

PUBLIC

# BSC Systems Roadmap

Companion Document to Roadmap Diagram



Design Authority  
V3.0  
March 2017

# BSC SYSTEMS ROADMAP

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# BSC SYSTEMS ROADMAP

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## 1. INTRODUCTION

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### 1.1 BSC Systems Roadmap

The [BSC Systems Roadmap](#) provides a view of changes that will affect the Balancing and Settlement Code (BSC) Systems over the next five years. It presents ELEXON's best estimate of the likely timing and impact of major industry/regulatory developments, alongside approved or prospective BSC Changes. It also shows changes arising from ELEXON's management of the BSC service, e.g. major technology upgrades.

We use the roadmap in our business planning to ensure we deliver an efficient/effective service, in particular the BSC Change service. It helps us to plan ahead for delivery of change and the content of BSC Releases, and also to recognise when a particular area of settlement is affected by multiple changes. We review and update the roadmap quarterly, and brief the BSC Panel and Panel committees on key changes or actions.

All market and industry changes which are known to us are represented in the top band of the roadmap. It is organised into three main business areas: Europe, Smarter Markets, and Competition and Markets Authority (CMA), Governance and BSC Change.

The middle band expands on the impact of the business changes on the different functions of the BSC systems and processes. The bottom band shows other changes which ELEXON needs to address in its management of the BSC Systems and its service providers.

All market and industry changes (identified in the top band) and specific impacts on the BSC systems (identified in the middle band) are referenced by a letter (e.g. 'A') or a number (e.g. '1'). These references are used to map the relationship between various market and industry changes and their impacts on the BSC Systems.

### 1.2 Purpose of this Document

This document is an accompanying guide to the current version of the BSC Systems Roadmap (v5.0, published March 2017). It provides narrative on the industry changes and their impact. It mainly covers the items that are referenced by a letter or number in the top and middle bands of the roadmap, but does not cover milestones (shown with a diamond-shaped symbol in the roadmap). Nor does it cover the changes to ELEXON's systems platforms and service contracts, which are plotted in the bottom band of the roadmap.

### 1.3 Structure of this Document

For ease of reference, Section 2 of this document highlights the changes made since the previous version of the IS Roadmap.

Section 3 presents our current understanding of the factors driving changes to the central BSC systems and processes, again organised into the three main business areas: Europe, Smarter Markets, and CMA, Governance and BSC Change. For each area, we list the market and industry changes associated with it, the outcomes that the change requires, and the expected date required. We also assess the impact of each change on the following BSC functions: Registration and Market Entry, Contract Volume, Central Data Collection, Metering, Supplier Volume Allocation, Settlement of Imbalances and of Balancing Mechanism (BM) Trades, Invoicing and Billing, and Reporting and Data.

### 1.4 Next Version: Potential changes

This version does not include any changes arising from the changes to the Guideline on Electricity Balancing (EB GL) following the January 2017 draft version. We currently expect a final version will be approved by European Member States in mid-March and any changes arising from this will be reflected in the next version of the Roadmap.

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## 1.5 Other change information

The ELEXON website includes a section on Change ([www.elexon.co.uk/change/](http://www.elexon.co.uk/change/)) which covers BSC and other energy code changes and BSC releases. It provides the following views on the overall pipeline of change:

- a) The BSC roadmap diagram and this document: [www.elexon.co.uk/change/bsc-systems-roadmap/](http://www.elexon.co.uk/change/bsc-systems-roadmap/)
- b) The register of all BSC Modifications, Change Proposals and Issues: [www.elexon.co.uk/change/change-register/](http://www.elexon.co.uk/change/change-register/); and
- c) Cross-code information, including a central Modifications Register and a combined Forward Work Plan: [www.elexon.co.uk/change/code-administration-code-practice-cacop/](http://www.elexon.co.uk/change/code-administration-code-practice-cacop/).

## 2. UPDATES TO PREVIOUS VERSION

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This section lists the changes made in the BSC Systems Roadmap v5.0 compared to v4.0. There is a glossary at the end of this document.

### 2.1 Europe

- We now assume that the Electricity Balancing Guideline (EB GL) will enter into force in October 2017. This and all dependent milestones have been moved back accordingly.
- The latest EB GL does propose harmonising on a 15 minute imbalance settlement period, but with the option to request an exemption<sup>1</sup>. National Grid is expected to seek an exemption for GB, and so the roadmap diagram is unchanged, but the commentary in section 3.1 has been updated.
- TERRE go-live is now shown as a milestone in Q4 2018. The BSC impact is still shown in Q3 2018, as the revised BSC calculations will need to be in place for parallel running.
- It is possible that there will be some further changes to GB interfaces to TERRE in 2020 and 2021 to align with the full EB GL. These have been added.
- Potential changes to the rules for market suspension and restoration are now shown in Q2 2020, rather than 2019.
- The milestones for a possible Europe-wide bidding zones review (under CACM) have been updated. The earliest implementation date for potential changes is now shown as mid-2021.
- Some additional detail has been included in the commentary in section 3.1.

### 2.2 Smart

- Modified to show separate milestones for DCC v1.2 and v1.3.

### 2.3 CMA, Governance and BSC Change

- Added a milestone for the publication (in Spring 2017) of BEIS/Ofgem's plan for a smart, flexible energy system. Implementation of any enabling BSC changes still estimated as Q3 2018 (item W).
- The milestone for the PAF review has been moved to Q4 2018 in line with the plan submitted to the BSC Panel on 9 March 2017. Potential systems amendments are shown in 2019.
- Added a milestone in Q1 2019 for National Grid to propose how to separate its System Operator (SO) activities. An implementation milestone is shown in 2021. No specific BSC impacts are shown as yet.
- The content of BSC releases in 2017 (Feb, June and November) has been updated.

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<sup>1</sup> The European Commission's proposal for a 'Clean Energy' Package of legislation would remove such an exemption from 1 January 2025. However, whether the Package would apply in this form in its final version, or indeed in GB given Brexit, is unclear.

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## 2.4 Supporting services

- Added the Technical Assurance Agent (TAA) contract.
- Amended to reflect new consolidated contract for application support of systems that ELEXON uses internally for market monitoring.

## 2.5 General

- Items which were dropped from the diagram last time have been removed from the tables in section 3.

## 3. DRIVERS FOR CHANGE

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### 3.1 Europe

#### 3.1.1 Current Assessment

On 2 February, the Government published its 'Brexit' White Paper. That and some of the Prime Minister's recent comments suggest that assuming that the UK will remain a member of the single European electricity market may no longer be the safe assumption we previously thought.

However, in the absence of any further information, it is still prudent to continue to plan on the basis that we will be bound by European Network Codes and Guidelines in the short term, particularly given the two year time to exit.

The European Electricity Balancing Guideline (EB GL), which will require changes to the BSC, was formally approved by Member States in mid-March. On this basis, we'd expect the EB GL to come into force in the autumn – for the Roadmap, we have assumed October 2017.

To date the impacts of European harmonisation on ELEXON have been relatively small, but the first significant change is under way with the TERRE project. ELEXON is working with National Grid and the Modification P344 workgroup to plan how TERRE will integrate with balancing and settlement in Britain.

Harmonisation of imbalance settlement arrangements (including harmonisation to a 15-minute ISP) is now expected to be required by the end of 2020. There is an option to request an exemption to the 15-minute ISP, and National Grid has stated that it will do so. However, the draft Clean Energy Package (published November 2016) suggests that there is a limit on how long the exemption will be permitted.

Similarly, provisions for reviewing the boundaries of bidding zones could affect GB. We estimate the earliest potential decision date on such a review as mid-2020, with implementation falling a year later. However we currently consider that it is unlikely that such a review will affect GB.

#### 3.1.2 Future Direction

For as long as Britain wishes to participate in the European electricity market, we are assuming for the Roadmap that it will need to abide by the regulations, even when it leaves the EU.

And we envisage that in this future state, many aspects of the harmonised arrangements are supported by common European regulations, services and systems. For example, there are Europe-wide markets for balancing services, supported by common trading platforms.

Some aspects of balancing and settlement services are still operated locally or regionally, and the scope of these is agreed. In particular, the BSCCo's role in GB arrangements, and its interfaces with European services, are clearly defined.

# BSC SYSTEMS ROADMAP

## 3.1.3 Changes and Impacts

| Ref. | Market & industry changes                                | Expected Date                           | Description   | Impacts of change on systems & associated processes   |
|------|--|---|---|---|
| D    | TERRE advance implementation parallel run                | Q3 2018 parallel run<br>Q4 2018 go live | <p>Project Trans-European Replacement Reserves Exchange (TERRE) is an advance implementation project that forms part of the implementation of the European Guideline on Electricity Balancing.</p> <p>TERRE aims to harmonise the Transmission System Operator (TSO) dispatch of Replacement Reserve (RR) across seven TSO areas. It will do this by introducing common TERRE Products, which would be akin to products such as Balancing and Settlement Code Bid-Offers or Short Term Operating Reserve submissions.</p> <p>The legal deadline for all TSOs to be using a common RR market is Q4 2019.</p> | <p>The following descriptions are subject to approval of the TERRE BSC Modification, P344.</p> <p><b>Registration and Market Entry:</b> Non-BMU providers will be able to participate in TERRE, and BSC processes will include settlement of their TERRE-accepted products.</p> <p><b>Settlement of Imbalances and of BM Trades:</b><br/>TERRE Products will be used by the TSO, as part of GB balancing, and settled by ELEXON. TERRE volumes and prices feed into BSC calculations of imbalance prices and volumes.</p> <p><b>Invoicing and Billing:</b> TERRE Products will be priced and settled in GB Pounds. (National Grid will make the conversion to and from Euro prices for use in the central TERRE market).</p> <p><b>Reporting and Data:</b> Receipt of data relating to trading in TERRE Products, and reporting on BMRS. Non-BMU providers will receive adapted versions of the standard settlement reports that Parties receive.</p> <p>There will be a period of parallel running before TERRE goes live.</p> |
| D*   | TERRE changes to align with EB GL on pricing methodology | Q1 2020 potential changes               | There may be changes required in 2020, depending on how European TSOs are required to implement EB GL provisions on pricing methodology.  | Changes to the definition of pricing methodology could affect settlement calculations, billing and BM reporting.  |
| D*   | TERRE changes to align with EB GL on standard products   | Q1 2021 potential changes               | There may be changes required in 2021, depending on how European TSOs are required to implement EB GL provisions about standard products.   | Changes to the definition of standard products could affect settlement calculations, billing and BM reporting.  |
| E    | Early imbalance price change for EB GL rules             | Q4 2020 (with derogation)               | <p>There are rules in the EB GL that will require changes to the BSC calculations of Imbalance Price.</p> <p>Strictly speaking these changes are required by late 2018 (a year after EIF). GB is expected to seek a derogation so that the changes can be implemented in 2020, at the same time as item K.</p>  | <p><b>Settlement of Imbalances and of BM Trades:</b><br/>Changes to imbalance price calculations to align with the rules:</p> <ul style="list-style-type: none"> <li>Align with definition of imbalance price adjustments</li> <li>System Buy Price has to be greater than a threshold;</li> <li>System Sell Price has to be less than a</li> </ul>   |

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| Ref. | Market & industry changes             | Expected Date | Description   | Impacts of change on systems & associated processes  |
|------|---------------------------------------|---------------|---|--|
|      |                                       |               |   | <p>threshold; and</p> <ul style="list-style-type: none"> <li>Thresholds have to be calculated for each settlement period.</li> </ul> <p>Alignment with EB GL for imbalance price adjustments, which may affect tagging of data from National Grid and calculation of Party imbalances.</p>   |
| H    | Changes to bidding zones in GB        | Q3 2021       | <p>A bidding zone is the largest geographical area within which market participants are able to exchange energy without capacity allocation. The CACM requirement (on ACER) to review bidding zones may lead to a split of GB into two or more zones.</p> <p>The estimated timing is based on ACER initiating a review in August 2018, and allows 15 months for the review, 6 months for NRAs to approve TSO proposals, and 12 months for implementation.</p>   | <p><b>Registration and Market Entry:</b> When registering a new BMU, there may be a need to identify the bidding zone it belongs to.</p> <p><b>Central Data Collection:</b> Metered data may need to be aggregated within each zone.</p> <p><b>Supplier Volume Allocation:</b> Multiple bidding zones – volumes need to fall within a zone.</p> <p><b>Settlement of Imbalances and of BM Trades:</b><br/>There could be a need to calculate imbalance prices for each bidding zone separately.</p> <p><b>Invoicing and Billing:</b> BSC trading charges could be invoiced by bidding zone.</p> <p><b>Reporting and Data:</b> There may be structural changes to data to reflect new concepts (e.g. at bidding zone granularity).</p> |
| I    | Harmonised suspension and restoration | Q2 2020       | <p>The BSC contains rules for the suspension and restoration of Balancing Mechanism and imbalance settlement processes in GB. These apply where there is a total shutdown of the GB transmission system or where there is a partial shutdown above a certain pre-defined threshold. As well as notifying BSC Parties of the shutdown and restoration, these provisions include calculating and applying a single imbalance price during the shutdown.</p> <p>Under the Network Code on Emergency and Restoration (NC ER), TSOs are responsible for proposing the arrangements. We expect that the GB rules will closely follow the current BSC.</p> | <p><b>Settlement of Imbalances and of BM Trades:</b> The NC ER will affect Section G of the BSC, which governs Market Suspension and Restoration. The rules in Section G would need to align to the provisions in the NC ER. Depending on how closely TSO proposals for GB match the current BSC arrangements, there may be some changes to settlement calculations.</p> <p><b>Reporting and Data:</b> There may be changes to how suspension and restoration events are reported to Parties.</p>  |

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| Ref. | Market & industry changes                  | Expected Date         | Description   | Impacts of change on systems & associated processes  |
|------|--|-----------------------|---|--|
| K    | Harmonised balancing and imbalance pricing | Q4 2020               | <p>Imbalance Settlement must be harmonised across Europe.</p> <p>The harmonised rules will need to cover various factors including volume calculations, imbalance pricing, and unintended exchanges of energy.</p>  | <p><b>Contract Volume:</b> Contract volume data is currently used in BSC calculations to derive the energy imbalance volumes of BSC Parties. However, this could be replaced by others forms of data (e.g. Final Physical Notifications).</p> <p><b>Settlement of Imbalances and of BM Trades:</b><br/>BSC Parties may be exposed to the same set of imbalance prices as their European counterparts.</p> <p><b>Reporting and Data:</b> There could be changes to the way indicative imbalance prices are reported on BMRS.</p>  |
| L    | Harmonised settlement period < 30 minutes  | 2023 or later (in GB) | <p>The final EB GL is now expected to include a requirement for harmonisation of ISP duration across Europe by the end of 2020, but with an option to seek an exemption.</p> <p>National Grid has indicated that it will request an exemption, but if it is granted the cost-benefit case will need to be reviewed every three years.</p> <p>The possibility that GB will eventually harmonise is shown as an impact in the 2023+ column.</p> | <p><b>Contract Volume:</b> Energy may no longer be traded on a half hourly basis, but according to the length of the harmonised ISP.</p> <p><b>Central Data Collection:</b> The aggregated data that would be sent to BSC Central Systems would reflect new ISP length.</p> <p><b>Metering:</b> Current HH metering needs to align to required ISP (or revert to profiling or another estimation technique). All meters, both CVA and SVA, are configured to record meter readings based on the new ISP length.</p> <p>ELEXON may offer support for transition to new ISP metering, in advance of full implementation. (Impact shown in 2020).</p> <p>ELEXON may need to produce sample metering and profile calculation based on new ISP length.</p> <p><b>Supplier Volume Allocation:</b> Current HH metering needs to align to required ISP (or revert to profiling or another estimation technique). Profile coefficients need to be determined at intervals to match the new ISP.</p> <p><b>Settlement of Imbalances and of BM Trades:</b><br/>Bids and offers would be submitted and energy imbalances will be settled at intervals reflecting the length of the new ISP.</p> <p><b>Reporting and Data:</b> Settlement data would be based on and reported at the new ISP granularity.</p> |
| P    | European mFRR                              | Q4 2021               | Deadline for TSOs to phase in their   | <b>Settlement of Imbalances and of BM Trades:</b>  |



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| Ref. | Market & industry changes                       | Expected Date | Description  | Impacts of change on systems & associated processes   |
|------|---|---------------|--|---|
|      | & aFRR markets go live                          |               | participation in cross-European markets for manual and automatic frequency restoration reserve common products. We expect GB to adopt mFRR but not aFRR requirements.  | Further adjustments to settlement for European markets.<br><b>Reporting and Data:</b> Further adjustments to reporting for European markets.  |
| Y    | Activation purposes for accepted balancing bids | Q2 2020       | Article 29 of the EB GL requires TSOs to set up a methodology for classifying the activation purposes of balancing energy bids. The implementation date is based on EIF+1 year for TSO proposals, followed by 6 months for approval and 1 year for implementation. | <b>Settlement of Imbalances and of BM Trades:</b> Depending on the methodology that NGET adopts, there may need to be some changes to align the tagging of BM trades with the classification of activation purposes. This will affect the price calculation.<br><b>Reporting and Data:</b> The indicative imbalance price published on the BMRS website would also need to take account of activation purposes. |

### 3.2 Smarter Markets

#### 3.2.1 Current Assessment

The rollout of Smart Meters into 2020 will lay the foundations for the incremental migration to Smarter Markets. Existing goals, such as Change of Supplier and extending HH settlement, will fit within this timetable. The nature of settlement risks will evolve, and the BSC Panel is considering how performance assurance arrangements need to change accordingly. Longer term initiatives such as Electricity Settlement Reform and Demand Side Flexibility will develop alongside this work, and draw on the evolving discussions around Smart Grids, which in turn might be expected to come to fruition around from the mid 2020s onwards.

#### 3.2.2 Future Direction

Virtually all consumers and businesses have smart meters, and settlement data is based on actual consumption. There are new options for balancing energy demand, and demand-side response is more flexible. ELEXON's role in a more efficient, innovative Smarter Market is clearly understood.

#### 3.2.3 Changes and Impacts

| Ref. | Market & industry changes | Expected Date                           | Description  | Impacts of change on systems & associated processes   |
|------|---------------------------|---|--|---|
| A    | DCC go-live               | v1.2 Q4 2016 (complete)<br>v1.3 Q2 2017 | The Data Communications Company (DCC) is tasked with connecting smart meters to the business systems of energy suppliers, network operators and other authorised service users of the network.<br><br>The DCC v1.2 went live in November 2016. DCC v1.3 is expected in May 2017. | No direct impact itself, however it impacts timetable for uptake of smart meters, and therefore how rapidly we need to evolve the half hourly settlement service. |

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| Ref. | Market & industry changes                     | Expected Date | Description   | Impacts of change on systems & associated processes   |
|------|---|---------------|---|---|
| M    | Faster switching and centralised registration | Q2 2019       | Registration services are currently provided separately by gas and electricity networks, and the switching rules are significantly different in both markets. This change would harmonise registration services, simplify the switching arrangements and provide a common platform for reliable and fast switching for all customers. | <b>Registration and Market Entry:</b> centralised registration will affect the industry processes outside of settlement. However, we will continue to receive the data from the Data Aggregators as we do now, and therefore it is not expected to impact on settlement systems or processes.   |
| O    | Centralisation of DC & DA                     | Q1 2021       | DC and DA functions are at the heart of the settlement process as they prepare the necessary data for settlement. At present, suppliers appoint Supplier Agents of their choice to carry out these functions. However, these functions could be carried out by a new central agent.   | <b>Registration and Market Entry:</b> Changes to Supplier registration process for new central DP and DA function.<br><b>Supplier Volume Allocation:</b> Single instance of NHHDA and EAC/AA processing. EAC/AA function may have to be consolidated into either DC or DA to deliver central aggregation.   |
| S    | BSC support for mandatory HH settlement       | Q2 2018       | By the first half of 2018, Ofgem would take a final decision on whether to move towards mandatory HH settlement for all consumers. ELEXON's support would be needed for Ofgem's work on HH settlement.  | <b>Supplier Volume Allocation:</b> Moving to mandatory HH settlement involves significant systems changes for suppliers, supplier agents and central systems. It is also likely to require changes to a number of industry rules.   |
| X    | Smart meter rollout complete                  | Q4 2020       | By the end of 2020, around 53 million smart meters (for both gas and electricity) will be fitted in over 30 million premises (households and businesses) across Wales, Scotland and England.  | <b>Supplier Volume Allocation:</b> The eventual rollout of smart metering will enable a greater use of HH metered data in the determination of supplier volumes, and a reduction in the profiling of NHH volumes. Over time this will require ELEXON and Parties to review the approach to profiling, profile classes, profile sampling and so on. Once the majority of consumers have Smart Meters, the role of profiling will be very limited, and a major overhaul of the BSC provisions for Supplier Volume Allocation will be warranted. |

### 3.3 CMA, Governance and BSC Change

#### 3.3.1 Current Assessment

ELEXON are monitoring the progress of the CMA review and working with industry to understand their views. The BSC Panel & Panel Committee Strategic Work Programme is in progress and includes activities to improve BSCCo Governance. Market changes are delivered through Modifications to the BSC, and the pipeline of BSC change also includes proposals for improvement raised by BSC Parties.

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### 3.3.2 Future Direction

Code Administrators are likely to be subject to more regulatory oversight (e.g. require a licence), and may also have more powers (e.g. able to raise modifications). Code Administration is subject to competitive tendering. ELEXON is the best in class code administrator and offers a package of flexible and valuable strategic services to the Industry.

### 3.3.3 Changes and Impacts

| Ref. | Market & industry changes                           | Expected Date   | Description   | Impacts of change on systems & associated processes  |
|------|---|---|---|--|
| C    | Apply zonal transmission loss factors (TLFs)        | Q4 2017: provide CDCA data for TLF calc.<br>Q1 2018: apply TLFs | CMA has recommended introducing charging for energy losses in the transmission networks on a zonal basis. The TLF used in settlement calculations is currently set to zero. However, this would vary in the future to allow for the allocation of losses depending on the geographical location (TLF Zone) of the BM Unit. A modification (P350) has now been raised. | <p><b>Registration and Market Entry:</b> Each year, zonal transmission loss factors will need to be loaded into the settlement systems for use in calculations. Based on previous modification proposals, the volume of data would be four loss factors (one per season) for each of the 14 GSP Groups.</p> <p><b>Central Data Collection:</b> A new BSC Agent will be needed to calculate the zonal transmission loss factors using a load flow model. CDCA will need to provide the new Agent with information about historical transmission flows, as an input to the model.</p> <p><b>Settlement of Imbalances and of BM Trades:</b> Currently the value of the TLF parameter used in settlement calculations is set to zero, so it has no effect in practice. However, a TLF would be calculated for each BSC Season and TLF Zone, and then applied in settlement calculations.</p> |
| T    | PAF Review  | 2019  | <p>The BSC Panel has instigated a review of the Performance Assurance Framework to address the impacts of Smart Metering, which will change where settlement risks lie.</p> <p>The findings will be presented to Panel in Q4 2018. Changes will be identified as part of the review, and are shown on the roadmap as being implemented during 2019.</p>               | <p><b>Registration and Market Entry:</b> The review may prompt some changes to qualification / re-qualification checks.</p> <p><b>Reporting and Data:</b> How performance assurance is measured and reported on is likely to change.</p>   |
| W    | Facilitate BM participation to increase flexibility | Q3 2018   | In November 2016 Ofgem and BEIS issued a joint call for evidence on providing more flexibility in the electricity system. They will publish their plan in Spring 2017; in the meantime the 2018 implementation date is an ELEXON estimate.  | <b>Registration and Market Entry:</b> There may be a requirement to record new types of BMUs for DSR providers and aggregators. This may require the creation of new BMU IDs with its own unique prefix (e.g. E_, as currently used by embedded generators) to   |

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| Ref. | Market & industry changes  | Expected Date      | Description  | Impacts of change on systems & associated processes   |
|------|----------------------------|--------------------|--|---|
|      |                            |                    | <p>Providing more flexibility may require changes to the BSC to facilitate the participation of DSR providers and aggregators. Demand side response is a service where a provider is financially incentivised to lower or shift their electricity use at peak times. This will help manage load and voltage profiles on the electricity network. Providers of this service could be businesses or domestic consumers.</p> <p>DSR aggregators, on the other hand, combine small amounts of DSR from individual demand sites (businesses or domestic consumers) and offer them to the TSO.</p> | <p>recognise DSR providers.</p> <p><b>Settlement of Imbalances and of BM Trades:</b> DSR providers of BMUs' data would be used in settlement calculations. DSR providers and suppliers may also share imbalance volumes between them.</p>   |
| 5    | February 17 Release        | Q1 2017 (complete) | <p>P326: introduced a method to account for reductions in Supplier demand on non-Working Days within the Credit Cover calculations. This would allow the calculation to better reflect actual demand and increase the accuracy of the level of Credit Cover that Parties are required to lodge.</p> <p>This change went live on 23 February 2017.</p>  | <p><b>Registration and Market Entry:</b> Some Registration data flows were amended to cater for the new parameters that P326 introduced.</p> <p><b>Contract Volume:</b> New parameters were introduced to adjust suppliers' demand on non-working days. This would affect the calculation of a Supplier BM Unit's BMCAIC used within the Credit Cover Calculations.</p> <p><b>Supplier Volume Allocation:</b> new Change Proposals may need to be raised to enable elective HH settlement.</p>          |
| 6    | April and June 17 Releases | Q2 2017            | <p>P272: will make HH Settlement mandatory for all Metering Systems within PCs 5-8 (where capable metering has been installed).</p> <p>P320: proposes that the required changes to PARMS and Supplier Charges that were introduced by P272 should be removed. Instead, a Committee report should be introduced to monitor the implementation of P272.</p> <p>P321: proposes to publish information on the direction of delivery (delivering or offtaking) of Trading Units, particularly for each Grid Supply Point (GSP) Group, in each</p>   | <p><b>Registration and Market Entry:</b> P339: Allow for the new CCCs in Market Domain Data.</p> <p><b>Central Data Collection:</b> P321: ELEXON may capture Trading Unit and GSP volumes for reporting purposes.</p> <p><b>Supplier Volume Allocation:</b> P272: actual HH consumption data will be used to settle consumers who used to be in PC 5-8.</p> <p>P321: ELEXON may capture Trading Unit and GSP volumes for reporting.</p> <p>P339: Allow for the new CCCs and process them correctly.</p> |

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| Ref. | Market & industry changes | Expected Date | Description  | Impacts of change on systems & associated processes  |
|------|---------------------------|---------------|--|--|
|      |                           |               | <p>ISP.</p> <p>P329: proposes to align the BSC and Balancing Mechanism Reporting Service (BMRS) with the Regulation on Wholesale Energy Markets Integrity and Transparency (REMIT) common schemas for inside information web feeds, required by the Agency for the Cooperation of Energy Regulators (ACER).</p> <p>P339: proposes to create new Consumption Component Classes (CCCs) for Aggregated HH Export. This will allow aggregated HH export data to enter Settlement for smaller customers.</p> <p>P346: proposes changes to how BSC costs associated with Supplier Volume Allocation are recovered from Suppliers, to remove a potential disadvantage for HH settled customers.</p> | <p>P346: Supplier charges will be levied at the same rate for HH and NHH metering systems.</p> <p><b>Settlement of Imbalances and of BM Trades:</b></p> <p>P321: trading Unit and GSP volumes data may be passed on to BMRS.</p> <p><b>Reporting and Data:</b> P329: ACER has set out its expectation for standardised web feeds within its REMIT Manual of Procedures on data reporting v3.0 along with the Extensible Markup Language (XML) Schema Definitions (XSDs) for the collection of REMIT inside information data from REMIT platforms. The BMRS is expected to expose a web feed which complies with the Manual of Procedures for collection of data by ACER.</p> <p>P321: BMRS would be required to publish Trading Unit Delivery Modes and Export and Import Volumes on BMRS.</p> |
| 7    | November 17 Release       | Q4 2017       | <p>P335: proposes to include non-BM STOR costs in the indicative imbalance price.</p> <p>P336: proposes to add 'biomass' as a specific fuel type category reported on the Balancing Mechanism Reporting Service (BMRS). It also seeks to allow the Panel to approve further fuel types without needing to raise a Modification.</p> <p>P342: proposes to extend the deadline for submitting Energy Contract Volume Notifications, decoupling it from Gate Closure.</p>   | <p><b>Contract volumes:</b> P342: contract volume notifications will be accepted up to the start of the relevant Settlement Period.</p> <p><b>Reporting and Data:</b> P335: National Grid will send the required data in time for it to be included in the indicative imbalance price calculation on BMRS.</p> <p>P336: 'Biomass' will be added to the list of generation fuel types reported on BMRS.</p>   |
| 8    | June 18 release           | Q2 2018       | <p>P297: seeks to ensure that the Dynamic Data Set published on the BMRS fully corresponds to the revised Dynamic Data Set as submitted to the Transmission Company by BSC Parties.</p>  | <p><b>Reporting and Data:</b> BMRS and SAA systems will need to be modified to receive and publish the new and revised Dynamic Data from the TSO (P297).</p>   |

## GLOSSARY

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The following list explains abbreviations and specialised terms used on the roadmap diagram. Note that the list does not include any terms or abbreviations which are already defined in the BSC Glossary.

|                |  |
|----------------|--|
| <b>aFRR</b>    | Automatic FRR, that is, a frequency restoration reserve service that is activated automatically.   |
| <b>CACM</b>    | The legally binding European guideline on capacity allocation and congestion management, one of a number of codes and legally-binding guidelines which will govern the harmonised electricity market in Europe. It came into force in August 2015.                     |
| <b>CBA</b>     | Cost-benefit analysis.   |
| <b>CCC</b>     | Consumption Component Class, a way of categorising different types of electricity consumption to ensure they are treated correctly in the Supplier Volume Allocation process.  |
| <b>CMA</b>     | Competition and Markets Authority.   |
| <b>DA/ID</b>   | Day-ahead or intra-day markets, in relation to energy trading.   |
| <b>DSR</b>     | Demand-side response.  |
| <b>EB GL</b>   | The European electricity balancing guideline, one of a number of codes which will govern the harmonised electricity market in Europe. Formerly known as NC EB or GL EB.  |
| <b>EIF</b>     | Entry into force, the point at which new EU regulations become law.  |
| <b>ENTSO-E</b> | The European network for transmission system operators for electricity, the legally mandated body of electricity TSOs at the European level.   |
| <b>FRR</b>     | Frequency restoration reserve, a type of balancing service which is designed to help a TSO maintain the system frequency within tolerances.  |
| <b>ISP</b>     | Imbalance settlement period, the term used in European network codes for the time period in which balancing services are traded. Across Europe it varies from 15 minutes to 1 hour.  |
| <b>mFRR</b>    | Manual FRR, that is, a frequency restoration reserve service that is activated manually.   |
| <b>NC EB</b>   | The European network code on electricity balancing, one of a number of codes which will govern the harmonised electricity market in Europe. Now known as the EB GL.  |
| <b>NC ER</b>   | The European network code on emergency and restoration procedures, one of a number of codes which will govern the harmonised electricity market in Europe.   |
| <b>PAF</b>     | The Performance Assurance Framework, a set of assurance techniques used to address settlement risks.   |
| <b>REMIT</b>   | An EU regulation on energy market integrity and transparency. REMIT imposes obligations on energy companies to report inside information (e.g. about plant outages) in the interests of market transparency. In Britain the information is routed via the BMRS system. |
| <b>RR</b>      | Replacement reserve, a type of balancing service that energy companies can offer a TSO.  |
| <b>SBR</b>     | Supplemental balancing reserve, a type of balancing service that National Grid may call on.  |
| <b>TERRE</b>   | Trans-European replacement reserve exchange, an early project in the harmonisation of balancing arrangements across Europe. It is a joint project among several European TSOs to establish a common market (and supporting IT platform) for trading in RR services.    |
| <b>TSO</b>     | Transmission system operator.  |