

Modification proposal	Balancing and Settlement Code (BSC) P455: 'On-Site Aggregation as a method to facilitate Third Party Access'		
Decision	The Authority ¹ directs that this modification be made ²		
Target audience	National Grid Electricity System Operator (ESO), Distribution Network Operator (DNO), Private Network Operator (PNO), licensed suppliers, licensed-exempt suppliers, Parties to the BSC, the BSC Panel and other interested parties		
Date of publication	17 September 2024	Implementation date	Five working days after Authority decision date

Background

Consumers connected directly to a Private Network (PN)³ who receive their supply from an on-site supplier (most likely operating as a licence-exempt supplier), are entitled to switch to another supplier, just like consumers directly connected to a local distribution network (or, less commonly, the transmission network). The Electricity Act 1989 establishes that supply is a licensable activity and that suppliers must either be licensed by Ofgem or in certain circumstances may supply electricity without holding a licence: licence-exempt supply.⁴ Licence-exempt suppliers can be defined by type (see the Electricity (Class Exemptions for the Requirements for a Licence) Order 2001)⁵ or granted an individual licence exemption by the Secretary of State.

¹ References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day-to-day work. This decision is made by or on behalf of GEMA.

² This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.

³ Private networks are also known as licence exempt networks, exempt distribution networks, licence-exempt networks and microgrids. Despite the different labels, they describe an arrangement where the PN Operator (PNO) distributes power without the need to hold an electricity distribution licence. PNs can be connected to or stand apart from the public network (comprising the distribution and transmission networks). PNOs (otherwise known as distribution exemption holders and exempt network operators – ENOs) must satisfy themselves that they can operate within the framework provided for by the Electricity Class Exemptions Order (see link in footnote 5 below) and appropriate provisions of the Electricity Act 1989 (EA89), particularly Schedule 2ZA which sets out the duties of distribution exemption holders (see link in footnote 4 below).

⁴ Section 5 of EA89 provides for licence-exempt supply: [Electricity Act 1989 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/1989/29/section/5).

⁵ Schedule 4 of the 2001 Order sets out the Classes of licence-exempt supply, and Schedule 3 details the Classes of licence-exempt distribution: [The Electricity \(Class Exemptions from the Requirement for a Licence\) Order 2001 \(legislation.gov.uk\)](https://www.legislation.gov.uk/uksi/2001/1100/schedule/3).

Licence-exempt suppliers operating under the prescribed Classes do not seek approval for their activities; this means there is no register of schemes, but the majority of these arrangements happen on PNs where parties (generally, but not exclusively, the same party) meet consumers' needs through the on-site licence-exempt generation, distribution and supply of electricity.⁶ Enabling a consumer to switch supply is facilitated by allowing a third-party supplier (TPS) access to the PN to which the consumer is connected: Third Party Access (TPA) rights.⁷

The 2008 European Court of Justice ruling in the Citiworks case clarified that the requirement to provide for TPA applies in respect of all transmission and distribution systems, irrespective of size, and that it was not open to member states to exempt certain types of transmission or distribution systems from this requirement.⁸ The legislative provision for TPA was introduced by the Electricity and Gas (Internal Markets) Regulations 2011, which came into force in November 2011.⁹ Despite these legislative provisions being in place for approaching 13 years, the Proposer, Emergent Energy Ltd (hereinafter "Emergent"), contends that the mechanisms (for collecting and submitting metered settlement data) and the underpinning contractual relationships required between the suppliers involved at a site are barriers to domestic consumers (and small business customers) exercising their right to switch supply.

To that end, Ofgem granted a Regulatory Sandbox derogation (explained in the following section) for the Proposer to undertake a trial of an alternative methodology for enabling TPA for domestic and small business customers (sub-100kW). The Sandbox trial demonstrated the viability of the Proposer's alternative methodology, leading to this modification being raised to bring about permanent change to the BSC.

Regulatory Sandbox trial

Emergent establishes and operates microgrids within residential housing developments (most commonly blocks of flats). These microgrids typically include heat pumps, solar

⁶ Some licence-exempt suppliers will also procure power produced off-site and resell this to their customers (domestic and/or non-domestic). This can cover all of their consumers' electricity needs (ie, there is no on-site generation) or just back-up and top-up services.

⁷ See guidance from the then Department for Energy and Climate Change (DECC) on the "Provision of TPA to Licence Exempt Electricity and Gas Networks" (February 2012): [DECC report \(publishing.service.gov.uk\)](#).

⁸ Citiworks AG v Sächsisches Staatsministerium für Wirtschaft und Arbeit als Landesregulierungsbehörde (Case C-439/06).

⁹ Electricity and Gas (Internal Markets) Regulations 2011: [The Electricity and Gas \(Internal Markets\) Regulations 2011 \(legislation.gov.uk\)](#)

photovoltaic (PV) generation, electric vehicle (EV) chargers and shared battery storage, each connected to a locally operated PN. Emergent offers to pay housing companies for the right to apply its microgrid solution within their developments. The approach is intended to reduce the cost to housing companies of decarbonising their stock while helping to lower bills for their residents. While the commercial success of microgrids is in part dependent on retaining on-site consumers and minimising exposure to back-up and top-up power procured from providers located off-site, Emergent recognises that the credibility of the model (with its client housing companies and residents) cannot be founded on locking consumers into long-term contracts and depends on consumers being able to exercise their right to switch when they so desire.

However, where one or more customers connected to a PN opts for a TPS,¹⁰ corrective action is required to avoid the double counting of the metered volumes that are submitted to settlement. The Proposer's view is that the current industry methodologies for enabling TPA ('difference metering' and 'shared SVA metering')¹¹ are inefficient and burdensome and do not incentivise a TPS to offer affordable terms to a domestic consumer located on a PN.

As such, Emergent made an application to Ofgem's Energy Regulation Sandbox¹² (designed to support innovators in trialling and bringing to market new products, services, methodologies, and business models) for a temporary derogation from the BSC¹³ to trial a new, simpler, and less costly methodology. In particular, a derogation was sought from the requirement that metered data for settlement be collected from a metering system at the interface between a premises and the total system (the boundary point) or based on a calculated difference from that meter reading where more than one supplier is serving customers on a site. The rationale for, and parameters of, the trial and

¹⁰ TPS is used in this decision to mean third party "supply" or "supplier" as the context requires.

¹¹ Difference metering involves deducting the supply volumes of each switching customer from the supply volumes measured at the site's boundary meter. Shared SVA (Supplier Volume Allocation) metering involves licensed suppliers sharing a meter and agreeing an apportionment schedule/methodology for their supplies of active power to a site. See Elexon's guidance on each methodology: [Third Party Licence Exempt Distribution Guidance Note - Elexon Digital BSC](#).

¹² Ofgem's Energy Regulatory Sandbox (created in 2017) helps innovators trial or bring to market new products, services, business models and methodologies without some of the usual rules applying. A short navigator on what the sandbox is and who its for is available here: [Energy Regulation Sandbox: Guidance for Innovators | Ofgem](#). Detailed guidance and application form and information about those sandboxes we've granted (and those rejected) are also available from Ofgem's website: [Innovation Link | Ofgem](#).

¹³ The Ofgem Sandbox toolkit includes the BSC Electricity Sandbox which provides temporary derogations for pre-competitive innovation projects; the BSC's guidance notes and procedures are available from the Elexon website: [Derogations from the BSC using the BSC Sandbox - Elexon BSC](#).

derogation awarded to Emergent (and the relevant suppliers participating in the trial) are set out in the Ofgem Sandbox decision letter.¹⁴

At the end of a trial period (up to two years), the Derogation Party (ie, Emergent), or another interested BSC Party, may raise a modification to permanently change the BSC based on the trial results; where this occurs, the derogation period is extended for up to one more year to allow for the modification process to occur (a total trial period of three years), in this case until 25 September 2024.

The modification proposal

Emergent Energy Ltd raised P455 on 31 May 2023. While Emergent is not a BSC Party, the BSC Panel designated it as a Third Party Proposer for the purposes of raising P455, in accordance with BSC Section F2.1A.

The solution (which was tested and verified through the Sandbox enabled trial) involves an 'on-site aggregation' methodology for facilitating TPA to PNs. Rather than difference metering, it requires the BSC to allow aggregated data from meters installed on a PN for those customers not opting for TPS to be submitted into settlement in lieu of data from the site's boundary point settlement meter. In effect, for those customers that choose to switch supplier, their meter data is measured and submitted in the same way as customers directly connected to a DNO (or IDNO – independent DNO).

This approach would enable each supplier on the site to be settled for the correct amount of consumed (or generated) electricity without (as required by current arrangements) each supplier having to enter into a bilateral arrangement with all other suppliers operating on the site, and agreeing contracts with the boundary point supplier's agents.¹⁵ The Proposer believes this should reduce the overheads associated with supplying customers located on PNs, improving their access to the competitive retail electricity market.

¹⁴ The Emergent Sandbox decision letter is available here: [Regulatory Sandbox: Emergent Energy Systems Ltd - 2022 | Ofgem](#).

¹⁵ The supplier gaining a new customer currently has to enter into contracts with the boundary point supplier's HHMOA (Half-hourly Meter Operator Agent) and HHDC (Half-hourly Data Collector).

The Proposer believes the Proposed Solution would have a neutral impact on five of the BSC's objectives, and a positive impact (compared to current arrangements) and better facilitate the following two objectives:¹⁶

- Objective (c) – promoting competition in the generation and supply of electricity;
- Objective (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].

BSC Panel¹⁷ recommendation

At its meeting on 9 May 2024, the BSC Panel agreed that P455 would better facilitate the applicable BSC objectives and the Panel therefore recommended its approval.

The Panel unanimously agreed that P455 would better facilitate applicable BSC objectives (c) and (e) compared to the existing baseline. The Panel also agreed that P455 does impact the BSC provisions that constitute EBGL (Electricity Balancing Guideline) Article 18 Terms and Conditions, but that the impact on the EBGL objectives is neutral.

Our decision

We have considered the issues raised by the modification proposal and the Final Modification Report (FMR) dated 13 May 2024, and taken account of the responses to the industry consultation(s) attached to the FMR.¹⁸

We have concluded that:

- Implementation of the modification will better facilitate the achievement of the applicable objectives of the BSC;¹⁹ and

¹⁶ The 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 coordinated 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 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 administering the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation; and, (g) Compliance with the Transmission Losses Principle.

¹⁷ The BSC Panel is established and constituted pursuant to and in accordance with Section B of the BSC and Standard Special Licence Condition C3 of the Electricity Transmission Licence: www.epr.ofgem.gov.uk.

¹⁸ BSC modification proposals, modification reports and representations can be viewed on the Elexon website at www.elexon.co.uk.

¹⁹ As set out in Standard Condition C3(3) of the Electricity Transmission Licence: <https://epr.ofgem.gov.uk>.

- Directing that the modification be made is consistent with our principal objective and statutory duties.²⁰

Reasons for our decision

Legislation provides that a consumer connected to a PN has the right to switch supplier and this right is to be realised via TPA arrangements. However, the work undertaken on this code modification reveals that, in practice, difference metering²¹ is not used for domestic and small business customers. Indeed, in response to the modification's Assessment Procedure Consultation it came to light that a major distributor (DNO or IDNO)²² has never come across a domestic or small business customer being supplied on a PN via a difference metering arrangement. It is hard to disagree with the Proposer's view that domestic and small business customers on PNs are, in practice, unable to switch to TPS. We consider that a reasonable characterisation of the situation is that some consumers' legal right to switch is being frustrated by current industry arrangements.

We agree with the Proposer and the Workgroup that the operational requirements of difference metering placed on a TPS are unnecessarily burdensome and have the effect of increasing the costs associated with supplying a PN-connected customer via TPA. The requirement that a TPS coordinate with and appoint the same agents used by the boundary point supplier (the supplier that registers the PN site in industry systems) represents a barrier to TPA, which would be avoided with the introduction of the on-site aggregation methodology under P455.

In addition, difference metering requires that the allocation of supply volumes between the different suppliers be done on a half-hourly (HH) basis. This means TPSs have to agree voluntary arrangements to settle PN customers at a time when half-hourly settlement (HHS) is not standard practice. While the market is rightly moving towards HHS for all customers, the migration will not be completed for two years; in the interim, this requirement may exacerbate the challenges already facing consumers connected to

²⁰ The Authority's statutory duties are wider than matters which the Panel must take into consideration and are detailed mainly in the Electricity Act 1989.

²¹ See footnote 11 for an explanation of difference metering and links to Elexon resources. While BSC procedures provide for difference metering and shared SVA metering solutions to enable TPA, the difference metering solution is the default arrangement for PNs where TPA is required.

²² Elexon and the BSC refer to the collective terms of Licensed Distribution System Operator (LDSO) to describe a party (DNO or IDNO) licensed by Ofgem to distribute power to consumers' premises for the purpose of enabling a supply.

PNs in securing the services of a TPS using the difference metering methodology. The on-site aggregation approach removes this condition, allowing PN customers to be settled on a HH or non-HH basis.

Lastly, the complexity and costs associated with the difference metering solution increase depending on the number of suppliers involved. As the FMR explains, in a situation where a PN is connected to 100 domestic properties (50 of which are supplied by the PNO and 50 of which are supplied by 20 different TPSs) all 20 TPSs need to establish the bespoke contractual arrangements set out above. The on-site aggregation methodology removes the need for such complexity, transactions and associated costs.

We note the Workgroup's deliberations about whether the solution could be expanded to include larger business customers. The Workgroup considered that larger businesses are already settled HH and don't face the same commercial barriers (as domestic and small business customers) in negotiating and securing TPS via a TPA arrangement. While P455 was raised to address the specific issues facing smaller electricity consumers, the Workgroup concluded that the on-site aggregation methodology may, in time, be useful for TPA arrangements for larger non-domestic customers and help address the issue of how fixed Distribution Use of System (DUoS) charges are applied on such sites;²³ the Workgroup discussed that a future modification could be raised to extend the methodology's application.

The FMR indicates that DNOs and IDNOs were involved in the Workgroup exploring the solution's operationalisation, how potential issues might be mitigated, possible impacts on the Distribution, Connection and Use of System Agreement (DCUSA), and responded to the Assessment Consultation. We are assured by the FMR that the operational matters identified are provided for in the Proposed Solution and will be subject to the BSC's Performance Assurance Framework, and that a central register of TPA schemes will provide an industry-wide resource and allow for monitoring. We also note that following extensive exploration with DNOs and DCUSA, the Workgroup concluded that P455 is independent of any DCUSA change.²⁴

²³ The FMR explains that the methodology may go some way to solving how to allocate fixed DUoS charges on sites with TPA, the focus of DCP328 which was rejected by Ofgem in July 2023 ([Decision on DCUSA Modification Proposal DCP328 | Ofgem](#)) and now the focus of a DCUSA DCMDG 'Private Networks' Subgroup ([DCMDG 'Private Networks' Subgroup - DCUSA](#)).

²⁴ The FMR noted that as there are no provisions for managing TPA sites in DCUSA there is nothing to be changed as a result of the on-site aggregation methodology.

We note that the FMR also summarised the BSC Panel's discussion about a letter emailed by the Electricity Network Association (ENA) on the day of the BSC Panel meeting at which the FMR was considered; the BSC Panel emphatically expressed its disquiet that the issues set-out in the letter were raised outside of the codified BSC modification procedures. As explained and summarised in the FMR, the letter raised issues related to the Solution's development and refinement, and Cross-Code impacts; these include a risk of growing unmetered supply volumes, the implications of P455 for DCUSA, and links to the Market-wide HHS (MHHS) programme. The FMR explains that these and most of the fourteen additional points raised by the ENA were considered by the Workgroup, discussed during the Assessment Procedure and explained in the FMR. Elexon clarified to the Panel that four distributors (including three DNOs) responded to the Assessment Consultation and only one disagreed with the Solution; Elexon and the Proposer engaged extensively with that respondent, after which it expressed its support for the Solution. We are satisfied with the Panel's assessment and explanation that the majority of matters raised by the ENA were already dealt with through the Solution development, assessment, and consultation processes as provided for in the BSC's governance arrangements.

Consumers located on PNs (such as park homes, private housing estates, blocks of flats, industrial sites, etc) supplied by a licence-exempt supplier have the right to switch and enjoy the same benefits and protections as other consumers directly connected to a DNO (or IDNO) network and served by a licensed supplier. We believe the on-site aggregation methodology developed and tested via the live Sandbox trial (which has demonstrated equivalent settlement results as delivered by difference metering)²⁵ is a better and more efficient arrangement than difference metering, offering a real solution to domestic and small business customers (sub-100kW) seeking to switch supply to a TPS via TPA. The introduction of a register of on-site aggregation schemes will also give greater visibility of PN arrangements and the consumers connected to them.

In conclusion, we consider the modification is better than the current baseline and will better facilitate BSC objectives (c) and (e) and we agree with the BSC Panel that it has a neutral impact on the other applicable objectives.

²⁵ Trial updates are on the Elexon website: [Derogations from the BSC using the BSC Sandbox - Elexon BSC.](#)

(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

The Proposer, the Workgroup and the BSC Panel unanimously agree the modification will improve access to TPSs for small customers on PNs, supporting increased competition in the supply of electricity. We concur and believe this modification will better facilitate the achievement of BSC objective (c) by removing barriers and overhead costs for TPSs offering terms to consumers located on PNs. We also believe it will fix deficiencies associated with existing industry arrangements which do not appear to have enabled any domestic or small business customer to switch supplier since the legislative requirement for TPA was introduced by the Electricity and Gas (Internal Markets) Regulations 2011.

(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]

The Proposer, the Workgroup and the BSC Panel unanimously agree that the modification will better comply with the requirements of the EU Electricity Directive 2009/72/EC which was transposed into domestic legislation by the Electricity and Gas (Internal Markets) Regulations 2011. We agree and believe this modification will better facilitate the achievement of BSC objective (e) by introducing a mechanism for on-site aggregation which has been tested and validated as producing the requisite quality of settlement data and appears more efficient and better suited to facilitating TPA access for TPS to supply domestic and small business customers on PNs.

Decision notice

In accordance with Standard Condition C3 of the Transmission Licence, the Authority hereby directs that modification proposal BSC P455 'On-Site Aggregation as a method to facilitate Third Party Access' be made.

Marzia Zafar

**Marzia Zafar
Deputy Director
Digitalisation, Innovation and Decentralisation**

Signed on behalf of the Authority and authorised for that purpose