BSC Modification Proposal Form	At what stage is this document in the process?
# P355 ## Mod Title: Introduction of a BM Lite Balancing Mechanism	01 Modification 02 Workgroup Report 03 Draft Modification Report 04 Final Modification Report

Purpose of Modification: The Modification would introduce a new BM Lite Balancing Mechanism to allow smaller generators (and ultimately Demand Side Response and aggregators) to offer energy to the System Operator for energy balancing, in competition with the larger BMUs already in the market.

	The Proposer recommends that this Modification should: • be assessed by a Workgroup and submitted into the Assessment Procedure This Modification will be presented by the Proposer to the BSC Panel on *13 July 2017*. The Panel will consider the Proposer's recommendation and determine how best to progress the Modification.
	High Impact: Transmission Company Suppliers Generators Settlement Administration Agent ELEXON
	Medium Impact: Distribution Network Operators
	Low Impact: N/A

Contents

Timetable

The Proposer recommends the following timetable: *(amend as appropriate)*

Initial consideration by Workgroup	W/B 31 July 2017
Assessment Procedure Consultation	19 January 2018 – 9 February 2018
Workgroup Report presented to Panel	8 March 2018
Report Phase Consultation	9 March 2018 – 23 March 2018
Draft Modification Report presented to Panel	12 April 2018
Final Modification Report submitted to Authority	19 April 2018

Any questions?

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1 Summary

What is the issue?

Under the current energy balancing regime, it is difficult for smaller parties to compete directly with larger generators for the provision of energy to National Grid (NG), as the GB System Operator (SO), for balancing. As the market moves to a more decentralised system, with substantial growth in smaller energy providers, this creates a distortion to competition. It also means that the in future the SO may not have access to the energy services it requires to balance the system in the most economically and efficient manner. However, it does not appear to be economic or efficient to try and force new, smaller parties, into the existing Balancing Mechanism (BM), so this Modification proposes to create a new means to offer energy to the SO via a BM Lite solution.

Specifically, the defect is that the Balancing and Settlement Code (BSC) is not promoting effective competition in generation and is therefore hindering the SO from operating the transmission system in the most efficient, economic and coordinated manner. Currently neither Supplier Volume Allocation (SVA) nor Central Volume Allocation (CVA) provides a way for independent, embedded generators (EG) to aggregate generating units at multiple sites into a single BM Unit. SVA is not open to independent generators (because of constraints outside the BSC, in the Master Registration Agreement (MRA) and Distribution Licence), while CVA does not allow generating units at multiple sites to be combined into a single BM Unit (except possibly through the non-standard BM Unit process, but even then, not to allow large enough volumes for the SO to despatch). It is unduly discriminatory that Suppliers (in SVA via Additional BM Units) have access to aggregation options that are not available to embedded generators (in CVA).

The SO also has an operational issue with despatching smaller plants. Allowing them to aggregate themselves into larger BMUs would give the SO access to further plant for system balancing purposes. It would be more efficient for the SO to a have a greater choice of plant and to be able to access them all via the BM.

It should be noted that this Modification is building on the proposed Trans-European Replacement Reserves Exchange (TERRE) implementation concept. However, rather than just focussing on one, European Union (EU) designed, balancing product, it aims to put smaller plants on a level playing field with existing BMUs in the way they can sell a wide variety of energy and system products to the SO via the BM.

What is the proposed solution?

Architecture

It is proposed that a new BSC registration system is created. Parties wishing to offer energy into the BM would then register their Meters (or ask their Supplier to register their Meters) into the new system (as duplicate data on the SVA systems until they are replaced). The owners of the assets would then be able to create "EG BMUs" by allocating a number of their Settlement Meters into a new BMU.

The aggregation of the Meters into new BMUs would create EG BMUs. It is for discussion at the workgroup if there is value in identifying these BMUs as locational or EG BMUs (non-locational), and if locational is felt beneficial that would be Distribution Network Operators (DNO) region. The minimum size of each BMU would be 5MWs and the maximum size BMU 200MWs. The workgroup may discuss alternatives to these sizes, but it is vital that any such parameters are set such that the SO can

reasonably call these new BMUs in merit order. The BMU registrant would also need to be able to update their dynamic data, bids/offers, etc. (all the same as current BMUs) via a communications system to a specified control point.

The new BMUs will sit within the BM framework along with the larger, existing BMUs. However, an interim solution may be to give them access to the BM via a parallel system.

We assume that NG will require some changes to its Electricity Balancing System (EBS) to allow it to register these new style BMUs into its own systems.

BMU obligations

These new EG BMUs would have the same operational requirements as any other BMUs, being required to submit dynamic data, face non-delivery charges, give bid/offer pairs, etc. However, the workgroup can also consider if their different characteristics of these new BMUs that may make it beneficial for them to offer different types of services, for example having a variety of profiles with different pricing, but we note this may depend on the EBS design.

We note that the dynamic data currently sits across the Grid Code and the BSC. We believe it will therefore be necessary to create a consolidated data requirements to be applicable to EG BMUs in the new registration system, as they are not Grid Code signatories. We also believe the rules around non-standard BMU and metering of BMUs will need changed to make sure the EG BMUs are easy to register without requiring BSC dispensations.

Governance

To allow the asset owners to become party to the relevant arrangements, we propose that the impacted parties would be able to become BSC signatories, but with a new qualification process that is applicable to their activity, requiring a new BSC party type is defined (BM Lite party). This process should allow, but not require, them to register their Meters, create the BMUs, and Metered Volume Reallocation Notification (MVRN) all their energy flows to a Supplier while still maintaining control over their BMU. Alternatively, they can elect to retain total control over their BSC position, and thus would be required to accede based on passing additional tests such as the ability to send and receive relevant BSC information. A Supplier would also be able to register and control the BMUs on behalf of the owner, as can happen today.

Along with the new party role and qualification process, the new parties would face BSC charges. In order to focus this Modification on achieving market access, we are raising a separate Modification to address the way that different types of market participants are charged.

Wider Issues

As these EG BMUs will not fit into the standard definitions of a BMU, Trading Unit, metering configurations, etc. the new EG BMUs will require new definitions covering their configuration and metering to avoid them requiring derogations from existing rules. While derogations can be used, it would be more economic to alter the rules than require derogations on standard designs of new build plants. The workgroup may consider if altering existing definitions to cover both conventional and EG BMUs may work best, or if creating new definitions is more economic.

The responsibilities for Meters will also need to be considered. We are minded to suggest that the BSC party (be they the embedded generators or Suppliers) registering the Meters.

Timing

While this is not an urgent Modification, it is vital that it is implemented as soon as possible. This is because Ofgem's "minded to position on CMP264/5", if adopted, would remove significant revenues from Triad payments to a large group of EG from 2018. Ofgem's modelling is predicated on the position that the impacted EG parties can gain access to wholesale markets. At the current time the EG do not have equal access to the BM, nor to wholesale markets. This Modification seeks to address BM access and as such would start to level the playing field in the energy market.

DSR

These arrangements could be expanded to cover DSR and aggregators, but it would appear to need a more complex solution. In order to deliver market access in a timely manner, this Modification does not include DSR, but a Modification to cover DSR arrangements could be raised to run in parallel. We note that in the meeting on P354 'Use of ABSVD for non-BM Balancing Services at the metered (MPAN) level' Ofgem has raised concerns about the data flows between suppliers, aggregators and DSR providers. We suspect that resolving these may take longer to implement and we have therefore excluded DSR from the scope of this Modification in so much as it may need further changes than proposed here.

2 Governance

Justification for proposed progression not Self-Governance

This Modification proposal is *not Self Governance* on the basis that it enhances the tools available to the SO to balance the system and therefore impacts on the operation of the national electricity transmission system.

Requested Next Steps

This Modification should:

- assessed by a Workgroup and submitted into the Assessment Procedure.

3 Why Change?

What is the issue?

When the BSC was created, it envisaged that balancing flexibility would be provided by a relatively low number of larger flexible and discrete generation or demand managers, mainly Transmission connected, who were all full parties to the BSC. As the power system has evolved since the New Electricity Trading Arrangements (NETA) was created, NG has procured balancing services from an increasing volume of smaller providers who are not BSC Parties and are typically instructed outside the BM (for example non-BM Short Term Operating Reserve (STOR) is instructed via Standing Reserve Despatch (SRD)). This creates a number of issues, such as lower levels of transparency, the need for multiple systems to deliver

the same service and different treatment of imbalance charges (P354 also addresses the imbalance issue but not the other issues raised in this Modification).

The issue that this Modification seeks to address is the lack of access to the BM for smaller plants in a way that would allow them to compete on a level playing field with larger power stations. The proposed solution is to create direct BM access to parties without the need for a party to become a full BSC member. It also seeks to create individual BMUs from multiple smaller sites that can then be despatched in direct competition to the existing BMUs, recognising that the SO will want to despatch few larger plants rather than many smaller units.

By providing full BM access whilst allowing a provider to still be managed by a Supplier or other BSC party, should increase competition (Applicable BSC Objective c) in the delivery of balancing services, increase market transparency and simplify contract and despatch for balancing services from “non-BM” providers (Applicable BSC Objective b).

4 Code Specific Matters

Technical Skillsets

Knowledge of BSC systems and processes.

Reference Documents

BSC, Connection use of System Code (CUSC), Grid Code.

5 Solution

Proposed Solution

A new system for registering Meters needs to be procured. This then needs to interact with both ELEXON's Settlement systems and NG's balancing systems. The exact architecture of that registration system is to be determined. (It may be possible to adapt the existing CVA systems in an economic and efficient manner, but we suspect not). A new registration system would allow the plants across the networks to form one BMU more easily, and could be more flexible, as well as being more robust that then current, aging systems.

The BSC definitions of BMUs, Trading Units and complaint metering all need to be altered/added to. A BMU will now have to include a number of generating units that are aggregated together (similar to the non-standard BMUs created by peaking stations already).

Along with the new definitions, new Balancing and Settlement Coder Procedures (BSCPs) would need to be created, or existing ones (for example on registering BMUs) adapted to accommodate these new BSC parties and new EG BMUs. The registration of BMUs needs extension to allow for a non-standard (EG BMU) to be registered.

The new system needs to be able to allow for the use of MVRNs so BMU Lite energy can be allocated to a different party's energy account than the party registering/owning the BM Lite/EG power station. Each

BMU could only have MVRNs applied to it in line with the current rules (a percentage or set volume reallocation).

A new market entry process is required to define a BSC Lite party and undertake the relevant testing for BSC qualification. The qualification BSCPs and tests also need to accommodate the new plants, new systems and associated communications.

The BSC charges associated with BMU registrations needs to be reduced (but that is dealt with outside this modification).

NG's systems may need some adjustment to allow registration of the new BMUs into the balancing system.

Once these new systems are constructed, the BM Lite party would enter the market and either register its own BMUs or asked a supplier to do so for it. The new BMUs would be registered into the EBS system by NG. From there they would be despatched along with other BMUs in the BM as the SO requires. The money flows to pay/charge the new BM Lite registrants would be the same as for the existing BM related data flows. However, the current system will need to connect into the new registration system that BM Lite plants are registered into.

6 Impacts & Other Considerations

Impacts

All BSC Parties will be impacted, as will non-BM parties who wish to go into the BM. ELEXON, as the BSC administrator, will be impacted as will NG as the SO. We suspect the Funds Administration Agent (FAA) may also need some system changes. The energy flows between suppliers and the relevant BM parties will also alter.

All processes associated with registering meters and BM actions, then the Settlement of the metered volumes will need to be adapted. Communications between the new EG BMUs and the SO need to be established.

The main impacted document is the BSC, but there may be consequential changes to the CUSC and Grid Code. There will also be some knock-on changes needed for some BSCPs, for example around registering the BMUs, aggregation rules, market entry, etc., or new BSCP written.

The SO balancing systems and ELEXON registration and data collection systems will be impacted, and/or new systems may have to be procured.

It is envisaged that this change will require changes to at least the following sections of the BSC:

- Q ‘Balancing Mechanism Activities’
- T ‘Settlement and Trading Charges’
- V ‘Reporting’
- Section X Annex X-1 ‘General Glossary’

- Section X Annex X-2 ‘Technical Glossary’

It is also probable that it will impact the following sections:

- A ‘Parties and Participation’
- D ‘BSC Cost Recovery and Participation Charges’
- G ‘Contingencies’
- H ‘General’
- K ‘Classification and Registration of Metering Systems and BM Units’
- M ‘Credit Cover and Credit Arrangements’
- N ‘Clearing, Invoicing & Payments’
- U ‘Provisions Relation to Settlement’.

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

No

Consumer Impacts

No direct impact, but the customers should benefit from additional competition in the BM. Those who wish to sell generation services to the SO should also find market access easier and the process of market entry less onerous.

Environmental Impacts

No direct impact, but overall carbon emissions should be lowered from a more efficient despatch of power stations.

7 Relevant Objectives

Impact of the Modification on the Relevant Objectives:	
Relevant Objective	Identified impact
a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence	Positive
(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System	Positive
(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	Positive
(d) Promoting efficiency in the implementation of the balancing and settlement arrangements	Positive
(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]	Neutral
(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	Neutral
(g) Compliance with the Transmission Losses Principle	Neutral

Applicable BSC Objectives (a), (b) and (c)

The intended purpose of this Modification is to open up the provision of balancing services (making bids and offers in the BM, and the provision of ancillary services such as STOR and frequency response) more fully to non-full-BM parties, creating a competitive market between EG, Suppliers and larger generators. It also allows generators to create aggregated BMUs, which Suppliers can already do so is levelling the playing between parties.

By making it easier to participate in the BM, this should open this route to more parties, giving the SO more options to balance the system and introduce more competition to provide these services. The ability of the SO to stack additional plant into the merit order would see balancing become more economically efficient. Allowing smaller parties to compete on a level playing field with larger plants will also allow more efficient price discovery and may aid liquidity in the longer term.

Applicable BSC Objective (d)

By having an identical route for BSC and non-fully BSC parties to enter the BM, it will allow similar, and more appropriate treatment of both sets of parties and should allow the decommissioning of certain

aspects of existing systems (for example Applicable Balancing Services Volume Data (ABSVD), the import of non-BM STOR into imbalance prices). This should simplify the Settlement process.

Applicable BSC Objectives (c) and (d)

Finally, EG will not have to rely on Suppliers to create BMUs for them. They can instead take on the imbalance risk that other BM parties face in their own right. This adds to competition between Suppliers, large generators and small generators.

8 Implementation Approach

We believe that the implementation should be achieved as quickly as possible to allow customer benefits to be secured in a timely manner. The costs should be covered by BSC Parties in the same way that other BSC system changes are. We believe that it should be possible to get this change in place by late 2018 (in line with TERRE).

9 Legal Text

We do not believe that writing legal text without a more detailed design solution is efficient.

10 Recommendations

Proposer's Recommendation to the BSC Panel

The BSC Panel is invited to:

- Agree that P355 be sent into the Assessment Procedure for assessment by a Workgroup.