services/flexible-solutions/flexibility-services/
ENA Open Networks Workstream 1A website	Information on the Open Networks Flexibility Services workstream.	https://www.energynetworks.org/creating-tomorrows-networks/open-networks/flexibility-services
National Grid ESO Website	National Grid ESO and distributed network operators (DNOs) are working with stakeholders across Great Britain through Regional Development Programmes (RDPs).	https://www.nationalgrideso.com/research-publications/regional-development-programmes
Carbon Reporting Methodology v1.2	Proposed reporting methodology for DSOs.	https://www.energynetworks.org/industry-hub/resource-library/on22-ws1a-p7-carbon-reporting-methodology-(17-nov-2022).pdf

Table 13: Useful links

CONTACTS

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