














Part A: Generic

DCUSA Change Proposal (DCP)		At what stage is this document in the process?
<h1>DCP 348</h1> <h2>DNO charging for installing capacity management and communications equipment to enable Flexibility in Connections</h2> <p><i>28th June 2019</i></p> <p><i>Proposer Name: Tim Hughes</i></p> <p><i>Company Name: Western Power Distribution</i></p> <p><i>Company Category: DNO</i></p>		<p>01 – Change Proposal</p> <p>02 – Consultation</p> <p>03 – Change Report</p> <p>04 – Change Declaration</p>
<p>Purpose of Change Proposal:</p> <p>The intent of this change is to develop a transparent and consistent approach across all DNOs for charging for flexible connections.</p>		
	<p>Governance:</p> <p>The Proposer recommends that this Change Proposal should be:</p> <ul style="list-style-type: none"> • Part 1 Matter • Treated as a Standard Change • Proceed to Working Group <p>The Panel will consider the proposer’s recommendation and determine the appropriate route.</p>	
	<p>Impacted Parties:</p> <p>DCUSA parties: Generators, Suppliers, DNOs and IDNOs</p> <p>Others: Distribution network connected customers utilising Flexibility.</p>	
	<p>Impacted Clauses:</p> <p>Section 1 of Schedule 22 of DCUSA – The Common Connection Charging Methodology</p>	

Contents		?	Any questions?
1	Summary	3	Code Administrator Hollie Nicholls
2	Governance	6	
3	Why Change?	6	
4	Solution and Legal Text	8	 dcusa@electralink.co.uk
5	Code Specific Matters	11	.uk
6	Relevant Objectives	12	
7	Impacts & Other Considerations	14	0207 432 3000
8	Recommendations	15	Proposer: Tim Hughes
Indicative Timeline			 thughes@westernpower.co.uk
The Secretariat recommends the following timetable:			 0117 933 2148
Initial Assessment Report	17 July 2019		Other: Insert name
Consultation Issued to Industry Participants	16 October 2019		 email address.
Change Report Approved by Panel	18 December 2019		 telephone
Change Report issued for Voting	20 December 2019		Other: Insert name
Party Voting Closes	10 January 2020		 email address.
Change Declaration Issued to Parties	14 January 2020		 telephone
Change Declaration Issued to Authority	14 January 2020		Other: Insert name
Authority Decision	18 February 2020		 email address.
			 telephone

1 Summary

What?

Background

In its launch of the Access and Forward-Looking Charging Significant Code Review (the “Access SCR”) and wider decision letter dated 18th December 2018, Ofgem outlined the following as part of the scope of the Industry-led Access Rights Allocation Working Group (the “ARAWG”):

“As proposed in our consultation, we confirm that the review will not take forward consideration of the use of auctions at this stage for the allocation of access rights. Instead, we believe that the Electricity System Operator and network companies should lead on reviewing incremental improvements to the allocation of access rights (e.g. better management of connection queues, allowing generation who have non-firm connections to trade with others to reduce the extent they are curtailed, and enabling the exchange of access rights between users). We think this will have benefits in supporting more efficient allocation of access and in revealing the value of increased network capacity.”

The following Products have been identified for delivery by the ARAWG:

1. Trading of Non-firm distributed generation curtailment obligations
2. The exchange of access rights between users
3. Queue Management
4. DNO charging for installing capacity management and communications equipment to enable Flexibility in Connections

These Products are set out under the ENA’s Project Initiation Document:

<http://www.chargingfutures.com/media/1327/non-scr-industry-led-access-pid-v11-final.pdf>

The ARAWG reports to the ENA Open Networks Project and provides regular progress updates to the Access SCR Delivery Group and Challenge Group.

DNO charging for installing capacity management and communications equipment to enable Flexibility in Connections

Product 4 concerns charging for flexible connections. Ofgem has stated that it views flexible connections as a key component to reducing barriers to market entry for new participants. The Product 4 objective is to develop a consistent approach across all GB DNOs for charging network users the costs associated with flexible schemes, which includes Active Network Management (ANM).

ANM is a defined term within the ENA’s Open Networks Terms and Definitions Document:

[http://www.energynetworks.org/assets/files/180723%20ON-PRJ-WS2%20-%20P3%20Terms%20and%20Definitions%20V1.1%20\(published\).pdf](http://www.energynetworks.org/assets/files/180723%20ON-PRJ-WS2%20-%20P3%20Terms%20and%20Definitions%20V1.1%20(published).pdf)

and is replicated below:

“Active Network Management is the use of distributed control system to continually monitor network limits, along with systems that provide signals to DER (Distributed Energy Resources) to modify outputs in line with these limits.”

The ARAWG considered the principles for charging for system management equipment could apply across a broad spectrum of connection types and the use of the term ‘Flexible Connections’ was more appropriate than ‘ANM’. As a consequence this Change Proposal and the associated proposed change to the Common Connection Charging Methodology (“CCCM”) utilises these terms.

The term ‘Flexible Connections’ is defined within the ENA’s Open Networks Terms and Definitions document. These definitions are replicated below:

“Flexible Connections are connection arrangements whereby a customer’s export or import is managed (often through real-time control) based upon contracted and agreed principles of availability of capacity. Timed Connections and connections utilising Active Network Management arrangements are examples of Flexible Connections

Occasionally, Flexible Connections are also referred to as Managed Connections.

The need for network access to be managed, may arise through capacity limitations which are local or remote from the Connection Point. For example, a Flexible Connection might comprise a Firm local connection, but with a constraint being present deeper in the network. Flexible connections are offered to customers so that Reinforcement can be avoided or deferred.”

The ARAWG considers that consistency of approach across all DNOs can best be provided through the publication of information within each DNO’s CCCM showing how costs associated with Flexible Connections will be recovered.

Why?

This change should be made to provide network users who require a flexible connection with greater certainty and understanding of the charges they may incur directly as part of the connection charge. In addition, this change seeks to develop a consistent methodology across all GB DNOs for charging network users the costs associated with flexible connection schemes

How?

The type of charge applied, whether directly (via the connection charge) or indirectly (via DUoS charges) is dictated according to the connection scheme to which it relates. The ARAWG determined that connection schemes would fall in to two main categories known as either Dedicated Schemes or Wide Area Schemes, defined as follows:

A **Dedicated Scheme** is a scheme managing constraint(s) where there are no customers downstream of the constraint(s) who could connect new or additional [generation] without being controlled by a Dedicated Scheme.

Dedicated Schemes can be sub-categorised in to two types:

- Type A considers a scenario involving only one customer
- Type B considers a scenario involving multiple customers

Wide Area Scheme is a scheme managing constraint(s) where there are customers downstream of the constraint(s) who could connect new or additional [generation] without being controlled by the Wide Area Scheme.

2 Governance

Justification for Part 1 and Part 2 Matter

The Proposer considers this Change Proposals should be considered a Part 1 Matter if it satisfies one or more of the following criteria:

- a) it is likely to have a significant impact on the interests of electricity consumers;
- b) it is likely to have a significant impact on competition in one or more of:
 - i. the generation of electricity;
 - ii. the distribution of electricity;
 - iii. the supply of electricity; and
 - iv. any commercial activities connected with the generation, distribution or supply of electricity;

Requested Next Steps

This Change Proposal should:

- Be treated as a Part 1 Matter
- Be treated as a Standard Change
- Proceed to Working Group

Ofgem asked that the ARAWG consider the definition of ANM schemes and the approach to allocation of associated costs to network users. The need for this work was identified during work carried out by the Charging Futures Task Force in 2018 and there is an expectation that an agreed outcome can be implemented during the current Distribution Price Control Period (RIIO-ED1).

3 Why Change?

In December 2017 Scottish and Southern Electricity Networks (SSEN) submitted a Modification Proposal: https://www.ofgem.gov.uk/system/files/docs/2018/01/annex_a_-_ssen_modification_report_0.pdf

to Ofgem requesting a change to their Statement of Methodology and Charges for Connection (the Methodology) in order to provide clarity surrounding charges for operation and maintenance citing the need for greater clarity and cost reflectivity in the way in which operation and maintenance costs were calculated and applied to Flexible Connections.

Following an industry wide consultation, Ofgem issued a Directive vetoing the Modification Proposal:

https://www.ofgem.gov.uk/system/files/docs/2018/04/decision_to_direct_ssen_not_to_make_a_modification.pdf

on the basis that SSEN had failed to sufficiently demonstrate how the modification would better achieve the Relevant Objectives (as listed in SLC13). Within that Directive Ofgem stated their expectation that DNOs should keep their methodologies under review as experience with Flexible Connections is acquired

and they encouraged DNOs to consider the issue further to help provide clarity to consumers about how costs of providing Flexible Connections are treated. This Change Proposal is the result of that work.

It is also recognised that central ANM schemes are now being designed to control much larger areas of network, with participation no longer restricted to just distributed generation. These evolving designs can have the ability to manage technology agnostic flexibility services (demand-side response, energy storage and aggregators of multiple virtual power plants), provide capacity to accelerate the deployment of low carbon technologies (such as electric vehicles and heat pumps), and re-configure networks to optimise the capacity within existing assets. The benefits therefore go beyond just the individual flexible/ANM connected customer.

The ARAWG agreed that any principles for cost recovery on Flexible Connections schemes should be developed and become part of the CCCM, thus ensuring:

- Transparency of charges
- Consistency of approach
- TTransparency of allocation
- Due consideration to application of 'Minimum Scheme' principles
- Recognition of any wider and future beneficiaries of ANM schemes

Transparency of charges –market entrants understand the charging rules that will determine the connection charges they will incur and therefore level of financial exposure

Consistency of approach – development of a coordinated and consistent framework of charging principles for the main cost elements across DNOs

TTransparency of allocation – development of arrangements that recognise Flexible Connection schemes may deliver benefits for:

- An individual connection or clearly defined set of customers;
- A wider group of customers (new and future) in the same defined scheme;
- Wider network ANM schemes and/or where the network is of an undefined capacity; or
- Different DER technology types, e.g. DG, DSR, storage, EVs

Minimum Scheme

Due consideration was given by the ARAWG to the application of 'Minimum Scheme' principles and the potential impact of the proposed changes on the definition of 'Minimum Scheme', currently stated as;

"5.1 The Minimum Scheme is the Scheme with the lowest overall capital cost (as estimated by us), solely to provide the Required Capacity."

The Required Capacity is defined as;

"is the Maximum Capacity agreed with the Customer. In the case of multiple connections (e.g. a housing development) it may be adjusted after consideration of the effects of diversity. Where an existing Customer requests an increase in capacity then it is the increase above their Existing Capacity."

Previous comments suggested that Flexible Connections did not meet the Required Capacity so could not be the Minimum Scheme (or could be above the Minimum Scheme and considered an enhanced scheme).

The ARAWG considered this further and agreed that there is more nuance. Network users now have choices via discussions with the DNO e.g. to accept less than 24/7 capacity continuity via a Flexible

Connection – in effect the network user then defines their Required Capacity both in MW and the extent to which they are prepared to be Flexible. If the network user chooses 24/7 continuity the Minimum Scheme will not be a Flexible Connection and will include reinforcement (i.e. the scheme with reinforcement becomes the minimum).

The ARAWG was also mindful of previous feedback to SSEN’s earlier Modification Proposal under which Ofgem expressed that it received extensive responses on whether a Flexible Connection could be a Minimum Scheme. While there was no straightforward consensus, the majority of the respondents agreed that a Flexible Connection can indeed qualify for this classification. They stated:

"The applicant should be at liberty to determine the level of security that will meet their needs and whether or not a flexible connection is a viable alternative to conventional reinforcement. On this basis either solution may be construed as the Minimum Scheme, i.e. the solution must reflect the scheme with the lowest overall capital costs according to the connection type selected by the applicant."

The ARAWG therefore concluded that principles surrounding the Minimum Scheme remained fit for purpose across the range of Flexible Connection products.

Cost Recovery of (Shared Benefit) ANM Control and Communications Equipment

The existing CCCM was developed against a backdrop of traditional engineering assets with rules for the apportionment of asset reinforcement costs. These rules for apportionment are applied in recognition of the wider benefits to network users of New Network Capacity created.

In contrast to this, flexible connections avoid the need for reinforcement by sharing available headroom and utilising existing assets closer to their maximum operating parameters. It was noted by the ARAWG that whilst no New Network Capacity is created by, for example ANM schemes, there remains wider benefits to network users, for example the connection of downstream micro-generation and other technologies.

The ARAWG concluded that it was inappropriate for the costs of those elements of the ANM/Flexible Connections equipment which provide wider network benefit, to be levied on those users directly controlled by it.

Part B: Code Specific Details

4 Solution and Legal Text

It is proposed to create an additional section to the CCCM relating to cost recovery for Flexible Connections. The new section will include a table showing how charges will be allocated to network users.

It should be noted that some costs (those attributed to multiple users on a Dedicated Scheme) will be shared. The methodology for sharing costs has yet to be established but there were two alternatives tabled:

1. Split of costs in proportion to capacity
2. Equal split of costs regardless of capacity

Either method could be adopted but the ARAWG favoured the second option as it offered simplicity. It was argued that, unlike traditional reinforcement apportionment, parties aren’t making use of a defined

available capacity. The system is carrying out the same operations regardless of the size of a connection, albeit some connections will experience greater constraint than others.

Legal Text

Section 1 of Schedule 22 of DCUSA – The Common Connection Charging Methodology should be amended as follows:

Paragraph 1.7 – additional bullet point created to include the potential for costs associated with Flexible Connections to be included in the connection charge.

“1.7 We may recover the reasonable costs incurred, both direct and indirect, in providing a connection and may, where allowed by our Licence, apply a margin on some of those costs. The factors taken into account by us to calculate the Connection Charge will include, but are not limited to:

- Industry standards governing the Distribution System;*
- the Required Capacity;*
- available capacity of the existing Distribution System;*
- whether any necessary extension or Reinforcement of the existing Distribution System is by underground cable or overhead lines;*
- whether any diversionary work is required as a result of the development and the required disconnection of any assets;*
- the length of cable or line required;*
- type of ground requiring excavation, the type and extent of reinstatement necessary (including New Roads and Street Works Act requirements and any other relevant legislation), and the need for road, bridge crossings etc;*
- any Electrical Plant and civil costs required, allowing for any civil works undertaken by you with our agreement;*
- **The costs of installing capacity management and communications equipment to enable Flexible Connections;***
- the requirement to work outside of normal working hours;*
- the costs of undertaking the design;*
- the costs of securing wayleaves/easements for plant, cables or lines including any consents;*
- the costs of securing suitable substation sites including any necessary Land Rights;*
- any overhead line surveys required;*
- the costs of public enquiries and environmental impact studies;*
- charges for any other costs associated with the work on Sites of Special Scientific Interest (SSSI), railway lines etc; and*
- any variations in respect of the actual costs that were reasonably incurred as specified in the Connection Offer.”*

New paragraphs 1.33 – 1.35 inserted

“Flexible Connection Scheme Cost Recovery

1.33 *Flexible Connections are connection arrangements whereby a customer’s import or export is managed often through real time control based upon contracted and agreed principles of availability of capacity.*

1.34 *To provide visibility and control of the Distribution System we may need to install and maintain specific system management equipment both at your Premises and further upstream of the Distribution System to facilitate a Flexible Connection. Some of the costs associated with installing, operating and maintaining the system management equipment will be directly attributed to your connection and be included as part of your Connection Charge. The level of charge is dictated according to whether your connection forms part of a Dedicated Scheme or a Wide Area Scheme, as described below;*

Type 1 - Dedicated Scheme: A scheme managing constraint(s) where there are no customers downstream of the constraint(s) who could connect new or additional generation without being controlled by the Dedicated Scheme

- *Type ‘1A’ considers a scenario involving only one customer*
- *Type ‘1B’ considers a scenario involving multiple customers*

Type 2 – Wide Area Scheme: A scheme managing constraint(s) where there are customers downstream of the constraint(s) who could connect new or additional generation without being controlled by the Wide Area Scheme.

1.35 *The table below illustrates the Scheme Types and methodology for cost recovery associated with each. The methodology reflects Scheme Types that only benefit specific participants with no wider benefits (Type 1) and those that enable other diverse users to operate un-curtailed thus providing wider benefits (Type 2).”*

Connection Component	Type 1A Single	Type 1B Multiple	Type 2 Wide Area
Extension assets for customer	<i>You fund</i>	<i>You fund</i>	<i>You fund</i>
End user control unit for the customer	<i>You fund</i>	<i>You fund</i>	<i>You fund</i>
Local system management unit	<i>You fund</i>	<i>Shared between participants</i>	<i>We fund</i>
Scheme management unit	<i>You fund</i>	<i>Shared between participants</i>	<i>We fund</i>
Central management unit	<i>N/A</i>	<i>N/A</i>	<i>We fund</i>

<i>Scheme specific ongoing costs e.g. communications</i>	<i>We fund</i>	<i>We fund</i>	<i>We fund</i>
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All subsequent paragraph numbering in Section 1 to be re-numbered as appropriate.

Section 1 of Schedule 22 of DCUSA – The Glossary table should be amended as follows:

New definitions added:

Flexible Connections	<p>are connection arrangements whereby a customer’s export or import is managed (often through real-time control) based upon contracted and agreed principles of availability of capacity.</p> <p>Occasionally, Flexible Connections are also referred to as Managed Connections.</p> <p>The need for network access to be managed, may arise through capacity limitations which are local or remote from the Connection Point. For example, a Flexible Connection might comprise a Firm local connection, but with a constraint being present deeper in the network. Flexible connections are offered to customers so that Reinforcement can be avoided or deferred.”</p>
Dedicated Scheme	is defined in paragraph 1.34
Wide Area Scheme	is defined in paragraph 1.34

Text Commentary

The proposed text is intended to provide a concise and clear commentary on the methodology applied for Flexible Connection scheme cost recovery. It will allow network users to assess the potential level of charges that will be applied to their connection scheme.

Further consideration may be required to the definitions provided which have been replicated from the ENAs Open Networks Terms and Definitions document.

5 Code Specific Matters

Reference Documents

SSEN Modification Proposal submitted 04/12/17 – Proposed changes to Operation and Maintenance Charges

Ofgem Direction document dated 28/03/19 in relation to SSEN modification proposal

6 Relevant Objectives

DCUSA Charging Objectives Please tick the relevant boxes.	Identified impact
<input checked="" type="checkbox"/> 1 that compliance by each DNO Party with the Charging Methodologies facilitates the discharge by the DNO Party of the obligations imposed on it under the Act and by its Distribution Licence	Positive
<input checked="" type="checkbox"/> 2 that compliance by each DNO Party with the Charging Methodologies facilitates competition in the generation and supply of electricity and will not restrict, distort, or prevent competition in the transmission or distribution of electricity or in participation in the operation of an Interconnector (as defined in the Distribution Licences)	Positive
<input checked="" type="checkbox"/> 3 that compliance by each DNO Party with the Charging Methodologies results in charges which, so far as is reasonably practicable after taking account of implementation costs, reflect the costs incurred, or reasonably expected to be incurred, by the DNO Party in its Distribution Business	Positive
<input checked="" type="checkbox"/> 4 that, so far as is consistent with Clauses 3.2.1 to 3.2.3, the Charging Methodologies, so far as is reasonably practicable, properly take account of developments in each DNO Party's Distribution Business	Positive
<input type="checkbox"/> 5 that compliance by each DNO Party with the Charging Methodologies facilitates compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.	None
<input type="checkbox"/> 6 that compliance with the Charging Methodologies promotes efficiency in its own implementation and administration.	None

<p>Charging Objective one: is better met as updating the CCCM will ensure each DNOs obligation to prepare a charging statement that sets out the basis on which charges will be made for the provision of connections to the licensee's Distribution System is maintained.</p> <p>Charging Objective two: is better met as updating the CCCM will ensure each DNOs methodology for charging for flexible connections is clear and transparent and will not restrict, distort, or prevent competition in the transmission or distribution of electricity.</p> <p>Charging Objective three: is better met as DNOs will be able demonstrate how charges for recovery of the cost of flexible connections are structured to reflect both specific and wider benefits to participants.</p> <p>Charging Objective four: is better met as the proposed change will ensure that the DNOs charging statements reflect developments in the way that connections are provided, particularly in relation to the implementation of flexible solutions as opposed to traditional reinforcement.</p> <p>Charging Objective five: no impact.</p> <p>Charging Objective six: no impact.</p>	
<p>DCUSA General Objectives</p> <p>Please tick the relevant boxes.</p>	<p>Identified impact</p>
<p><input checked="" type="checkbox"/> 1 The development, maintenance and operation by the DNO Parties and IDNO Parties of efficient, co-ordinated, and economical Distribution Networks</p>	<p>Positive</p>
<p><input type="checkbox"/> 2 The facilitation of effective competition in the generation and supply of electricity and (so far as is consistent therewith) the promotion of such competition in the sale, distribution and purchase of electricity</p>	<p>None</p>
<p><input checked="" type="checkbox"/> 3 The efficient discharge by the DNO Parties and IDNO Parties of obligations imposed upon them in their Distribution Licences</p>	<p>Positive</p>
<p><input type="checkbox"/> 4 The promotion of efficiency in the implementation and administration of the DCUSA</p>	<p>None</p>
<p><input type="checkbox"/> 5 Compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.</p>	<p>None</p>

General Objective one: is better met as the implementation of the proposed change to the CCCM will provide clarity in relation to how each DNO and IDNO charges for flexible connections that serve to support the development, maintenance and operation of efficient, co-ordinated, and economical Distribution Networks.

General Objective two: no impact.

General Objective three: is better met as implementing an update to each DNOs charging statement to reflect the proposed charging structure will ensure compliance with licence requirements to publish a CCCM that sets out the basis on which charges will be made for the provision of connections to the licensee's Distribution System and be presented in such form and with such detail as would enable any person to make a reasonable estimate of the charges for which he would become liable in respect of the provision of connections to the licensee's Distribution System;

General Objective four: no impact.

General Objective five: no impact.

7 Impacts & Other Considerations

There are no potential cross-code, consumer or environmental impacts associated with this DCUSA Change Proposal

Does this Change Proposal impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

This Change Proposal does not directly impact a Significant Code Review or other significant industry change projects. It does however, support the Access SCR work. For clarity, the work undertaken by the ARAWG considers incremental improvements to the allocation of access rights and this access related work is directly relevant to but does not form part of the SCR.

Does this Change Proposal Impact Other Codes?

Please tick the relevant boxes and provide any supporting information

- | | |
|-----------|--------------------------|
| BSC | <input type="checkbox"/> |
| CUSC | <input type="checkbox"/> |
| Grid Code | <input type="checkbox"/> |
| MRA | <input type="checkbox"/> |
| SEC | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |
| None | X |

Consideration of Wider Industry Impacts

This issue has been discussed at several industry forums including, the ENA Access Working Group, the Open Networks Steering Group, the Charging Delivery Body and the COG Connections Group.

Confidentiality

This change is non-confidential.

Proposed Implementation Date

Immediately following Ofgem approval.

8 Recommendations