

## P441 Digital Meeting Etiquette

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- Welcome to the P441 Workgroup meeting 1 – we'll start shortly
- No video please to conserve bandwidth
- Please stay on mute unless you need to talk – use IM if you can't break through
- Talk – pause – talk
- Lots of us are working remotely – be mindful of background noise and connection speeds

# ELEXION

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**Creation of Complex Site Classes**

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Meeting 1

31 August 2022

# Meeting Agenda

Objectives for this meeting:

- Consider the background of P441
- Consider the P441 Terms of Reference
- Consider any potential solution(s) which may require further development for discussion at future meetings
- Confirm the next steps

Agenda Item	Lead
1. Welcome and meeting objectives	Keren Kelly (Elexon) – Chair
2. P441 Background, Issue and proposed solution	Mary Gillie (Energy Local) – Proposer’s Rep
3. Terms of Reference	Stanley Dikeocha (Elexon) – Lead Analyst
4. Scope of P441, Complex Site Class criteria and impact on BSC Settlement Risks	Christopher Day (Elexon) - Subject Matter Expert
5. Relationship between P441 and other BSC processes for exempt supply	John Lucas (Elexon) – Design Authority
6. Impact of Class 5 Complex Sites on Network and BSC Charges	John Lucas
7. Next steps	Stanley Dikeocha
8. Meeting close	Keren Kelly



# BACKGROUND, ISSUE AND SOLUTION

# Modification `Creating complex site classes

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Mary Gillie (Energy Local)  
representative for Green  
Energy UK

# The Purpose

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- Issue 88 identified that there was confusion over when different scenarios for a complex site could be used.
- Complex Site arrangements (in particular relating to the netting of Imports from Exports across a Boundary Point) have been allowed under the BSC although not clearly defined resulting in a lack of consistency across the market.
- To help develop new arrangements to help drive a smart network and achieve a zero carbon energy system 6 complex site classes are proposed.
- This was felt to be a better route than to attempt to define 'site' across all codes.
- Class 6 would allow for trial and approval of new types of complex site to enable innovation.
- Issue 88 recommended for a modification.

# Solution

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## **Six classes of complex sites:**

- licence exempt distribution networks,
  - feed through sites
  - Netting generation from demand
  - Innovation
- 
- Removes ambiguity and gives confidence for local energy schemes
  - Encourages local balancing of demand and generation
    - Helps run the network efficiently
    - reduces imbalance in the market at peak times
  - Take up low carbon, flexible energy solutions provisioned through local energy schemes
  - Facilitates innovation.
  - Facilitate local balancing more widely by reducing complexities and burdens, through commonly derived process and procedures accessible to all BSC Parties





# BSC PANEL VIEWS



## Feedback from Panel on P441

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- A Panel member commented on the Terms of Reference, asking that the WG should also consider:
  - Whether the Complex Site arrangements will be forward looking and not retrospective;
  - What is considered as “Local” and “Primary substations” and;
  - What impact will P441 have on the MHHS Programme.
- Elexon noted the comments and confirmed that they will be included in the P441 Specific Terms of Reference, for WG discussion



# TERMS OF REFERENCE

## P441 specific Terms of Reference

ToR	Details
a)	<b>Are the six classes identified by the Issue 88 Group correct?</b>
b)	<b>Define the criteria a site must meet to qualify for each Complex Site Class?</b>
c)	What MSIDs needs to be registered for each Complex Site Class?
d)	What form should a central register of Class 5 Complex Sites take?
e)	How should the notification process of a Class 5 Complex Site operate?
f)	<b>What impact do Class 5 Complex Sites have on Network Charges and BSC Charges?</b>
g)	Will the site arrangements be forward looking and not retrospective?
h)	What should be considered as "Local" and "primary" substations?
i)	What impact will P441 have on MHHS Programme?

## P441 standard Terms of Reference

ToR	Details
j)	<b>How will P441 impact the BSC Settlement Risks?</b>
k)	What changes are needed to BSC documents, systems and processes to support P441 and what are the related costs and lead times? When will any required changes to subsidiary documents be developed and consulted on?
l)	Are there any Alternative Modifications?
m)	<b>Should P441 be progressed as a Self-Governance Modification?</b>
n)	<b>Does P441 better facilitate the Applicable BSC Objectives than the current baseline?</b>
o)	Does P441 impact the EBGL provisions held within the BSC, and if so, what is the impact on the EBGL Objectives?



# SHOULD P441 BE TREATED AS SELF- GOVERNANCE?



# ToR (m) – Should P441 be treated as a Self-Governance Modification?

- Proposer’s view and Elexon agrees:
  - P441 **should not** be treated as a Self-Governance Modification
  - This Modification will materially impact competition due to the additional incentive to develop sustainable generation, and the further democratization of energy
  - P441 impact Self-Governance criteria (b) (i) (ii) and (iv)

Criteria no.	Description
b(i)	A Modification, if implemented, is unlikely to have a material effect on existing or future electricity consumers
b(ii)	A Modification, if implemented, is unlikely to have a material effect on competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution, or supply of electricity
b(iv)	A Modification, if implemented, is unlikely to have a material effect on matters relating to sustainable development, safety or security of supply, or the management of market or network emergencies



# COMPLEX SITE CLASS CRITERIA

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## ToR (a) - Are the six classes identified by the Issue 88 Group correct?

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- Classes 1 and 2 - Licensed Exempt Distribution Network
- Classes 3 and 4 - Feed through sites and network flows impacting Settlement Meters
- Class 5 – Netting of Imports from Export across multiple Boundary Points over the Total System
- Class 6 – Non-standard Complex Site

## ToR (b) - Define the criteria a site must meet to qualify for each Complex Site Class?

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- **Class 1/2 Complex Site**

- Where one or more customers within a Licence Exempt Distribution Network (LEN) are supplied with electricity by a third party licensed Supplier (and therefore these customers have their own MSID and that LEN does not have generation installed behind the Boundary Point).
- Where all entry and exit points within the LEN have their own MSID, this is already regarded as an Associated Distribution System under the BSC and therefore not considered a Complex Site.
- BSCP502 4.9.3
- A Class 2 Complex Site would be almost identical to a Class 1 Complex Site, with the only difference being that generation is embedded within the Private Network.

- **Class 1/2 Complex Site process and criteria**

- Where Class 1 is selected then the Supplier/MOA must also populate whether the MSID that the Complex Site Supplementary Information Form (CSSIF) relates to is located at the Boundary Point or related to an MSID embedded within the network.
- Boundary Point MSIDs should be identified as such on the CSSIF and be registered against the MTC 998. The CSSIF for Boundary Point MSIDs should include all related MSIDs that are embedded within the LEN
- Embedded MSIDs should identify the related Boundary Point MSID on the CSSIF and be registered against MTC 997.
- All MSIDs related to the LEN should have the same MOA and DC appointed.
- Where the Boundary MSID is registered against CoP 3 or 5 then the embedded MSIDs should use generic Metering Dispensation D0380 for location (Actual Metering Point not being located at the Defined Metering Point).
- Where the Boundary MSIDs are registered against CoP 1, 2 or 10 then a site specific Metering Dispensation will be required for each embedded MSID.
- A Class 1 Complex Site will be self-assessed against the relevant criteria and identified as such by the Registrant of the MSID and will not be subject to committee approval.

## ToR (b) - Define the criteria a site must meet to qualify for each Complex Site Class?

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- Class 3/4 Complex Site
  - Where the electrical configuration of a site requires the determination of Exports from Imports in order to calculate the **gross** measurement quantity of energy for a single MSID or dual MSIDs where generation exists (feed through sites and network flows impacting Settlement Meters).
  - BSCP 502 4.9.4 – 4.9.8
- A Class 3 Complex Site would be limited to:
  - A single premise with the same Supplier (aside from instances of a Shared SVA Meter arrangement); and
  - Where the distance between each metered point between the “customer’s” incoming feeders and the isolated distribution network is within a set geographical limit.
- A Class 4 Complex Site would be the same as a Class 3, except with embedded generation.
- As with Classes 1 and 2, the Registrant would be expected to self-assess as to whether an MSID/MSIDs meet the principles of a Class 3/4 Complex Site and these MSIDs would not be subject to committee approval.



## ToR (b) - Define the criteria a site must meet to qualify for each Complex Site Class?

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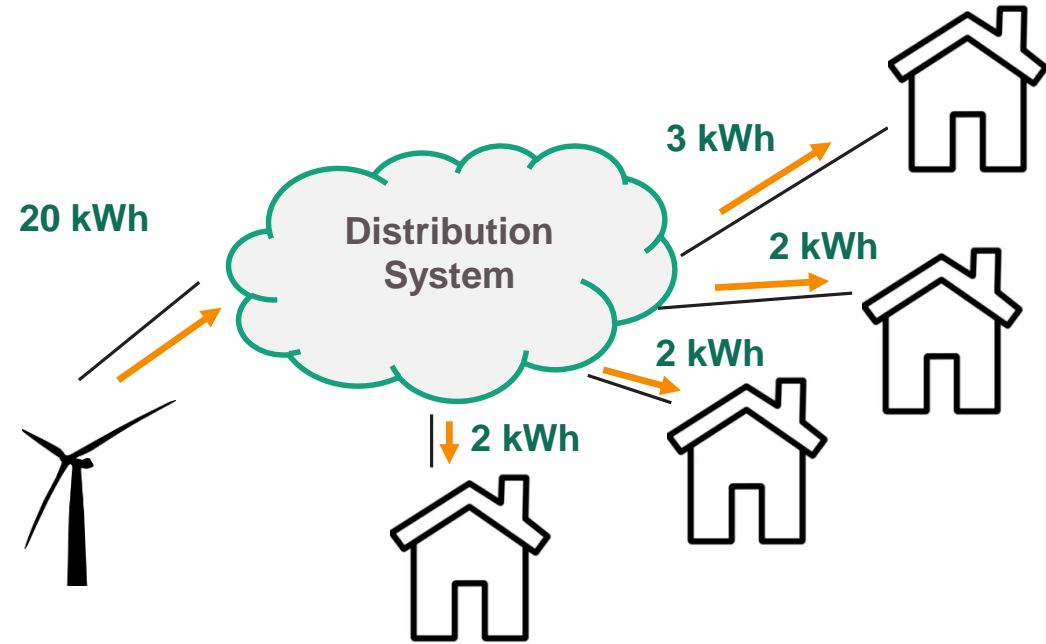
- Class 5 Complex Site
  - Where the netting of Import from Exports across multiple Boundary Points (i.e. connections to the Total System) is required to facilitate an agreement to allow Generators (or “schemes” working with the Generator such as Energy Local) to Supply local end customers (usually under a supply license exemption).
  - BSCP502 4.9.8
  - The exact process and criteria for a Class 5 Complex Site will be determined through discussions on the Terms of Reference for this Modification Group.
- Class 6 Complex Site (non-standard)
  - Where a Supplier wishes to register a Complex Site that did not meet all of the criteria required for one of the other classes
  - An application process for non-standard Complex Sites would need to be devised, and the vires to grant approval would be delegated to the relevant Panel Committee. This would be akin to the current process of assigning CVA MSIDs to a “standard” or “non-standard” BM Unit.



# RELATIONSHIP BETWEEN P441 AND OTHER BSC PROCESSES FOR EXEMPT SUPPLY

## Class 5 Complex Sites and Exempt Supply

- A Class 5 Complex Site (unlike Classes 1-4) allows netting of Import and Export at separate Boundary Points (see diagram)
- This means Contract for Difference (CFD) and Capacity Market (CM) levies are not charged on the netted Import (the 9 kWh in the example)
- For this reason, the Issue 88 Workgroup concluded that Class 5 Complex sites should only be used to net exempt supply (not licensed Supply)
- But Class 5 Complex Sites are not the only BSC solution for exempt supply

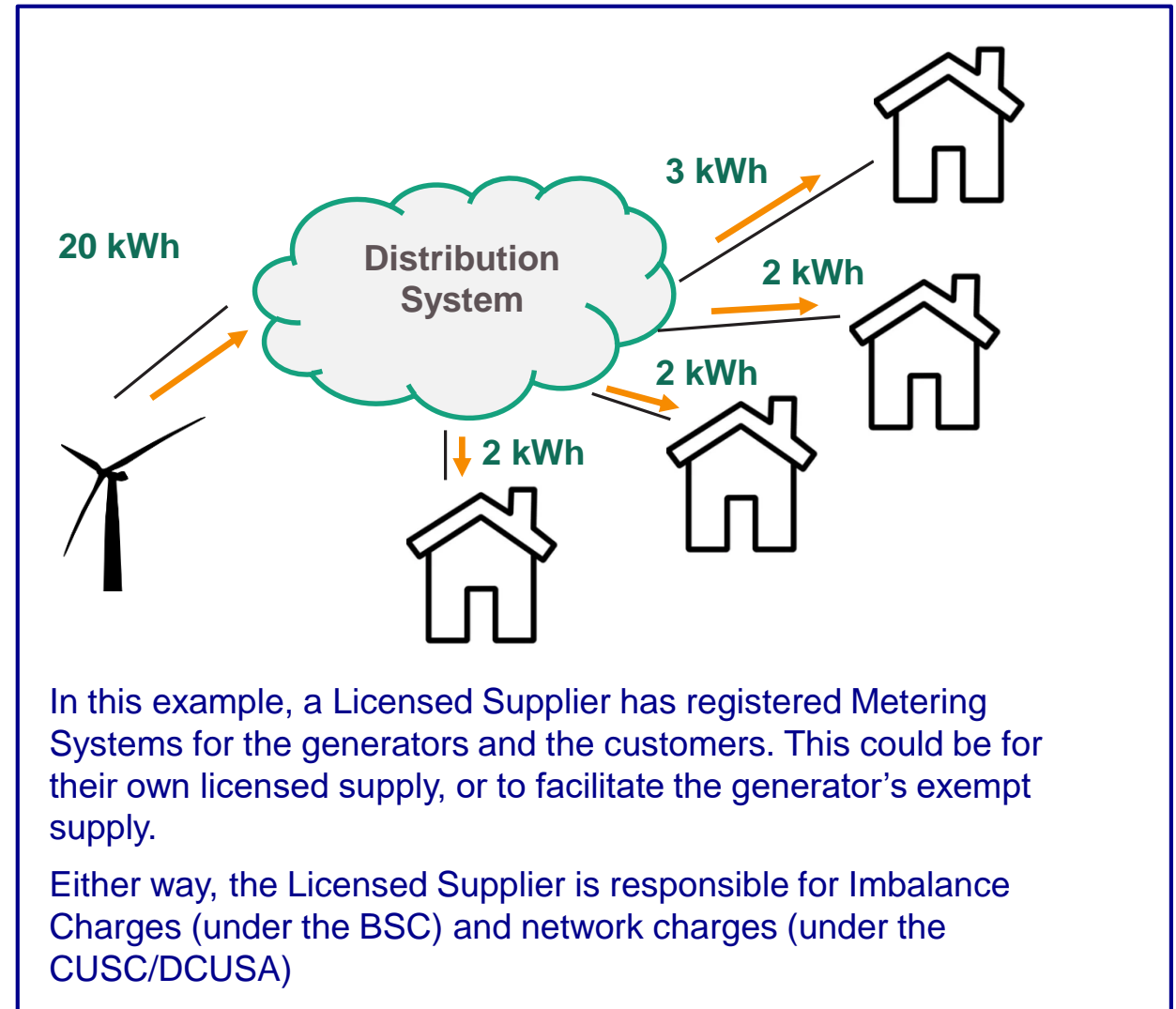


If this is a Class 5 Complex site, the Export (20 kWh) is netted off the Import (9 kWh) by the HHDC. Only the net result (11 kWh Export) is submitted into Settlement (via the HHDA)

(The detail of exactly how the 11 kWh is submitted into Settlement depends on how MSIDs are registered e.g. whether the Class 5 Complex Site is combined with a Shared SVA Meter Arrangement).

# Why do BSC Systems need to know about exempt supply?

- Historically BSC Systems have not had to know about exempt supply, because it makes no difference to Imbalance Settlement or network charging whether a Licensed Supplier has registered the Import and Export Metering Systems to:
  - Buy energy from the generator and supply it to the customer (licensed supply)
  - Facilitate the generator supplying the customers themselves (exempt supply)
- But it does make a difference to CFD and CM levies
- Therefore the Electricity Market Reform (EMR) requirement for BSCCo (Elexon) to notify EMR Settlement of supply volumes created a potential need for BSC Systems to distinguish exempt from licensed supply




# What are the options for addressing this?

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- **Interim solution**: since January 2019, the Supplier Volume Allocation Group (SVG) has been operating an interim process, which allows a Metering System to be treated as recording volumes of exempt supply. But it has some serious problems:
  1. It only works in the special case where you can identify a Metering System that only ever records exempt supply (under all normal circumstances)
    - 5 MW exempt Supplier selling to customer with much larger, geographically diverse portfolio of demand ✓
    - Exempt supplier with large, geographically diverse generation portfolio selling 5 MW to a customer with a single demand site ✓
    - Exempt supplier with single generation site selling to customer with single demand site ✗
  2. It's administratively burdensome (for applicants, for Elexon, and SVG)
- **Issue 96** identified potential enduring solutions (to replace the interim solution):
  1. Two potential solutions identified, and one now raised as Modification P442 ('Reporting chargeable volumes for exempt and licensed supply')
  2. These solutions can cope with a wide variety of exempt supply arrangements, but will require system changes (by Supplier Agents and/or BSC Agents) to deliver
- **Complex sites**: in the meantime, some market participants have treated local energy schemes as complex sites
  1. Issue 88 / Modification P441 proposes to formalise this idea as a class 5 complex site
  2. We see this as potentially complementary to the Issue 96 solutions: it only applies to exempt supply within a local area, but may require less system change to deliver

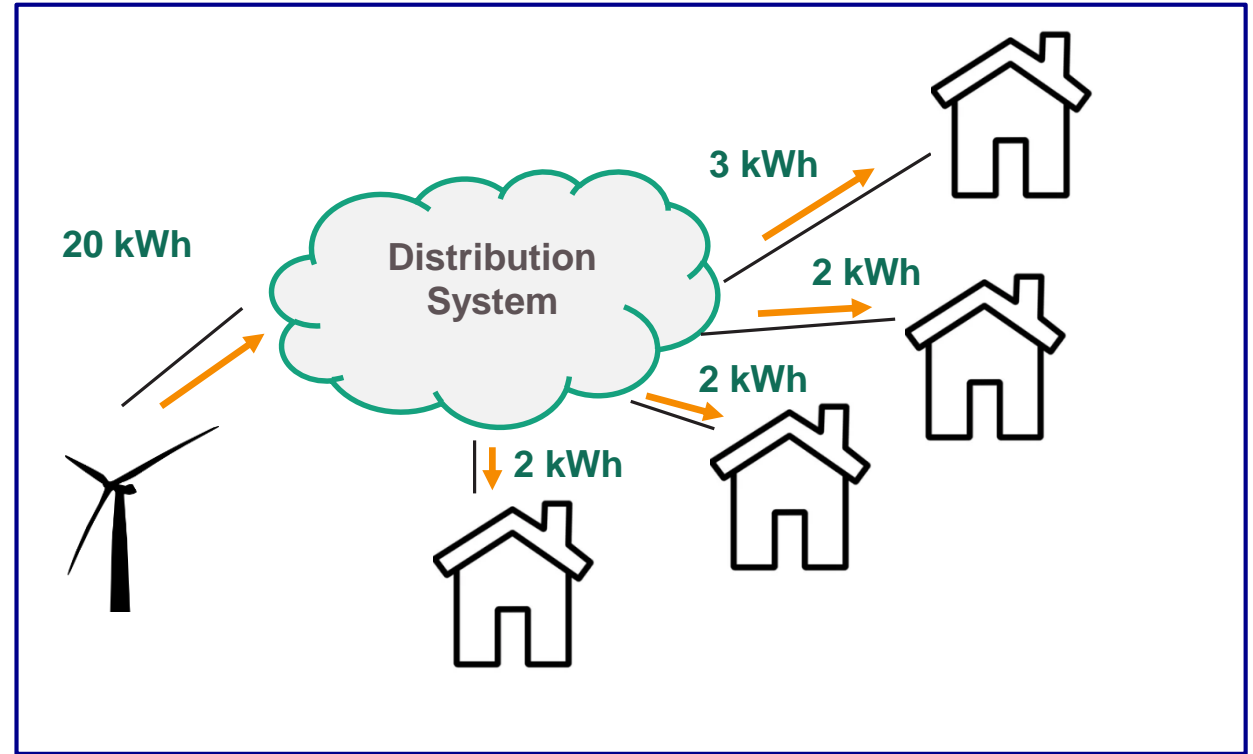


A photograph of several white wind turbines on a green, rolling hillside. The sky is blue with some clouds, and the foreground shows a grassy slope with some trees and a small patch of brown earth.

# CLASS 5 IMPACT ON NETWORK AND BSC CHARGES

## ToR (f) - What impact do Class 5 Complex Sites have on Network Charges and BSC Charges?

- For a Class 5 Complex Site, the HHDC will submit net data (rather than gross) to Settlement
- This has a potential impact on a number of charges normally payable by the Licensed Supplier
- Where netting impacts charges, the P441 Workgroup may need to consider:
  - Is charging on a net basis appropriate (in the context of local exempt supply)?
  - If it is not, is there a solution to allow charging of gross demand and generation values (despite net values entering Settlement)?



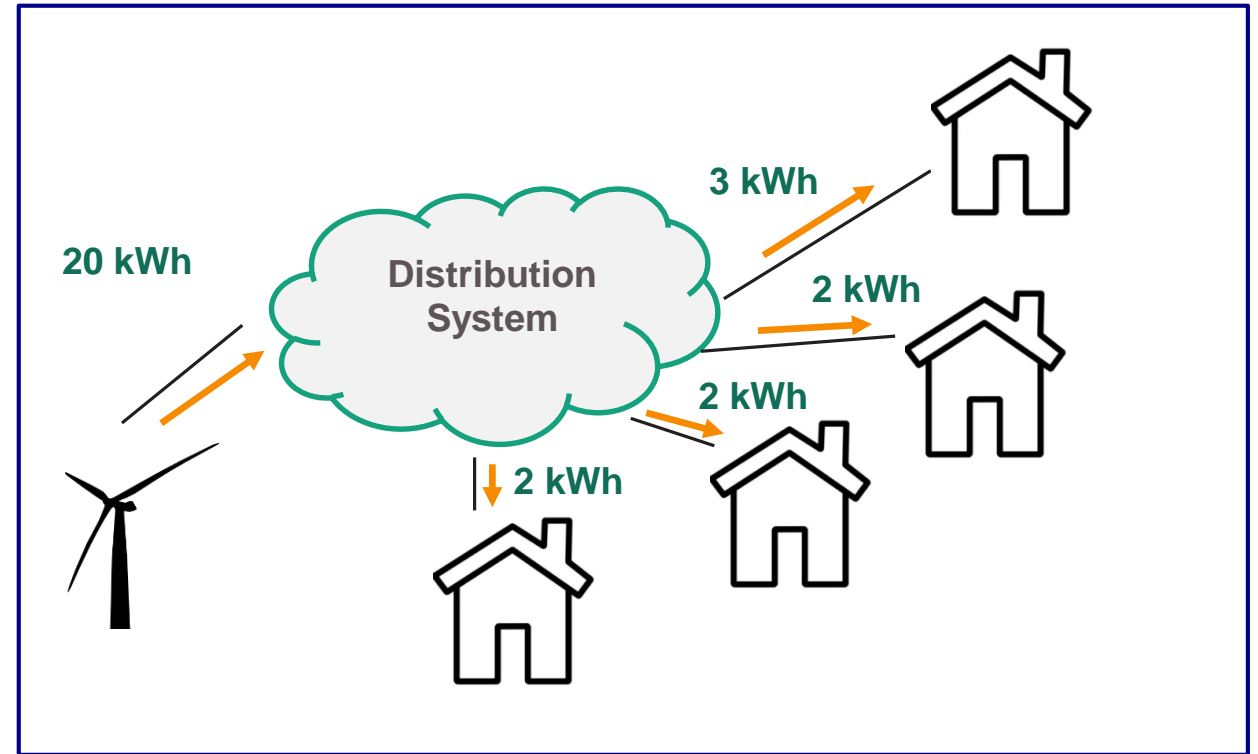
## Network Charges (DUoS, BSUoS, TNUoS)

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- **DUoS Charging** – we understand Suppliers currently using this sort of arrangement may have implemented workarounds with LDSOs to ensure full recovery of DUoS charges (demand and generation) despite net data entering Settlement?
- If that is the case, do we need to replace the workaround with a codified solution (when Class 5 Complex Sites are formalised in the BSC)?
- **TNUoS** and **BSUoS** were charged on net demand when Suppliers first trialled this type of complex site, but have since moved to charging on gross demand:
  - CMP264/265 amended TNUoS charging from 1 April 2018
  - CMP333 ('BSUoS – charging Supplier Users on gross demand') implemented 1 April 2021
- Is net charging of TNUoS and BSUoS appropriate for Class 5 Complex Sites? If not, how can NGESO be provided with gross metered data for charging purposes?

# Distribution Line Losses

- Netting of Import and Export affects allocation of losses, if the Import and Export would have had different Line Loss Factors (LLFs) applied
- For example, suppose that the generator has an LLF of 1.08, and the customers have an LLF of 1.12
- **If gross data is submitted to Settlement, the net Export is:**  
$$20 * 1.08 - 9 * 1.12 = 11.52 \text{ kWh}$$
- If net data is submitted to Settlement, the net Export is:  
$$(20 - 9) * 1.08 = 11.88 \text{ kWh}$$
- Is this an issue? If so, does it undermine the benefits of Class 5 Complex Sites?



## GSP Group Correction Factor (GSPGCF)

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Similarly to LLFs, netting of Import and Export affects GSPGCF if the Import and Export would have had different Correction Factors applied to them

This is not the case now (for Half Hourly metered customers), but will be with Market Wide Half Hourly Settlement, which will:

- Apply Correction Factors to Half Hourly as well as Non Half Hourly data; and
- Apply different Correction Factors to Import and Export

Is it appropriate that energy netted in a Class 5 Complex Sites should avoid GSP Group Correction?



# Transmission Losses and BSC Charges

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Transmission Losses and BSC Funding Shares are calculated on net volumes (rather than gross), so unaffected by netting of Import and Export in a Class 5 Complex Site:

- Transmission Losses are allocated through Transmission Loss Multipliers, calculated from BM Unit Metered Volumes ( $QM_{ij}$ ), which are net Metered Volumes (see BSC Section T2.3)
- BSC Funding Shares are calculated from Credited Energy Volumes ( $QCE_{iaj}$ ), which are also net values (see BSC Section D Annex D-1)



# IMPACT OF P441 ON BSC SETTLEMENT RISKS

## ToR (j) (1/2) - How will P441 impact the BSC Settlement Risks?

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- List of SVA risks with relevant risks in bold
  - **001 SVA Risk: Metering Point Registered Incorrectly**
  - 002 SVA Risk: Metering System Attributes are incorrect
  - 003 SVA Risk: Metering Equipment Installations are incorrect
  - 004 SVA Risk: Metering Equipment changes are not notified
  - 005 SVA Risk: Metering Equipment Faults are not resolved
  - 006 SVA Risk: Incorrect Meter detail transfer on change of agent
  - 007 SVA Risk: Metered Data is not retrieved
  - **008 SVA Risk: Metered Data is not processed or transferred**
  - 009 SVA Risk: Data Aggregator Processing incorrect
  - 010 SVA Risk: Transfer of Meter Read History incorrect
  - 011 SVA Risk: Unmetered Supplies volumes calculated incorrectly
  - **012 SVA Risk: Meter System Technical Details inaccurate**
  - 013 SVA Risk: Manual Adjustments to Metered Data incorrect
  - 014 SVA Risk: Agent not appointed correctly
  - 015 SVA Risk: Reference Data incorrect
  - 016 SVA Risk: Energisation Status incorrect
  - 017 SVA Risk: exception reports not managed correctly
  - 018 SVA Risk: Revenue Protection volumes are not settled

## ToR (j) (2/2) - How will P441 impact the BSC Settlement Risks?

Settlement Risk	Initial Impact Conclusion
001 SVA Risk: Metering Point Registered Incorrectly	P441 is proposing a central register for Class 5 Complex Sites and a linking of Boundary and embedded MSIDs which will aid in the registration of Complex Sites
008 SVA Risk: Metered Data is not processed or transferred	Definition of specific criteria for Complex Sites will help industry correctly determine and implement Complex Sites leading to less incorrect Complex Site Rules.
012 SVA Risk: Meter System Technical Details inaccurate	Clearly defined criteria for each Complex Site and new data points such as “Boundary/Embedded MSID” will aid in ensuring that MTDs include sufficient and correct information to allow the HHDC to submit valid data into Settlement



# INITIAL VIEWS AGAINST APPLICABLE BSC OBJECTIVES



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## ToR (n) – Does P441 better facilitate the Applicable BSC Objectives than the current baseline?

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The Applicable BSC Objectives are:

- a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence
- b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System
- c) Promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity**
- d) Promoting efficiency in the implementation and administration of the balancing and settlement arrangements**
- e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]
- f) Implementing and administrating the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation
- g) Compliance with the Transmission Losses Principle



# ToR (n) – Does P441 better facilitate the Applicable BSC Objectives than the current baseline?

The Proposer’s rationale:

Applicable BSC Objective	Rationale
( c) – Promoting effective competition in the generation and supply of electricity and promoting such competition in the sales and purchase of electricity	The proposed solution provides a route to alternative offerings from Suppliers and collective bargaining from customers, presenting new options, greater competition and resulting in improved services for customers.
(d) – Promoting efficiency in the implementation of the balancing and settlement arrangements	The solution will facilitate local balancing more widely by reducing complexities and burdens, which currently act as disincentives, through commonly derived process and procedures accessible to all BSC Parties, when compared to the baseline whereby no formal processes to provision a tailored site-specific exempt supply arrangements exists in the BSC.



# NEXT STEPS

## Next steps

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- Summary of Workgroup meeting decisions and actions by **5pm on Wednesday 7 September**
- Elexon to schedule the second Workgroup meeting
  - W/c 26 September 2022 or 3 October 2022
  - WG members to respond to doodle poll by 5pm on Thursday 8 September 2022
- Progress any action captured from the first Workgroup meeting
- We are proposing to review the Terms of References below:
  - ToR ( c) – What MSIDs needs to be registered for each Complex Site Class?
  - ToR (d) - What form should a central register of Class 5 Complex Sites take?
  - ToR (e) - How should the notification process of a Class 5 Complex Site operate?
  - ToR (o) - Does P441 impact the EBGL provisions held within the BSC, and if so, what is the impact on the EBGL Objectives?

## Progression plan

Event	Date
Present IWA to Panel	14 July 2022
<b>Workgroup meeting 1</b>	<b>31 August 2022</b>
Workgroup meeting 2	W/C 26 September or 3 October 2022
Workgroup meeting 3	W/C 24 October 2022
Workgroup meeting 4	W/C 21 November 2022
Assessment Procedure Consultation	December 2022
Workgroup meeting 5	W/C 16 January 2023
Present Assessment Report to Panel	9 February 2023
Report Phase Consultation	13 February – 24 February 2023
Present Draft Modification Report to Panel	9 March 2023
Issue Final Modification Report to Authority	14 March 2023

MEETING CLOSE

# ELEXON

## THANK YOU

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**Stanley Dikeocha**

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