
P455 Digital Meeting Etiquette

- Welcome to the P455 Workgroup meeting 6 – 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

ELELEXION

P455 'On-Site Aggregation as a method to facilitate Third Party Access'

Meeting 6

20 February 2024

Meeting Agenda

Objectives for this meeting:

- Consider responses for the P455 Assessment Procedure Consultation (APC)
- Review the amended Legal Text
- Provide final Workgroup views for P455

Agenda Item	Lead
1. Welcome and meeting objectives	Patrick Matthewson (Elexon) – Chair
2. Integrated analysis on consultation responses and implications for P455	Reg Platt (Emergent) - Proposer
3. P455 APC and workgroup discussion	Cecilia Portabales (Elexon) – Lead Analyst
4. P455 revised Legal Text	Cecilia Portabales
5. P455 Terms of Reference	Cecilia Portabales
6. Final views against the BSC Objectives	Workgroup
7. Next steps	Cecilia Portabales
8. Meeting close	Patrick Matthewson



Headline consultation results

- 7 organisations responded, with roles including two PNOs, a supplier, two DNOs/LDSOs, two IDNOs, two supplier agents (note some organisations have more than one role)
- Negative reactions to the modification were received from IMServ and UK Power Networks. All other consultation respondents were generally positive.
- Elexon and the Proposer have engaged IMServ and UKPN to discuss their responses.
- IMServ's negative responses were largely due to misunderstandings on the purpose for the Modification and how it works. Based on our call, IMServ now understand and support the mod. They have submitted a new set of consultation responses in support of the modification.
- The following slides focus on outcomes from the conversations with UK Power Networks, who currently still oppose the mod.

Respondent	Role(s) Represented
Cepro	PNO
ENGIE	Supplier
IMServ	Supplier Agent
Northern Powergrid	Distributor
SNRG	Independent Distributor, PNO
Stark	Independent Distributor, Supplier Agent
UK Power Networks (UKPN)	Distributor

Integrated analysis on consultation responses



- 1. Strengthened evidence on the need for the solution**
2. Clarification on various points of fact about the solution design
3. Practical implementation questions and risks raised in the consultation
4. Strengthening P455



1. Strengthened evidence on the need for the solution (1)

- ECJ's ruling on Citiworks case in 2008 created basic legal right for customers on PNs to choose their supplier (i.e. Third Party Access). Was enacted into UK law in 2011.
- PN 'microgrids' (i.e. schemes where a PN is used to supply locally generated renewable energy to customers via a license exempt supply arrangement) provide opportunity to make on-site renewables available to more customers, while helping with the cost of financing decarbonisation investments, adding flex value to system, and reducing grid constraints



1. Strengthened evidence on the need for the solution (2)

- Quantification of the number of customers who are currently on PNs and should be able to choose supplier via TPA is hard due to poor visibility but...
- We estimate that as many as 100k-300k customers could be on PNs, across houses of multiple occupancy, caravan parks, social/sheltered housing, new build to rent schemes
- Growth in numbers of customers on PNs is expected due to growing interest in PN 'microgrids'



1. Strengthened evidence on the need for the solution (3)

- Based on direct experience in the market, Emergent argues that domestic and small business customers on PNs do not currently have TPA as is their legal right, because difference metering does not work in practise for such customers
- This argument is strengthened by evidence from UKPN:
 - While investigating many thousands of residential properties that do not have an MPAN, in case there is an unauthorised supply, UKPN have never encountered a domestic site with difference metering applied (where at least one residence would not have an MPAN)
 - UKPN do not have any processes for managing residential sites with difference metering applied, arguing rightly that it is unlikely such schemes will exist because difference metering requires customers to be half hourly settled, which domestic customers generally aren't
 - They believe it is best for PN sites to be fully settled – but accept that isn't a TPA solution



1. Strengthened evidence on the need for the solution (4)

- Based on the evident lack of a functioning TPA for domestic customers, UKPN do agree there is a need for a solution, and that the solution will benefit customers
- However, they argue it should be a concern if customers on a PN who currently have an MPAN are being encouraged to join an On-site Aggregation scheme (e.g. a microgrid), believing it represents a 'loss of control' for the customer
- Of course, the entire point of On-Site Aggregation is to enable customers on PNs to choose their supplier, so joining a scheme is entirely at the customer's discretion, and they can always switch back to an MPAN supply again. They will only join a scheme if they perceive it is in their interest.
- Moreover, given the biggest problem currently is customers already on PNs who do not have an MPAN or a choice about their supplier, we would hope to see an increase in MPAN registered meters for such customers, which presumably is to be welcomed given the increased visibility on PNs this will provide for industry



1. Strengthened evidence on the need for the solution (5)

- UKPN have also argued that an alternative solution may need to be considered to cover larger (100kW) customers who also struggle to use difference metering. However, on request:
 - UKPN have not been able to provide evidence that such a customer exists
 - UKPN have not been able to propose an alternative idea for making TPA work
- The theoretical basis for larger customers having problems with difference metering is weak, because:
 - they have greater market leverage than smaller customers for setting up differencing arrangements
 - they are half hourly settled as standard, with roles for HH Supplier Agents, making it more straightforward to set up differencing arrangements
- Nonetheless, we have previously discussed that extending On-Site Aggregation to larger schemes may make sense because it helps address the persistent issue of fixed DUoS charges being erroneously allocated to PNs with TPA (covered again later), which DCUSA is struggling to fix
- Furthermore, it is feasible that a larger customer on a PN who wants TPA could benefit from a lower implementation cost if they used On-Site Aggregation Vs difference metering



1. Strengthened evidence on the need for the solution (6)

- Therefore, notwithstanding consideration of other issues/ risks involved in implementing P455, which are discussed later, we propose that the WG:
 - Continue to support the position that On-Site Aggregation should be implemented for those smaller (sub-100kW) customers for whom there is clear evidence of need today.
 - Make a point in the assessment report that if evidence is found of a larger (100kW+) customer on a PN who wants TPA and could benefit using On-Site Aggregation this will bolster the case for expanding the solution to larger customers through a subsequent modification
 - Make point in the assessment report that Ofgem (and other industry code bodies) could use implementation of On-Site Aggregation as means to help increase visibility of all customers on PNs, not just smaller customers who are a focus of the modification (discussed later)

Integrated analysis on consultation responses



1. Strengthened evidence on the need for the solution
2. **Clarification on various points of fact about the solution design**
3. Practical implementation questions and risks raised in the consultation
4. Strengthening P455



2. Clarification on points of fact about the solution design (1)

- Settlement standard (i.e. Code of Practise) meters must be used

2. Clarification on points of fact about the solution design (2)



- Qualified HHDCs are responsible for the management of meter data for On-Site Aggregation schemes
- HHDCs have similar existing responsibilities for management of complex and shared metering sites
- An assessment and auditing framework for ensuring HHDCs fulfil the requirements of their industry qualification already exists, and is administered by Elexon
- In the delivery of all aspects of their activities, qualified HHDCs are permitted to work with non-HHDC qualified parties if they choose to do so, so long as the required standards of their qualification are maintained
- Should an HHDC choose to work with a PNO on the implementation of their On-Site Aggregation responsibilities, while permissible, it is done at the HHDC's risk, and all the above industry standard requirements apply

2. Clarification on points of fact about the solution design (3)



- Qualified HHMOAs are responsible for the management of meter data on On-Site Aggregation schemes
- HHMOAs have existing similar responsibilities for management of complex and shared metering sites
- An assessment and auditing framework for ensuring HHMOAs fulfil the requirements of their industry qualification already exists, and is administered by Elexon
- In the delivery of all aspects of their activities, qualified HHMOAs are permitted to work with non-HHMOA qualified parties if they choose to do so, so long as the required standards of their qualification are maintained
- Should an HHMOA choose to work with a PNO on the implementation of their On-Site Aggregation responsibilities, while permissible, it is done at the HHMOA's risk, and all the above industry standard requirements apply

2. Clarification on points of fact about the solution design (4)



- Testing and compliance requirements for On-site Aggregation sites are the same standard as required for Complex Sites
- The question of whether to classify On-site Aggregation sites as Complex Sites is a question about classification, not about whether On-site Aggregation sites should have weaker testing and compliance regime to Complex Sites

2. Clarification on points of fact about the solution design (5)



- Having a meter installed at the boundary between a PN and the Distribution System is not a requirement of regulation (for example, full settlement metering solution for PNs)
- Data from such a meter is not required within the mathematics of On-Site Aggregation



2. Clarification on points of fact about the solution design (6)

- For sites with no unauthorised (i.e. unmetered) supplies, the mathematical outcomes from difference metered sites Vs on-site aggregated sites are identical

2. Clarification on points of fact about the solution design (7)



- Losses are essentially irrelevant
- For third party supplied customers who are settled directly by third party suppliers, the situation with losses are equivalent to those under full settlement
- For PN supplied customers, there could be some attribution of losses between customers as part of the On-site aggregation calculation, if this was deemed appropriate. But typically it won't, because the limitation of the sites to small (sub100kW) customers, means the scale of any losses so small as to be negligible.

2. Clarification on points of fact about the solution design (8)



- In relation to unauthorised supplies:
- Difference metering applied on a PN TPA scheme involving domestic/small business theoretically provides benefits by capturing unauthorised supplies
- But there is currently good evidence to suggest difference metering is never used on such schemes in practise
- Since difference metering is never used on such schemes in practise, then the theoretical benefits difference metering offers in relation to unauthorised supplies is never realised
- The evidence suggests it is an imaginary benefit!

2. Clarification on points of fact about the solution design (9)



- There is no change proposed to the existing responsibilities for who manages unauthorised supplies
- For the avoidance of doubt, this means a customer on a PN who doesn't have a registered TPA MPAN and who isn't part of an On-site Aggregation would continue to fall within Distribution Business' remit as an unregistered supply



2. Clarification on points of fact about the solution design (10)

- There is no need for a change to DCUSA to implement P455

2. Clarification on points of fact about the solution design (11)



- On-Site Aggregation reduces the need for a DCUSA process to correct how fixed DUoS charges are allocated on TPA sites.
- This is because with On-Site Aggregation the PNO is charged DUoS fixed charges based on the measurement class of the On-Site Aggregation MPANs, and not a meter situated at the boundary between the PN and the distribution system
- As such, the residual DUoS charges paid by the PNO do not include residual DUoS charges that should be paid by any third-party suppliers and their customers.
- There is therefore no need to correct the residual charges paid by the PNO, by removing the element that should have been paid by the third party supplied customers
- The third party supplied customers pay residual DUoS charges directly to their supplier.

Integrated analysis on consultation responses



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3. Practical implementation questions and risks raised by the consultation (1)



- UKPN raised a few procedural questions related to the management of MPANs under On-Site Aggregation, which are answered below:
 - Q: How will MPANs be made for TPA sites
 - A: For an On-site Aggregation MPAN it will be done in the same way as it is done currently.
 - A. For a customer who is on a PN and wants TPA, the MPAN will need requesting in the usual way. Before issuing the MPAN, the DNO can check in the Elexon managed database (see later) that the customer is on a PN with On-site Aggregation applied.
 - Q. How de-energisations and disconnections would work:
 - A. For an On-site aggregation MPAN, there is space in the On-Site Aggregation form to specify the MPAN as de-energised. Disconnection would be done in the usual way.
 - A. For TPA MPANs, these would be done in the usual way.

3. Practical implementation questions and risks raised by the consultation (2)



- UKPN also raised points and questions related to how information on schemes will be managed, particularly in relation to the central database that we have proposed Elexon (BSCCo) will manage. The points primarily related to interactions of the solution with 2 aspects of their operations:
 - Responding to power cuts or for Priority Services notifications.
 - Tackling unauthorised supplies
- They stressed it was crucial for this work that they had access to information that clearly showed sites where on-site aggregation has been established, and which premises on each site are the responsibility of the relevant On-site Aggregation HHMOA and HHDC (i.e. are supplied by the PNO), and which are TPA
- They raised questions about how these requirements will be fulfilled including: How will Elexon's records be updated? Will DNOs have the requisite visibility of the latest on-site aggregation rules? What is the process for being notified of the TPA site?
- They speculated if other parties may need access to information on schemes
- They proposed the database be a 'live' record, kept updated as schemes varied from time-to-time
- They highlighted the need for the database arrangements to be kept under review once the scheme is live, and understanding of the requirements improves

3. Practical implementation questions and risks raised by the consultation (3)



- UKPN also highlighted some risks they believe exist with the design of the scheme if the solution is popular:
 - Potential risk of settlement inaccuracies if HHMOAs and HHDCs are unable to manage the potential complexity of schemes, particularly in relation to customers switching in and out, particularly if they work with PNOs to deliver their operational requirements
 - Potential risk of increase in unauthorised supplies due to the above, particularly when customers switch away from On-Site Aggregation schemes and should go back to being supplied by an MPAN
- The current design of the solution ensures management of these risks by Elexon, through the various existing performance assurance frameworks it has available.
- But we did receive a related comment from IMServ, who argued, based on their related experience with complex sites, that if the solution was popular the current manual method for submitting site related information to industry via updates to an excel spreadsheet form would need looking at, because it was costly and not v scalable.
- So how popular might the scheme be? ...

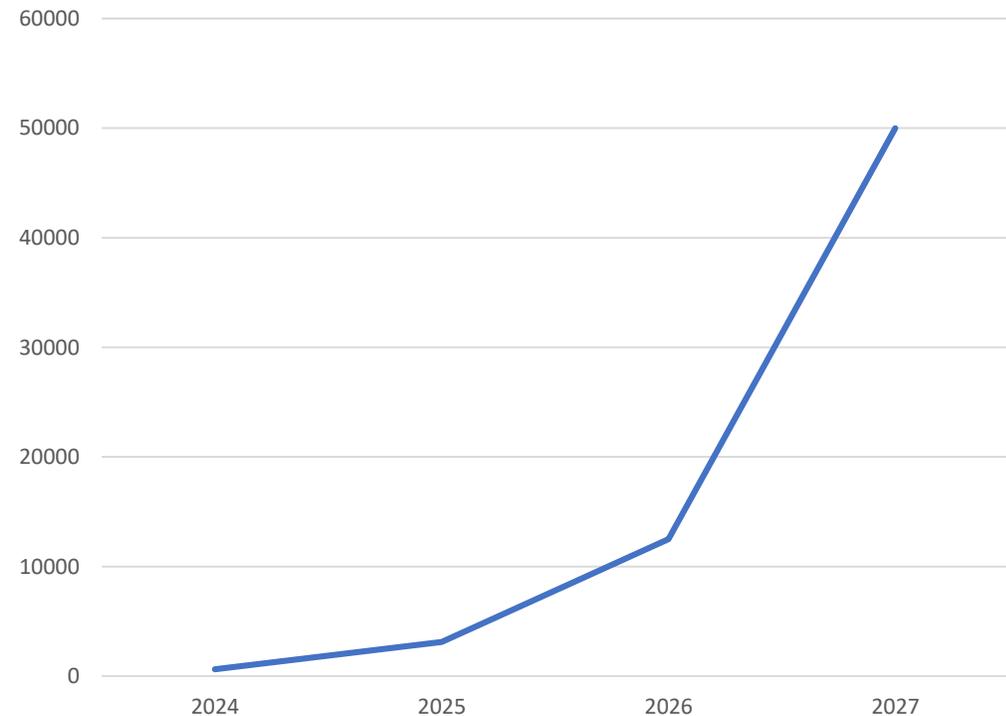
3. Practical implementation questions raised by the consultation (4)



Popularity is hard to predict. But even in an extremely high growth scenario of 400% compound customer growth per year, the total number of customers on the solution in 4 years will only be 50k.

So volumetric risk to settlement in the early years is low, which UKPN have accepted.

Also, high uptake shows the Modification must have delivered value to customers. A success!



3. Practical implementation questions and risks raised by the consultation (5)



- The various responses indicate the importance of the proposed centrally managed database.
- As well as ensuring the database captures the right information overall, and makes the right information accessible to the right industry parties at the right time, e.g. LDSOs for the purposes of the operational processes UKPN have identified, the database has an important function to play in tracking the popularity of the scheme.
- If monitoring of the database shows the popularity is high, in the first instance, if there is concern about compliance of industry parties with the current arrangements, Elexon can increase the level of performance assurance checks it undertakes.
- From a wider perspective, proof the scheme is popular, plus data captured on the schemes being undertaken, can provide the foundation for follow up modifications that aim to improve the current arrangements if required. E.g. creating a non-manual system for updating On-Site Aggregation records; expanding the solution to larger customers; introducing PNOs as a new industry role.

3. Practical implementation questions and risks raised by the consultation (6)



- From a wider perspective still, the database will introduce important visibility on PN schemes and PNOs to industry for the first time.
- Lack of visibility on PN schemes is often cited as a challenge (e.g. by UKPN; Ofgem; difficulties for government issuing the Energy Bill Relief Scheme). The challenges will get bigger if, as we believe, there is growth in residential PN microgrids.
- While the database will bring visibility of schemes that adopt On-site Aggregation, proactive communications by Ofgem linked to the solution could aim to help identify numbers, types and locations of customers on all PNs (e.g. 'Ofgem guidance note on how to switch supplier if you're on a private network')
- Furthermore, it will help with regulation and monitoring of PNOs, who operate outside of the main supply license conditions.
- If the scheme is popular, we believe it highly likely Ofgem will want to introduce enhanced regulatory oversight for PNOs, in particular to ensure appropriate customer protections are provided. This could link to creation of a new industry role for PNOs in BSC (and other codes) if this was deemed helpful.
- (For now, Emergent is working proactively with other interested parties to establish a set of voluntary performance standards for PNOs, that will first and foremost cover customer protection.)

Integrated analysis on consultation responses



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Strengthening P455 (1)



- Proposed the database will have 2 elements:
 - Comprehensive: accessible to BSCCo, Ofgem, LDSOs
 - Summary: accessible to all industry parties
 - Comprehensive data on own schemes to be made available to HHMOAs and PNOs to enable checks that information is up to date
- Proposed data captured in database:
 - Comprehensive: e.g. scheme name, postcode, On-Site Aggregation MPANs, HHMOA, HHDC, Supplier, PNO etc..
 - Summary: number of On-Site Aggregation MPANs
- Note:
 - not currently proposed that the database will capture data linking On-site Aggregation MPANs and TPA MPANs on the same site. This would likely require DNOs to provide data. Could be explored in future.
 - Space to capture PNO details will need adding to the On-site Aggregation Form
- Do we need rules for how the database format will be revised, or just left to Elexon?



P455 AP CONSULTATION

Q1 - Assessment Consultation Responses (1 of 24)

01 Question 1: Do you agree with the Workgroup's initial unanimous view that P455 does better facilitate the Applicable BSC Objectives than the current baseline?

Yes	6
No	1
Neutral	0
Other	0

- Responses were largely supportive, especially regarding BSC Objective (c)
 - P455 solution is expected to enhance competition within the electricity generation and supply sectors, focusing specifically on improving conditions for domestic and small non-domestic customers
 - The proposed method is considered to be more efficient and beneficial than current arrangements
- Those against argued that due to the solution only dealing with a small part of the TPA arrangements (i.e. for sub100KW) it does not better facilitate any of the BSC objectives, and that the rationale for the modification was unclear.
- The challenge related to the focus on sub 100kW customers was addressed earlier

Q2 & 3- Assessment Consultation Responses (2 & 3 of 24)

02 Question 2: Do you agree with the Workgroup that there are no other potential Alternative Modifications within the scope of P455 which would better facilitate the Applicable BSC Objectives?

Yes	6
No	1
Neutral	0
Other	0

- The majority of responses were aligned with corresponding Workgroup views that there is no Alternative Solution
- The response against was due to a misunderstanding of the scope of the proposed Solution

03 Question 3: Do you agree with the Workgroup that the draft legal text in Attachment B delivers the intention of P455?

Yes	6
No	0
Neutral	1
Other	0

Q4 - Assessment Consultation Responses (4 of 24)

04 Question 4: Do you agree with the Workgroup that the draft amendments to the CSDs in Attachment C deliver the intention of P455?

Yes	6
No	1
Neutral	0
Other	0

- Most of the responses treated both question (3 and 4) simultaneously, not differentiating the answers between the BSC and the Code Subsidiary Documents
- From those against, a respondent believed that a reference to metering requirements should be explicit in the 'Export on Licence Exempt Distribution Network' section added to BSCP502
- It was also suggested the use of a equation formatter with subscripts and symbol definitions for ' $E (AE-AI) - (C+D)$ ', but that wouldn't be aligned with the rest of the equations in the document

Q5 - Assessment Consultation Responses (5 of 24)

05 Question 5: Do you agree with the Workgroup's assessment of the impact on the BSC Settlement Risks?

Yes	6
No	1
Neutral	0
Other	0

- The majority of the responses agreed with the low risks identified by the Workgroup
- Those against (Distributor) believe that while the financial impact on the BSC Settlement process might be considered low, the operational effort required to address potential issues could be significant, and highly dependent on the diligence of the relevant parties. Furthermore, there was a concern that the risk to settlements might be underestimated, especially given the unknown volume of customers that could be involved in these revised arrangements
- However, as has been discussed earlier:
 - The HHDC and HHMOA are fully responsible for meter operations on schemes, and the requirements are similar to those for complex and shared metering.
 - Most changes made to the BSC (e.g. complex sites, difference/shared metering) involve a level of uncertainty on take up.
 - The requirement for a central database will make visible how many schemes are operated with on-site aggregation, increase overall visibility in the industry on the number of PNs that exist, and support identification and management of any potential risks to settlement if the solution proves highly desirable for customers.

Q6 - Assessment Consultation Responses (6 of 24)

06 Question 6: Do you agree with the Workgroup's assessment of the consumer benefits?

Yes	7
No	0
Neutral	0
Other	0

Impact of the Modification on the environment and consumer benefit:

Consumer benefit area	Identified impact
1) Improved safety and reliability No impact	Neutral
2) Lower bills than would otherwise be the case This Modification should lower bills for customers on private networks who wish to be supplied by TPSs. TPSs will no longer incur costs as a result of establishing bespoke arrangements in these circumstances	Positive
3) Reduced environmental damage This Modification will support growth in the use of private networks to support the financing of decarbonisation technologies for housing and small business customers. Private networks involving storage and other means of demand control will also deliver reductions in grid capacity constraints and unlock value flexibility. This will support the overall transition to a Net Zero emission electricity grid	Positive
4) Improved quality of service This Modification will make switching easier for customers on private networks	Positive
5) Benefits for society as a whole This Modification will result in benefits for society by supporting innovation in the delivery of statutory Net Zero targets and creating jobs	Positive

Q7 - Assessment Consultation Responses (7 of 24)

07 Question 7: Do you agree with the Workgroup's assessment that P455 does not impact the European Electricity Balancing Guideline (EBGL) Article 18 terms and conditions held within the BSC?

Yes	6
No	0
Neutral	1
Other	0

- Overall, respondents agreed with the Workgroup that P455 does not impact EBGL Article 18
 - P455 is in alignment with EU Directive 2009/72/EC which has already been implemented in UK law via Schedule 2ZA to the Electricity Act

Q8 - Assessment Consultation Responses (8 of 24)

08

Question 8: Will P455 impact your organisation?

High	0
Medium	2
Low	6
Other	0

- Suppliers and PNOs have indicated that P455 will have **positive impacts** on their operations. Where customers request TPA, it will simplify the process to switch to alternative suppliers. They anticipate a reduction in complexity and an increase in efficiency, as the need for the complicated Difference Metering process and coordination with the Boundary Supplier to the Private Network will be eliminated.
- There were some operational requirements identified by the Supplier Agents (HHDCs and HHMOs). HHDCs noted that they would need to tweak their processes to tell the difference between new and current validation tests. HHMOAs anticipate some impact from the requirements outlined in the REC change R0150, although they expect that only a small number of meters will be affected.
- An IDNO anticipated medium impacts, due to some manageable changes needed to business processes that they believed would be beneficial for customers.
- Other Distributors anticipated impacts to be low. One raised several operational questions on how the scheme would be implemented, which have been addressed earlier.

Q9 & 10- Assessment Consultation Responses (9 & 10 of 24)

09

Question 9: How much will it cost your organisation to implement P455?

Medium	0
Low	4
None	2
Other	1

- Most Supplier and Distributors considered the costs to be none or low, highlighting a slight reduction in overheads by not having to go through the Difference Metering process for customers seeking a Third Party Supply.
- One Supplier Agent believes it will be able to implement P455 as an extension of the current Complex arrangements as applied to TPO sites, without incurring in any extra cost.

10

Question 10: What will the ongoing cost of P455 be to your organisation?

Medium	1
Low	3
None	3
Other	1

- Suppliers and one Distributor do not anticipate any ongoing cost for P455.
- Other Distributors anticipated low to medium costs. There are costs expected from supporting the work with external agents and Third Party Suppliers. One Distributor said it was hard to predict the costs, since take up of the scheme is unknown.
- For the Supplier Agents, one agent anticipates relatively modest, though uncertain, increases in operational costs. The other expects the impact to be minimal

Q11 & 12 - Assessment Consultation Responses (11 & 12 of 24)

11

Question 11: How long (from the point of approval) would you need to implement P455?

0-6 months	2
6-12 months	1
>12 months	0
Other	3

- Most responses suggested a three months period to implement the solution

12

Question 12: Do you agree with the Workgroup's recommended Implementation Date?

Yes	6
No	1
Neutral	0
Other	0

- Those in favour (the majority) agreed with the Workgroup's recommended Implementation approach
- Those against disagreed with the Modification Solution

Q13 - Assessment Consultation Responses (13 of 24)

13 Question 13: Does the proposed On-Site Aggregation methodology result in accurate settlement outcomes (particularly in relation to difference metering)?

Yes	6
No	1
Neutral	0
Other	0

- Those in favour believed that the proposed On-Site Aggregation methodology is a significant improvement over Difference Metering in terms of achieving accurate settlement outcomes.
 - Its design, supported by the Sandbox Trial Application evidence, suggests it can effectively address the current limitations associated with Difference Metering
 - The aggregation methodology removes the need to compensate for losses between the boundary point meter and the “embedded” meters
- Those against:
 - One believed that losses between the DNO boundary and the Sub Meters seem to be unaccounted for. This particular point was covered during the second Workgroup meeting and now expanded in the Assessment Report.
 - The other concern was regarding aggregation utilising privately-managed sub-meters. However, the On-Site aggregation meters are settlement standard (COP) and managed by standard accredited industry parties (HHMOA/HHDC)

14 Question 14: What testing should be required to validate the solution is correctly implemented, and should this include an unmetered load tests?

- This was an open text question.
- Most of the responses agreed with the Workgroup's position that a physical unmetered loads test should not be required
- There was a negative response from a Distributor that appeared to believe the question related to overall testing of the solution, rather than on individual sites. The respondent believes that all arrangements need to be tested including all types of customers who could be connected on any TPA sites. They argued for E2E testing of the solution proposed using more than a single type of party for each stage to ensure that what is being proposed is robust and will work when utilised on a wider scale.
 - However, BSC Modifications that enable new solutions (e.g. complex metering, shared metering) are rarely tested in depth in the field before implementation. In this case, P455 solution has been trialled during the Sandbox Application, so has already undertaken more testing than is typical.

Q15 - Assessment Consultation Responses (15 of 24)

15 Question 15: Is it right that the boundary meter HHDC and HHMOA are responsible for operations related to the sub-meters, given private network operators are responsible for these meters on a day-to-day basis, and given the move to new arrangements under MHHS?

Yes	6
No	1
Neutral	0
Other	0

- The majority of the responses agreed with the Workgroup’s view that the boundary meter HHDC and HHMOA should be responsible for the On-site aggregation meters
- Those who disagreed believed that it might be more effective for a single entity to oversee meter operations to minimize the risk of errors that could impact settlement accuracy
 - However, given that the standard industry practice is to have a separate agent responsible for meter operations (HHMO) and data (HHDC) it is not clear why this scheme should be delivered in a different way

Q16 & 17 - Assessment Consultation Responses (16 & 17 of 24)

16 Question 16: Is it right that the sub-meters should conform to COP10 standards?

Yes	6
No	1
Neutral	0
Other	0

- This was one of the questions that brought confusion to the Consultation since the wording kept the original ToR, and not what was agreed by the Workgroup
- Views aligned with corresponding Workgroup views of limiting the **import only sub-meters** to the CoP10 standards, and the other apparatus to the relevant CoP

17 Question 17: Should there be a requirement for Elexon to maintain a central database of sites where on-site aggregation is applied? Do the benefits of maintaining a central register outweigh the costs of creating and maintaining his central register? Do PNOs/DNOs have all the necessary data to manage schemes?

Yes	6
No	0
Neutral	1
Other	0

- Most of the responses agreed with the Workgroup views on the need for a central register
- The negative response had concerns about the purpose of having such database, its accuracy, and the cost of having it.
 - However, as has been discussed earlier, there is a strong case to use the central database to help manage risks by providing Elexon/Ofgem and other relevant industry parties with a central view on all on-site aggregation schemes

Q18 & 19 - Assessment Consultation Responses (18 & 19 of 24)

18 Question 18: Is there an impact on BSC Metering Dispensations?

Yes	1
No	5
Neutral	1
Other	0

- Most respondents agreed with the Workgroup that Metering Dispensations are not required as all the entry and exits points of the Licence Exempt Network (i.e. PN) are metered
- The one respondent who was against did not agree with the Modification in general

19 Question 19: Is a Cost-Benefit Analysis required?

Yes	2
No	5
Neutral	0
Other	0

- Most respondents agreed with the Workgroup that there are not sufficient costs associated with implementing the Proposal to justify a CBA
- Those against did so based on concerns with the potential interaction with MHHSP and escalation of the scheme

Q20 - Assessment Consultation Responses (20 of 24)

20

Question 20: Is it right that the scheme is limited to sub-100kW sites?

Yes	2
No	5
Neutral	0
Other	0

- Like with the case of the CoP10 question, not having adapted the question to what was agreed by the Workgroup generated some confusion
- Most views aligned with corresponding Workgroup decision of just limiting the Import only Metering Equipment comprised within the on-site aggregation Metering System
- The respondents generally agreed that the restriction on the CoP10 level of final consumption loads would act to keep the scheme limited to smaller consumers as intended
- Those responses that disagreed with the Workgroup solution believed the scheme should not be limited to sub-100kW sites
 - However, the arguments for limiting the scheme to smaller customers has been discussed in depth above.

Q21 & 22 - Assessment Consultation Responses (21 & 22 of 24)

21 Question 21: Is it right that the MSIDs of Customers of a PN should be de-energised instead of logically disconnected, in order to minimise barriers to the Customer subsequently choosing a third party supply? Are there other ways in which the need to swap customers meters when they move in and out of schemes could be reduced/avoided?

Yes	1
No	4
Neutral	1
Other	1

- The majority of the responses agreed with the Workgroup's position that a logical disconnection is more appropriate

22 Question 22: Is it right for the solution not to be captured under the complex site arrangements within BSC?

Yes	6
No	1
Neutral	0
Other	0

- Only one respondent disagreed with the Workgroup and suggested that adding the On-Site Aggregation method to the Complex Sites would provide a higher level of scrutiny
 - However, this is incorrect, as sites participating under the On-Site Aggregation method will have the same level of scrutiny as Complex Sites.

Q23 - Assessment Consultation Responses (23 of 24)

23 Is a physical boundary meter required to implement the solution, and should it be?

Yes	2
No	5
Neutral	0
Other	0

- The majority of the responses were aligned with the Workgroup's views that a boundary meter is not required
- The respondents who disagreed did so believing it is needed to determine if the correct units are being recorded for any TPA site
 - This point has been discussed during the Workgroup meetings where it was agreed that a boundary meter was not a requirement of regulation, that the data from such a meter was needed, and it was inappropriate to require a test that involved full summation of all meters on a PNO (including PNO sub-meters and TPS meters), necessarily requiring a boundary meter, since this was above and beyond the testing requirement for comparable solutions in the BSC, and would be a prohibitively costly requirement to implement

24 What are the arguments for and against creation of a new market role for PNOs (e.g. access to industry data access; market competition)?

- The majority of the respondents believed that the creation of a new market role for this scheme is not currently required, would create unnecessary implementation costs and delays, and is out of scope due to time constraints
- It was noted that one of the main aims for this Modification is to increase competition. One respondent argued that creating a new market role would inhibit competition and introduce unwarranted complexity to the market.
- One of the respondents believed a new market role is needed to ensure that the industry has better visibility of PNO.
 - As discussed earlier, this issue will be solved by the central database that will be managed by BSSCo



REVISED LEGAL TEXT

Revised legal text

- We have reverted this line to the original text

FROM

~~[P455]~~In many cases, a Complex Site shall meet the conditions required to apply for a Metering Dispensation as described in BSCP32 ‘Metering Dispensations’. Where Complex Sites use a MS which is not fully compliant with ~~the relevant Codes of Practice~~, a Metering Dispensation should be applied for via BSCP32. Once a Dispensation has been granted, the information shall be available for all future Suppliers, so that they shall have the ability to understand the metering configuration at the Complex Site. As part of the dispensation application process, the Supplier shall need to submit a simplified schematic diagram of the Complex Site connection arrangements and the proposed metering points; as required in BSCP32.

TO

~~[P455]~~In many cases, a Complex Site shall meet the conditions required to apply for a Metering Dispensation as described in BSCP32 ‘Metering Dispensations’. Where Complex Sites use a MS which is not fully compliant with the relevant Codes of Practice, a Metering Dispensation should be applied for via BSCP32. Once a Dispensation has been granted, the information shall be available for all future Suppliers, so that they shall have the ability to understand the metering configuration at the Complex Site. As part of the dispensation application process, the Supplier shall need to submit a simplified schematic diagram of the Complex Site connection arrangements and the proposed metering points; as required in BSCP32.

Revised legal text

- We have reverted this line to the original text

FROM

- Third Party Meter: CoP compliant Settlement Meter for the customer on the private network; and
- Non Settlement Meter: A meter ~~that~~ is not registered for Settlement purposes.

As the Third Party Meters will not be at the Boundary Point, a Metering Dispensation for each Metering System must be applied for if available, use any relevant Generic Metering Dispensation. |

TO

- Third Party Meter: CoP compliant Settlement Meter for the customer on the private network; and
- Non Settlement Meter: A meter that is not registered for Settlement purposes.

As the Third Party Meters will not be at the Boundary Point, a Metering Dispensation for each Metering System must be applied for if available, use any relevant Generic Metering Dispensation.

- The typos have been corrected:

[P455] On-Site Aggregation Option

On-Site Aggregation is concerned with the aggregation of the metered volumes of the connections on the Licence Exempt Distribution Network for which the Supplier associated with the Licence Exempt Distribution Network is responsible (i.e. those Meter connections related to customers who have not chosen a Third Party Supplier, “sub-meters”).

Paragraph 2.9 of Section K details certain requirements in connection with the On-Site Aggregation Option and the registration of On-Site Aggregation SVA Metering Systems.



P455 TOR

P455 specific Terms of Reference

ToR	Details	Result
a)	Does the proposed on-site aggregation methodology result in accurate settlement outcomes (particularly in relation to difference metering)?	Yes
b)	What testing should be required to validate the solution is correctly implemented, and should this include an unmetered load tests?	A physical unmetered loads test should not be required
c)	Is it right that the boundary meter HHDC and HHMOA are responsible for operations related to the sub-meters, given private network operators are responsible for these meters on a day-to-day basis, and given the move to new arrangements under MHHS?	The boundary meter HHDC and HHMOA should be responsible for the On-site aggregation meters
d)	Is it right that the sub-meters should conform to COP10 standards?	The import only sub-meters to the CoP10 standards, and the other apparatus to the relevant CoP
e)	Should there be a requirement for Elexon to maintain a central database of sites where on-site aggregation is applied? Do the benefits of maintaining a central register outweigh the costs of creating and maintaining his central register? Do PNOs/DNOs have all the necessary data to manage schemes?	Yes
f)	Is there an impact on BSC Metering Dispensations?	No
g)	Is this proposal independent from any DCUSA change?	Yes
h)	Is a Cost-Benefit Analysis required?	No
i)	Is it right that the scheme is limited to sub-100kW sites?	The scheme limits the Import only Metering Equipment comprised within the on-site aggregation Metering System The restriction on the CoP10 level of final consumption loads would act to keep the scheme limited to smaller consumers as intended

P455 specific Terms of Reference

ToR	Details	Result
j)	Is it right that the MSIDs of Customers of a PN should be de-energised instead of logically disconnected, in order to minimise barriers to the Customer subsequently choosing a third party supply? Are there other ways in which the need to swap customers meters when they move in and out of schemes could be reduced/avoided?	A logical disconnection is more appropriate
k)	Is it right for the solution not to be captured under the complex site arrangements within BSC?	Yes
l)	Is a physical boundary meter required to implement the solution, and should it be?	No
m)	What are the arguments for and against creation of a new market role for PNOs (e.g. access to industry data access; market competition)?	There is no need for a new market role

P455 standard Terms of Reference

ToR	Details	Result
n)	How will P455 impact the BSC Settlement Risks?	No impacts expected
o)	What changes are needed to BSC documents, systems and processes to support P455 and what are the related costs and lead times? When will any required changes to subsidiary documents be developed and consulted on?	BSC Section K BSCP502
p)	Are there any Alternative Modifications?	No
q)	Should P455 be progressed as a Self-Governance Modification?	No
r)	Does P455 better facilitate the Applicable BSC Objectives than the current baseline?	Yes
s)	Does P455 impact the EBGL provisions held within the BSC, and if so, what is the impact on the EBGL Objectives?	No

Final Workgroup views against Applicable BSC Objectives

Voting Member	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Reg Platt (Proposer)	N	N	+	N	+	N	N
Andrew Colley	N	N	+	N	+	N	N
Gary Watts	N	N	+	N	+	N	N
George Donoghue	N	N	+	N	+	N	N
James Page	+	+	+	N	+	N	N
Marcus Wood	N	N	+	N	+	N	N
Nik Wills	N	N	+	N	+	N	N
Overall	N	N	+	N	+	N	N

Does P455 better facilitate the Applicable BSC Objectives than the current baseline?

Voting Member	
Reg Platt (Proposer)	Y
Andrew Colley	Y
Gary Watts	Y
George Donoghue	Y
James Page	Y
Marcus Wood	Y
Nik Wills	Y
Overall	Y

Does the legal text deliver the intention of P455?

Voting Member	
Reg Platt (Proposer)	Y
Andrew Colley	Y
Gary Watts	Y
George Donoghue	Y
James Page	Y
Marcus Wood	Y
Nik Wills	Y
Overall	Y

Are any Alternative Modifications?

Voting Member	
Reg Platt (Proposer)	N
Andrew Colley	N
Gary Watts	N
George Donoghue	N
James Page	N
Marcus Wood	N
Nik Wills	N
Overall	N

Will P455 impact the BSC Settlement Risks?

Voting Member	
Reg Platt (Proposer)	N
Andrew Colley	N
Gary Watts	N
George Donoghue	N
James Page	N
Marcus Wood	N
Nik Wills	N
Overall	N

Will P455 impact the EBGL Article 18?

Voting Member	
Reg Platt (Proposer)	N
Andrew Colley	N
Gary Watts	N
George Donoghue	N
James Page	N
Marcus Wood	N
Nik Wills	N
Overall	N

Should P455 be treated as a Self-Governance Modification?

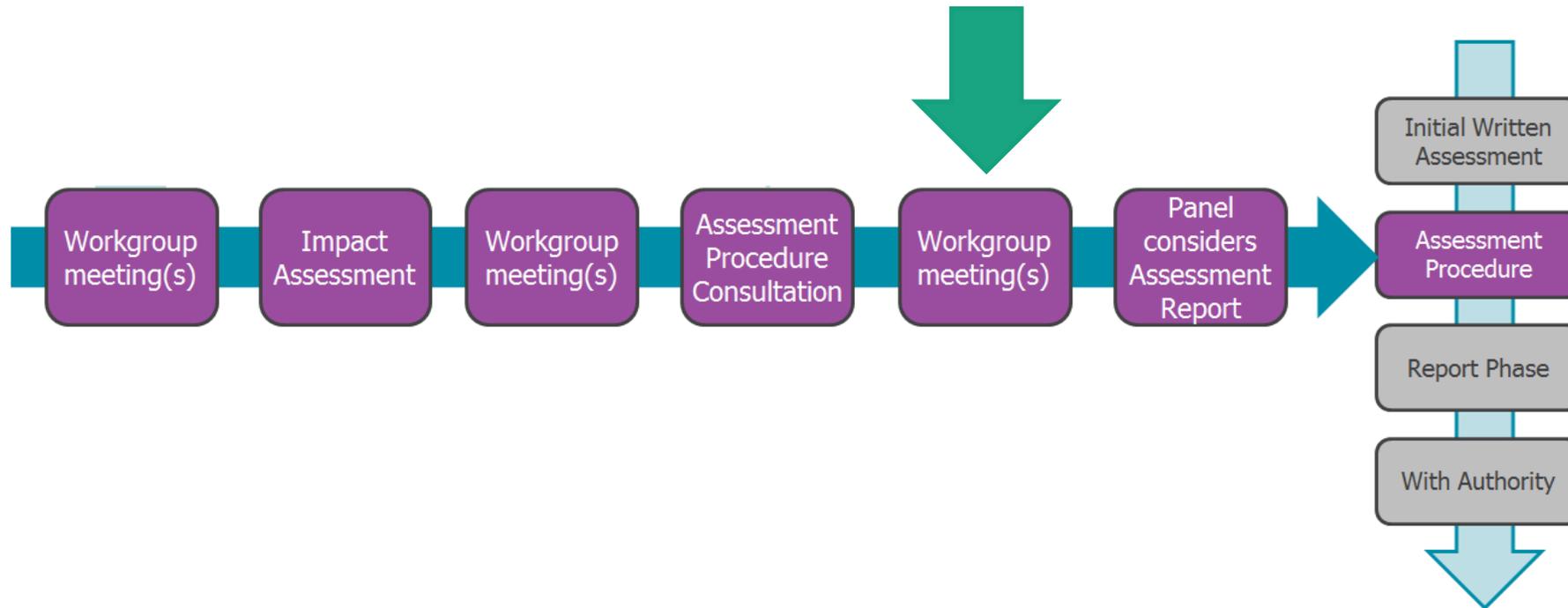
Voting Member	
Reg Platt (Proposer)	N
Andrew Colley	N
Gary Watts	N
George Donoghue	N
James Page	N
Marcus Wood	N
Nik Wills	N
Overall	N



NEXT STEPS

Where are we in the Assessment process?

- The role of the Workgroup is to assist the Proposer in developing the most appropriate solution, answer the Terms of Reference set by the BSC Panel and consider the costs and impacts of making the change



Progression plan

Event	Date
Present IWA to Panel	8 June 2023
Workgroup meeting 1	12 September 2023
Workgroup meeting 2	31 October 2023
Workgroup meeting 3	22 November 2023
Workgroup meeting 4	27 November 2023
Workgroup meeting 5	12 December 2023
Assessment Procedure Consultation	15 December 2023 – 19 January 2024
Workgroup meeting 6	20 February 2024
Present Assessment Report to Panel	14 March 2024
Report Phase Consultation	18 March 2024 – 29 March 2024
Present Draft Modification Report to Panel	11 April 2024
Issue Final Modification Report to Authority	11 April 2024

MEETING CLOSE

ELEXON

THANK YOU

Cecilia Portabales

Cecilia.Portabales@elexon.co.uk

bsc.change@elexon.co.uk

20 February 2024