



2017/18
ANNUAL BSC REPORT



CONTENTS

	Page
1. CHARMAN'S REPORT	4
A time of significant change	5
Elexon governance	5
The BSC is responding to market change	6
Flexible, scalable, open central system	7
More simplification, less fragmentation	7
BSC panel membership	8
2. MODIFICATION AND CHANGE	9
Modifications raised by area	11
Issues	13
Change Proposals	13
Modifications and Change Proposals implemented with release month	15
3. BSC PANEL	16
BSC Panel meetings	17
4. BUSINESS REVIEW	19
BSC Default and Supplier of Last Resort	20
Market Reports	21
Market-wide Half Hourly Settlement	21
Faster and More Reliable Switching	22
Competition and Markets Authority	22
Ofgem's Code Reform Proposals - Licensing	23
Electricity System Operator (ESO) separation	24
European-led developments	25
Customer operations	32
Customer survey results	34

CONTENTS

	Page
New ELEXON website launched	35
Electricity Market Reform (EMR)	37
BSC Central Systems	38
Balancing Mechanism Reporting Service	39
BSC Audit	39
Technical Assurance Agent	40
Trading Disputes referred to the Panel	41
Performance Assurance Framework Focus	41
Business Plan	42
Corporate Social Responsibility	43
5. OPERATIONAL UPDATES	45
6. REVIEW AGAINST THE ANNUAL BUDGET	47
Operational expenditure	48
Demand Led expenditure	49
Contracted expenditure	49
System strategy	49
Market development	49
7. APPENDIX 1: COMMITTEE SUMMARY	50
Performance Assurance Board (PAB)	51
Imbalance Settlement Group (ISG)	52
Supplier Volume Allocation Group (SVG)	53
Trading Disputes Committee	54
Credit Committee	54
8. APPENDIX 2: URLS	55
Modifications raised by area	56
Operational Updates	57

01 CHAIRMAN'S REPORT

Report from the Chairman

By Michael Gibbons CBE, FEI
BSC Panel Chair and BSCCo Chairman



A TIME OF SIGNIFICANT CHANGE

In 2017/18, my fourth year as the ELEXON and BSC Panel Chair, I continued to observe significant market changes brought about by new business models, new regulations, new service offerings and new technologies. It is encouraging to see the industry arrangements and structures adapting to the challenge of a smarter, flexible, more diversified electricity system, whether through separation of the system operator role, the introduction of a Regulatory Sandbox (Ofgem's Innovation Link), and an Electricity Market Sandbox (ELEXON's Modification P362) or emerging industry solutions for local balancing services and EVs (Electric Vehicles). The Board and Panel have been carefully considering how ELEXON and the BSC services need to adapt to meet the industry's new and increasing demands.

ELEXON GOVERNANCE

In my view, we – the Panel and ELEXON – have operated successfully under the new Governance arrangements put in place by Modification P324 in November 2016.

Our Annual BSC Meeting and Seminar in July 2017 was the first opportunity for BSC Parties to exercise votes to indicate their confidence in the Board and I was very pleased that Parties demonstrated their support for our work by agreeing the five reappointments to the Board, including my own.

We welcomed Anne Heal to the Board as a Non-Executive Director in October 2017, following the departure of Gillian Wilmot.

THE BSC IS RESPONDING TO MARKET CHANGE

This report summarises ELEXON's work during 2017/18 in delivering the Balancing and Settlement Code and sets out the activities of the BSC Panel and its committees. During 2017/18, we have continued to engage with our stakeholders, at operational and executive levels, to understand better their needs and requirements as they adapt and evolve their own business models.

As part of our strategy work, the Board and Panel have been considering how ELEXON and the BSC services need to adapt in order to support innovation and change, as is intended by recently published government plans. BEIS and Ofgem have outlined their strategic direction for the energy industry in their joint Smart Systems and Flexibility Plan published in July 2017, which ELEXON fully supports. I think it is worth emphasising that ELEXON has already been leading on some of the associated industry initiatives, for example:

- ▶ Our market experts have been successfully involved in several major Ofgem projects e.g. Faster Switching and Demand Side Flexibility and in particular leading on the design of market-wide Half Hourly Settlement.
- ▶ Together with National Grid, we are leading on the implementation of project TERRE, which will deliver the GB solution to the introduction of pan-European energy balancing products, as is required by the European Electricity Balancing Guideline. It will open the Balancing Mechanism (BM) to aggregators and other parties, and enable new services and new business models to participate in the GB energy system.
- ▶ ELEXON became the first code administrator to introduce the concept of a Regulatory Sandbox, following Ofgem's lead. This is an initiative to allow for pre-competitive testing of new services and business models in the live environment of BSC systems, but without the usual regulatory constraints.
- ▶ ELEXON developed a White Paper on multiple providers, which explored the practical options for enabling the early introduction of arrangements for customers to have more than one supplier, thereby potentially facilitating peer to peer trading, including with community projects, electric vehicles and battery storage.

As expected, throughout 2017/18 we continued to deliver on our BSC and EMR obligations, maintaining high system availability and customer service in line with our historically high standards. In summary, rather than a year of business as usual, we have proactively suggested practical solutions to the challenges and changes in the energy market, and tried to ensure that the BSC is an enabler for innovation and change.

FLEXIBLE, SCALABLE, OPEN CENTRAL SYSTEM

In a market where flexibility is key to economic whole system balancing, we will need technology platforms that are capable of integrating with smart, connected devices and distributed, flexible assets; that are agile and open, to enable innovative and diverse products and services; and that can be modified and developed as the market evolves. We believe in the need to break down siloes of data; we have no basis for profiting from the insight that comes from access to that data, indeed we think that attempts to monetise the ownership of such data may inhibit the growth of an open electricity market. That is why ELEXON has already embarked on a programme to re- architect our central systems to deliver a flexible, scalable platform to provide settlement and other value-added services appropriate to the needs of the future market.

One of our core principles in delivering the changes to our systems is keeping the industry involved in this work through the Panel and a cross-industry stakeholder community, in order to ensure that all changes are responsive to the future needs of our customers and delivered with minimal disruption.

MORE SIMPLIFICATION, LESS FRAGMENTATION

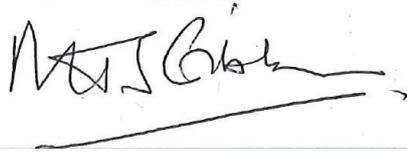
Over 2017/18, we led on cross-code coordination initiatives and created a Forward Work Plan of modifications on all codes and shared this with the industry, but we were disappointed with the lack of support and contribution from other code administrators. We also proposed to Ofgem improvements to code governance, which do not require legislation.

We believe greater cooperation and a closer alignment between all code administrators is required if we are to deliver government strategic priorities for the energy industry as detailed in BEIS and Ofgem's joint Smart Systems and Flexibility Plan.

Therefore, our vision for the future of central services is not for periodic competition between code administrators but a more extensive collaboration and, ultimately, consolidation of code bodies as this would simplify and streamline processes and the user experience.

BSC PANEL MEMBERSHIP

I would like to extend my personal thanks to all of the BSC Panel members (and their alternates) for their diligence, expertise, challenge and robust debate throughout the year, and indeed their support. I am also very aware, and appreciative of the considerable and high quality work carried out by the various Panel Committees, and the many work groups on the Modification work streams.



Michael Gibbons CBE, FEI
BSC Panel Chair and BSCCo Chairman



This year in brief:

- ▶ 11 Modification Proposals were raised.
- ▶ 19 Change Proposals were raised.
- ▶ 73 Trading Disputes were raised.
- ▶ Across three planned BSC Releases and one stand-alone Release, ELEXON implemented 13 approved Modifications and 15 approved Change Proposals.
- ▶ A clean BSC Audit (i.e. not qualified).
- ▶ 2,190 Settlement Runs were carried out.
- ▶ £463m of Credit was held.
- ▶ 207 Credit Defaults were managed with 10 notified publicly.
- ▶ One Supplier of Last Resort event managed.
- ▶ 45 new BSC Parties registered during the year.
- ▶ 2.6 million Energy Contract Volume Notifications (ECVNs) received.
- ▶ Actively monitored 111 external consultations during the year; reviewed 49 and responded to 40.

02 MODIFICATION AND CHANGE

02 / MODIFICATION AND CHANGE

Modification Status	2017-18	Modifications
Modifications in progress as at 1 April 2017	6	P325, P332, P344, P348, P349, P354
Modifications raised	11	P355, P356, P357, P358, P359, P360, P361, P362, P363, P364, P365
Modifications withdrawn	1	P325
Approved by the Authority	4	P348, P349, P357, P358
Rejected by the Authority	0	-
Self-Governance Modifications approved or rejected by the BSC Panel	0	-
Fast Track Modifications approved or rejected by the BSC Panel	0	-
Modifications in progress as at 31 March 2018	12	P332, P344, P354, P355, P356, P359, P360, P361, P362, P363, P364, P365
Implemented during 17/18	13	P272, P297, P320, P321, P329, P335, P336, P338, P339, P342, P346, P347, P351
Modifications open during 17/18 which had alternative solutions proposed	4	P348, P349, P357, P358
Modifications granted Urgency by Authority	0	-

ELEXON has always been very successful at delivering incremental change to the BSC systems and processes. Throughout 2017/18, we continued to push forward the above modifications to the BSC rules to support change and innovation proactively, while ensuring we meet our customers' new and increasing demands.

During the year, we have continued to support and guide Proposers through the change process and we have seen increased engagement from non-BSC Parties, in Modifications such as P344, P354 and P355. We also had the first Authority designation of a non-BSC Party to raise a Modification (for P355). We continue to be committed to providing leading customer service and finding more efficient ways of operating.

MODIFICATIONS RAISED BY AREA



BM Units

P363 'Simplifying the registration of new configurations of BM Units'

Modification P363 seeks to simplify the registration of new configurations of Balancing Mechanism (BM) Units, by amending BSC Section K. Improvements in design, cost efficiency and commercial opportunities for renewable and smaller scale generator technologies has led ELEXON to progress an increasing number of non-standard BM Unit applications. The non-standard BM Unit application process is time-consuming for each site, requiring a lead-time of 60 Working Days (WD) as opposed to the 30WD required for a standard BM Unit.

P364 'Clarifying requirements for registering and maintaining BM Units'

Modification P364 will clarify the requirements for configuring and registering Plant and Apparatus in Balancing Mechanism (BM) Units. The current definition of Standard BM Unit configurations is too restrictive and not reflective of current market practices. Specifically, amongst other things, P364 will allow a single Party to register separate BM Units for Import and Export for a Plant and Apparatus.

Credit

P359 'Mechanised process for GC/DC declarations'

Modification P359 seeks to introduce a new mechanised process for Generation Capacity (GC) and Demand Capacity (DC) re-declarations following a 'GC/DC breach'. The current arrangements for re-declaring GC and DC values, using estimates of Balancing Mechanism (BM) Unit Metered Volumes provided by the Lead Party, are ambiguous and resulting in low levels and/or inaccurate re-declared values. This can increase the risk of non-defaulting Parties paying Default Funding Shares, should a Party not lodge sufficient Credit Cover.

P358 'Roll over of BSC Seasonal GCDC'

Modification P358 amended the BSC to allow ELEXON to carry over GC/DC values from one BSC Season to the next. P358 removed the requirement to default values to zero if none are declared, and reflected the existing working practice operated by ELEXON.

P357 'Removal of GC/DC tolerance parameters from BSC Section K'

Modification P357 removed the Generation Capacity (GC) and Demand Capacity (DC) tolerance limit parameters from BSC Section K 'Classification and Registration of Metering Systems and BM Units' and placed them in Panel- owned document, under Change Proposal control. This makes the arrangements more flexible and quicker to amend by removing the need for a Modification to change the parameters.

Governance

P362 'Introducing BSC arrangements to facilitate an electricity market sandbox'

Modification 362 seeks to enable the Panel to grant derogation of certain BSC obligations to participants of ELEXON's BSC sandbox. Appropriate provisions do not exist to enable pre-competitive or proof of concept testing for innovative products/services in the live BSC Settlement environment.

P365 'Enabling ELEXON to tender for the Retail Energy Code (REC)'

Modification P365 enables ELEXON to participate in the process to appoint the Retail Energy Code (REC) administrator. P365 removed restrictions in Section C of the BSC that precluded ELEXON from participating in any REC administrator appointment process.

Interconnector

P356 'Aligning the BSC with Grid Code Modification GC0099 'Establishing a common approach to interconnector scheduling consistent with the single intraday market coupling processes set out within Regulation (EU) 2015/1222 (CACM)'

Modification P356 will align the BSC with Grid Code Modification GC0099, which seeks to introduce the interconnector scheduled transfer process to the Grid Code. This is in order to establish common, cross-code provisions, which are compatible with both the EU single intraday market coupling processes, and GB and EU balancing processes.

P361 'Revised treatment of BSC Charges for Lead Parties of Interconnector BM Units'

Modification P361 seeks to exclude Interconnector Balancing Mechanism (BM) Units from the Main Funding Share and SVA (Production) Funding Share BSC Charges, in order to better facilitate the EU Third Package. Under the EU Third Package Interconnector, flows should be treated as part of the Transmission System and not as Production or Consumption. The current BSC charging arrangements are not aligned with this approach.

Pricing

P360 'Making the BSC's imbalance price compliant with the European Balancing Guideline'

Modification P360 seeks to ensure that the BSC is compliant with Article 55 of the European Electricity Balancing Guideline (EB GL), which becomes law on 18 December 2017. However, following Ofgem's formal rejection of ELEXON's derogation request for Article 55, the Proposer, National Grid, has withdrawn P360. As Ofgem have been unable to determine a non-compliance with Article 55, then notwithstanding ELEXON's original interpretation, it is not in consumers' interest to pursue P360 to the point where Ofgem would be required to determine whether there is a defect in the current BSC that could be remedied by P360.target. This could cause increased agent costs for Suppliers.

Settlement

P355 'Introduction of a BM Lite Balancing Mechanism'

Modification P355 seeks to allow greater access to the Balancing Mechanism. Specifically it aims to introduce a new BM Lite classification to allow smaller generators to offer energy to the System Operator for energy balancing, in competition with the larger BM Units already in the market. Currently, P355 is on hold, as the Proposer believes that the Virtual BM Unit element of Modification P344 solution covers much of what was intended by P355.

ISSUES

No issues were raised between April 2017 and March 2018.

CHANGE PROPOSALS

Nineteen [19] Change Proposals were raised last year. As at 31 March 2018, fifteen [15] have been approved, one [1] withdrawn and three [3] are awaiting decision.



TRUSTED
INDEPENDENT
AND RELIABLE
MARKET EXPERTS

MODIFICATIONS AND CHANGE PROPOSALS IMPLEMENTED WITH RELEASE MONTH

April 2017	June 2017	November 2017	February 2018
P272	P321	P335	P348
P320	P329	P336	P357
P338	P350	P343	P358
P339	CP1469	CP1478	CP1482
P347	CP1474	CP1479	CP1487
P351	CP1475	CP1484	CP1490
CP1481	CP1476	CP1485	CP1491
	CP1477	CP1488	CP1492
	CP1486		CP1493
			CP1494

03 BSC PANEL

03 / BSC PANEL

BSC PANEL SUMMARY

As custodians of the Balancing and Settlement Code, one of the Panel's key areas of focus over the year has been on ensuring that the BSC does not act as a barrier to innovation or hinder developments within the market. Perhaps the most visible manifestation of this has been Modification Proposal P362, 'Introducing BSC arrangements to facilitate an electricity market sandbox'. The 'sandbox Modification' was raised by the BSC Panel to enable proof of concept testing for innovative products/business models in the live BSC Settlement environment. The Panel and ELEXON were widely recognised as leading the way in this area ahead of other code administrators.

Developments from Europe have also been high on the Panel's agenda. Modification P344 'Project TERRE implementation into GB market arrangements' was raised by National Grid on 1 June 2016. This Modification seeks to align the Balancing and Settlement Code (BSC) with the European Balancing Project TERRE (Trans European Replacement Reserves Exchange) requirements in order to allow the implementation of the TERRE balancing product at national level and hence ensure compliance with the European Electricity Balancing Guideline (EB GL). The workgroup met on 24 occasions during 2017/18 and finalised its solution on 22 March 2018.

Membership of the BSC Panel has been stable this year, but the current term of some of the Panel members ends in 2018, so a Panel election will be held in summer 2018.

Throughout the year, ELEXON provided regular updates to the Panel on the progress of work undertaken by ELEXON's subsidiary, EMR Settlement Limited (EMRS), in its role as the EMR Settlement Services Provider.

BSC PANEL MEETINGS

Details of panel member attendance at meetings, both scheduled and ad hoc, held from April 2017 to March 2018 are below:

Number of BSC Panel meetings	April 2017 - March 2018	April 2016 - March 2017
12 Scheduled and 1 ad-hoc	13	14
Michael Gibbons	13 (13)	13 (14)
Phil Hare (Independent Panel Member)	12 (13)	12 (14)
Derek Bunn (Independent Panel Member)	11 (13)	13 (14)
Diane Dowdell (Chair-appointed Industry Panel Member)	11 (13)	11 (14)
Stuart Cotten (Industry-elected Panel Member)	12 (13)	13 (14)
Barbara Vest (Industry-elected Panel Member)	4 (13)	2 (14)
Andy Knowles (Industry-elected Panel Member)	11 (13)	6 (7)
Mitch Donnelly (Industry-elected Panel Member)	11 (13)	5 (7)
Tom Edwards (Industry-elected Panel Member)	9 (13)	6 (7)
Stew Horne (Consumer Panel Member)	6 (13)	8 (8)
Victoria Pelka (Consumer Panel Member)	7 (13)	2 (4)

The make-up of the BSC Panel includes a broad and independent membership across the stakeholder community, including two consumer representatives.

PANEL REMUNERATION

Section B2.11.5 of the Balancing and Settlement Code states that any remuneration or benefits awarded to the Panel Chairman and Chairman-appointed Independent Panel members should be disclosed in the Annual BSC Report.

Panel Member	Role	Remuneration and benefits
Michael Gibbons	ELEXON Board and BSC Panel Chairman	<ul style="list-style-type: none">▶ Annual fee for the combined roles in 2017/18 was £145,000▶ Annual fee equivalent to the pension cash allowance that the Chairman was entitled to prior to change of status from Executive to non-executive Chairman in 2016: £15,290▶ Benefits during 2017/18 were £1,524.77
Dr Phil Hare	Independent Panel Member and Deputy Chair	<ul style="list-style-type: none">▶ Annual fee of £25,000 per annum▶ £1,000 per additional meeting/per day, and £500 per half day▶ £250 for each pre-Panel briefing meeting
Professor Derek Bunn	Independent Panel Member	<ul style="list-style-type: none">▶ Annual fee of £25,000 per annum▶ £1,000 per additional meeting/per day, and £500 per half day

04 BUSINESS REVIEW

04 / BUSINESS REVIEW

This year, ELEXON has focussed on meeting our customers' need for us to move to an intelligent, value-adding support service that provides proactive opinion and industry leadership. Furthermore, ELEXON has continued to deliver its vision in 2017/18 with its leadership in a number of areas to improve the wholesale market arrangements.

This includes developing and implementing changes to the BSC systems and processes and providing expert advice and guidance to Ofgem's Smarter markets initiatives (such as Half Hourly Settlement and Faster and more reliable switching). We have also provided our expertise as trusted advisor and in a critical friend capacity to BEIS.

This is a review of our core BSC activities during 2017/18.

BSC DEFAULT AND SUPPLIER OF LAST RESORT

This year we have successfully continued to deliver BSC Default processes at a time when the volume of Credit Default events has doubled. With 333 Credit Defaults, this was our busiest year since NETA go-live, and was a significant increase compared with 127 events in 2016 and 47 in 2015.

BSC Modification P307 was implemented in June 2015, extending the Query Period in a Credit Default event to contain five consecutive Business Hours. The new rules, combined with an increasing number of BSC Parties, have driven the increase in defaults throughout 2016 and 2017.

In January 2018, we managed a Supplier of Last Resort Event following the failure of Future Energy Utilities Limited. This type of event is rare and our people and processes were ready to deal with this at short notice. We ensured that the 11,000 customers registered to the failing Supplier were transferred to the Supplier of Last Resort and we have recovered unpaid amounts through Default Funding Shares.

MARKET REPORTS

In March 2018, we began a three-month trial of 'Market Reports' to provide easy access to Settlement Data. This helps BSC Parties to understand their own performance and carry out peer comparison. The trial has proved popular with BSC Parties and we've been asked to expand the suite of reports. We'll continue to gather feedback over the trial period.

BSC Parties can access the reports via a secure login on the ELEXON Portal.

SYSTEM PRICE ANALYSIS REPORT AND DASHBOARD

ELEXON has continued to provide detailed reporting and analysis through the monthly System Price Analysis Report. This has included case studies on particular pricing events and themes identified through our analysis.

With System Price calculations changing on 1 November 2018, we introduced a System Price Analysis Dashboard to inform industry on the impact of changes. The dashboard provides a comparison of data from our modelling System Prices under the November 2018 scenario to the live calculation. Users are able to visualise the data to analyse System Prices with average price differences, maximums, or minimums. They can also specify Settlement Dates, or drill-down to a half hour Settlement Period-level. The dashboard is refreshed daily, so the dashboard always has the latest available pricing data.

MARKET-WIDE HALF HOURLY SETTLEMENT

Following the launch by Ofgem of the Electricity Settlement Reform Significant Code Review (SCR), in July 2017, ELEXON has been leading the work on developing the Target Operating Models (TOMs) for market-wide Half Hourly Settlement.

This work has been progressed through a Design Working Group (DWG) chaired by ELEXON, which has met seven times between October 2017 and March 2018 in order to design and evaluate the potential Target Operating Models.

ELEXON produced a final report setting out five potential operating models, which have been accepted by Ofgem for progression into Stage 2 of the Significant Code Review. In Stage 2, the Design Working Group will look to define the lower level requirements for each of the services set out in the operating models.

We have also been supporting Ofgem in other policy areas related to the Significant Code Review, including the policy work on Data Access and Data Privacy, the future of Agent Functions and providing input to the business case for market-wide Half Hourly Settlement.

FASTER AND MORE RELIABLE SWITCHING

During 2017/18, we provided expert support to Ofgem during the Detailed Level Specification (DLS) phase of the switching programme, having previously done so during the 'Blueprint' phase. We provided subject matter expertise to the Design and Delivery teams and supported three industry stakeholder groups; the Design Forum, Delivery Forum and the External Design Advisory Group (EDAG).

We reviewed the Design and Delivery Detail Level Specification products and responded to Ofgem's consultation on 'Delivering Faster and More Reliable Switching'.

COMPETITION AND MARKETS AUTHORITY

The CMA (Competition and Markets Authority) concluded its energy market investigation and published its final report in June 2016. The report set out a wide range of reforms to modernise the market for the benefit of customers. Following the publication of the final report, Ofgem consulted on its progression of three recommendations made by the CMA on the code governance remedy. These were:

1. Licensing of code managers and associated central delivery bodies.
2. Setting a strategic direction for code development.
3. Establishing a consultative board.

We recognised the need for greater coordination across codes and support this overriding objective. We also support a 'responsibilities re-set' that provides for autonomous, empowered, proactive code bodies.

This is an important component in achieving the overall aim. However, it is important that the overall outcome of the CMA's work leads to a reduction in complexity and cost to existing parties and new entrants and not to have the opposite effect.

Therefore, we suggested nine specific actions that are already in Ofgem's power, and do not require legislation, in order to achieve the desired outcome in a more timely and proportionate manner than the introduction of code manager licensing.

We have communicated those possible actions to Ofgem and BEIS in order to share the lessons learnt from our work on developing the original Code Administrators Code of Practice (CACoP) and our innovations in code management (cross-code Forward Work Plan, cross-code forums, provision of dedicated support for users and extensive training and guidance services).

ELEXON's consultation responses provided to the CMA and Ofgem during 2016/17 are available on the Industry Insights page of the ELEXON website.

OFGEM'S CODE REFORM PROPOSALS – LICENSING

In its final recommendations, the CMA proposed that Ofgem should be given powers to make Code Administration a licensable activity. Ofgem incorporated this proposal into a broader consultation on Code Governance Reform, alongside proposals for the establishment of a consultative board and the setting of a Strategic Direction by Ofgem.

ELEXON outlined practical suggestions on Industry Code Governance in its response to the consultation published by Ofgem. Throughout 2017, ELEXON held several meetings with Ofgem to discuss the suggestions and took part in Ofgem's code governance remedies workshop in November 2017.

We recognise the challenge for Ofgem of obtaining primary legislation in the near future to help drive its proposals on code licensing. Ofgem intends to publish a 'strategic direction' and establish a consultative board to oversee implementation of reforms in due course according to its Forward Work Programme.

ELEXON made its position clear that greater cooperation and a closer alignment between all code administrators is required if we are to deliver government strategic priorities for the energy industry as detailed in BEIS and Ofgem's joint Smart Systems and Flexibility Plan, published in 2017. We communicated our vision for the future of central services not being a periodic competition between code administrators but a more extensive collaboration and ultimately consolidation of code bodies as this would simplify and streamline processes and the user experience.

ELECTRICITY SYSTEM OPERATOR (ESO) SEPARATION

During the year we engaged with Ofgem on its proposals for a separate Electricity System Operator (ESO) given the potential impacts on ELEXON and BSC work. We responded to the Ofgem and National Grid consultations related to the ESO forward plan and financial incentives. The three key messages from these responses were as follows.

We were not sure that (significant) financial incentives for code administration performance relative to BSCCo and other code administrators was the most cost-effective way to improve ESO code administration to the ELEXON standard (as evidenced by Ofgem's 2017 code administration survey).

We wanted the ESO to continue to be incentivised to maintain, or improve, the close working relationship/crosscode coordination we have had with National Grid to date across all our areas of interaction.

We said that the ESO should consider where and how it publishes information, and not be restricted to thinking only of its own publication channels, to avoid fragmentation of data provision. We were thinking particularly that the BMRS should continue its role as a 'one-stop shop' for the publication of electricity-related information.

National Grid (as the Transmission Company) will be raising a BSC Modification to make the necessary changes to the BSC to separate out the ESO and Electricity Transmission Owner (ETO) roles. A new legally entity, National Grid Electricity System Operator (NGESO), is being established to hold the ESO licence obligations. This will include the licence requirements to establish BSCCo. The current ETO requirements will be kept with the existing legal entity, National Grid Electricity Transmission (NGET). The Transmission Company definition will be updated to refer to NGESO and a BSC novation will transfer the rights and obligations under the BSC Accession Agreement including its BSC Party ID from NGET to NGESO.

EUROPEAN-LED DEVELOPMENTS

Brexit

The UK Government has expressed a desire to remain in the EU Internal Energy Market (IEM) if possible and the Brexit Transition Period will extend to the end of 2020. Therefore, at least in the medium term, EU legislation continues to bind the electricity industry and we continue to implement the requirements of the European Network Codes and Guidelines in the BSC. We also continue to monitor upcoming developments, in particular the Clean Energy Package of European legislation, which the European Commission intends to be adopted by the end of 2018.

During the past year, Ofgem invited ELEXON and the other GB code administrators to a series of meetings to discuss Brexit impacts on our respective codes. ELEXON analysed the BSC in line with Ofgem guidance and no 'show stopper' issues were identified. The impacts appear to be common across most codes, mainly related to the possibility of changing references to European laws and institutions; and questions about transfers of data to European institutions. However, as further details of GB's interaction with the IEM become more clear post 2020, we may need to consider whether further change to the BSC is required.

The European Guideline on Electricity Balancing (EB GL)

After eight years of development and negotiation, on 18 December 2017 the European Guideline on Electricity Balancing (EB GL) came into force.

The EB GL covers, amongst other things, settlement of balancing energy and imbalance settlement, so will have, potentially significant impacts on the BSC after it comes into force, including the following aspects.

ELEXON's Role

The text of the European Guideline on Electricity Balancing (EB GL) requires that balancing and settlement is the responsibility of National Grid. However, it also allows certain tasks to be assigned to other suitable bodies. On the same day as the EB GL came into force, ELEXON received the formal assignment letter from BEIS, so ELEXON is now directly responsible for balancing settlement, imbalance settlement and data publication as set out in the BSC. In due course, when UK Parliamentary time allows, we expect that Ofgem will be given Electricity Act 1989 enforcement powers with respect to these tasks.

In January 2018, Ofgem published its 'minded to' assignments, among the various GB Transmission System Operators (TSOs), of the various TSO tasks set out in the EB GL. As some of these tasks had also been previously assigned to BSCCo/BSC Clearer by BEIS, we clarified with Ofgem how the 'dual' assignment between National Grid and ourselves of certain EB GL Articles would work in practice. We understand that National Grid will be responsible for ensuring that appropriate BSC Modifications are raised to align the BSC with the requirements and that we will be responsible for carrying out the assigned tasks in compliance with the BSC.

Harmonisation of Imbalance Settlement

One of the legal requirements of the European Guideline on Electricity Balancing (EB GL) is that all the EU Transmission System Operators (TSOs) must make a proposal for the harmonisation of imbalance settlement by 18 December 2018.

ELEXON attends the European Transmission System Operators' (ENTSO-E) subgroup tasked with developing the proposal. As ELEXON is not a Transmission System Operator, it cannot be a voting member of this group, but we attend with National Grid, the formal GB member.

A first open stakeholder workshop on this subject was held in Brussels in March 2018. There were round table discussions on harmonising the calculation and components of imbalance prices; and imbalance volumes (including the timing of initial and final settlements); the definition of the default imbalance price to be used when there is no activation of balancing energy in a settlement period; and when dual imbalance pricing can be used. ELEXON attended and led one of the round table discussions.

Imbalance Prices

National Grid raised BSC Modification P360 in September 2017 to help clarify whether the existing BSC rules were compliant with the requirements of the European Guideline on Electricity Balancing (EB GL) Article 55 that will come into force in December 2018. Our initial assessment concluded that we would not be wholly compliant with Article 55.

The EB GL also requires imbalance prices to be harmonised across Member States by 2020. Consequently, we sought, from Ofgem, a two-year derogation from Article 55, as we believed it would be more efficient and less disruptive to industry to implement one imbalance price change, rather than two, within a three year period.

Ofgem rejected the derogation request on 10 May 2018, on the basis that there was insufficient evidence to conclude the BSC was non-compliant with Article 55. The Proposer therefore formally withdrew Modification P360 on 11 May 2018 as he believed it would not be in consumers' interest to pursue P360 to the point where Ofgem would be required to determine whether there is a defect in the current BSC that could be remedied by P360.

Project TERRE (Trans European Replacement Reserves Exchange)

One of the legal requirements of the European Guideline on Electricity Balancing (EB GL) is for European Transmission System Operators to design and build arrangements for sharing balancing energy. One of these is Project TERRE for Replacement Reserve (RR), which National Grid is part of as it intends to use and share Replacement Reserve in future.

ELEXON was invited to host the pan-European Project TERRE stakeholder event again this year (we had previously hosted in June 2016). This year's event took place in July 2017 and gave ELEXON, NGET and the British electricity industry a rare opportunity to highlight to the Project TERRE designers what we have been doing to prepare for TERRE (including via BSC Modification P344 and Grid Code Modification GC0097) and our need for early certainty from Project TERRE. This is also something we repeated in our response to the public Project TERRE consultation in August 2017.

We also attended a similar EU-wide TERRE event in Brussels in December 2017, one of only twelve non- Transmission System Operator EU stakeholders to attend.

Then, in January 2018, ELEXON and National Grid jointly hosted a highly successful TERRE GB industry day at ELEXON to explain how TERRE would be implemented in GB through the Grid Code and BSC. Over 80 delegates across 60 industry participants attended.

The European Guideline on Electricity Balancing requires that European Transmission System Operators make their formal proposal for the Replacement Reserve project by 18 June 2018 and ELEXON responded to the consultation on the draft proposal at the beginning of April 2018. Amongst other points, we suggested that ELEXON be permitted to join the relevant TERRE expert groups.

We expect TERRE to be implemented by the end of 2019, and the P344 and GC0097 workgroups have continued to meet, often in joint session, throughout 2017/18 in order to meet this implementation deadline in GB.

Project MARI (Manually Activated Reserves Initiative)

In April 2017, 19 European Transmission System Operators signed a Memorandum of Understanding setting up Project MARI (Manually Activated Reserves Initiative).

National Grid, and hence GB industry more widely, is also involved in Project MARI for manually-activated Frequency Restoration Reserve (mFRR). This is similar in form to Project TERRE but is potentially more complex (though we anticipate that P344 and GC0097 will have solved many of the issues of principle for MARI as well as TERRE).

European Project MARI ran a first public consultation in December 2017, to which ELEXON responded. Indeed, we appear to have been the only GB-based respondent. ELEXON observed that the various EU projects needed to be better coordinated to ensure consistency and that these projects should not assume that other projects are picking up certain aspects without checking.

The European Guideline on Electricity Balancing (EB GL) requires that European Transmission Operators make their formal proposal for the mFRR project by 18 December 2018 and we expect it to be implemented by the end of 2021. We anticipate a BSC Modification will be required, probably to be raised in the summer of 2019 once the Manually Activated Reserves Initiative proposal has been formally approved.

The Network Code on Emergency and Restoration (NC ER)

Chapter 4 of the Network Code on Emergency and Restoration (NC ER) is of direct relevance to the BSC as it covers market suspension and restoration. The Network Code on Emergency and Restoration came into force on the same day as the European Guideline on Electricity Balancing, on 18 December 2017. However, unlike the European Guideline on Electricity Balancing there have been no significant developments impacting the BSC to date, although National Grid will be required to make proposals on market suspension/restoration and imbalance settlement during such periods before 18 December 2018.

Other Network Codes and Guidelines

The System Operation Guideline (SO GL) came into force in September 2017. The European Guideline on Electricity Balancing and Network Code on Emergency and Restoration were the last of the Network Codes and Guidelines to come into force. None of the earlier Network Codes and Guidelines is likely to impact the BSC directly with one specific exception.

BSC Modification P356 was raised to be consistent with the Capacity Allocation and Congestion Management (CACM) Guideline and was progressed during the year. The objective of P356 is to be consistent with the Capacity Allocation and Congestion Management requirements for the intraday market, in particular when data on interconnector-scheduled flows would become available.

Planning for the implementation of EU Network Codes and Guidelines in GB

Our cross-code European Network Code implementation plan is regularly updated and is available on our website: <https://www.elexon.co.uk/bsc-and-codes/europe/>.

We currently foresee seven EU-driven BSC Modifications, of which four are currently in progress, and potentially one or more Brexit-driven BSC Modifications. Prior to both the European Guideline on Electricity Balancing and Network Code on Emergency and Restoration coming into force, there were a series of industry code-mapping meetings to identify the impacts of this European legislation on, and changes needed to, the various GB codes, including the BSC.

Other EU-related BSC Modifications and Changes

In addition to the BSC Modifications mentioned above, the following have all been driven or partly driven by EU requirements and progressed during the year:

- ▶ P354 (to allow National Grid to provide energy adjustments for non-BM Balancing Services providers to the BSC Central Systems)
- ▶ P361 (to exclude Interconnector BM Unit's from the BSC Charges calculations in order to align with the EU Third Package)
- ▶ CP1503 (EU Transparency Regulation data changes to BMRS to align with the latest ENTSO-e Manual of Procedures).

REMIT

BSC Modification P329 was raised to align the BSC and Balancing Mechanism Reporting Service (BMRS) with the European 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). It was implemented in June 2017.

In December 2017, ELEXON responded to an ACER consultation on revisions to REMIT reporting formats, which included some revisions to these web feeds. We await ACER's conclusion on this.

Future European legislation

In late 2016, the European Commission published its 'Clean Energy Package' of new energy legislation.

ELEXON has continued to work with both trade associations of which it is a member (Energy UK and Europex) on their responses to the legal drafts as they have developed during the year.

ELEXON and similar European independent settlement administrators went through a long series of negotiations to gain eventual recognition for our non-Transmission System Operator role in the European Guideline on Electricity Balancing (enabling the assignment mentioned above). In 2017 we were facing similar issues with the draft Clean Energy Package and explaining our role to MEPs and others who control the drafting.

This has prompted us, via Europex, to develop a short briefing note explaining who we all are, where we each operate (in 11 Member States) and what we do. This note has now been published by Europex and is on our website. As a result, it now seems likely that we will be formally recognised in the legislation. The European Commission is aiming to adopt the Clean Energy Package by the end of 2018.

Increasing our expertise in European electricity matters

Given its potential impact on the BSC, during 2017 ELEXON ran a series of internal workshops explaining and disseminating knowledge of the European Guideline on Electricity Balancing. In addition, one of our staff (Steve Wilkin) was awarded 'Master' level in the Florence School of Regulation's first ever course on EU Network Codes.

CUSTOMER OPERATIONS

ELEXON continues to offer high quality customised operational support to customers entering, operating in or exiting the market, including guidance and training on many different aspects of the market, monitoring of performance and support in the resolution of their performance and audit issues.

During 2017/18, ELEXON conducted 55 meetings with potential new entrants, 62 customers acceded to the Code, we registered 45 Parties and nine left the market. During this time, ELEXON also managed 35 qualification applications. Our Operational Support Managers (OSMs) carried out 162 meetings and 774 teleconferences with customers and we conducted nine executive engagement meetings. ELEXON conducted 66 training sessions covering a variety of topics such as Imbalance Settlement, Management and Resolution of EAC's and AA's, Performance Assurance Reporting and Monitoring System (PARMS) and Credit. We have provided several webinars including a Beginner's Guide to Settlement Performance for Suppliers and held a number of workshops including a P272 lessons learnt.

We hosted five 'Introducing ELEXON' seminars during the year. The seminars are targeted at new entrants to the market, or anyone who has changed roles and wants to learn more about ELEXON's activities within the market, but also allows more established Parties to meet the experts. It provides an overview of the balancing mechanism and imbalance settlement processes, and includes presentations from ELEXON and other key organisations from across the industry, such as National Grid. This year we added a new presentation on the change process to try to encourage new participants to be involved with ongoing and upcoming modifications. These Introducing ELEXON seminars are popular and are usually fully booked. Following the success of the seminars this year, there will be another five during 2018/19.

The Annual BSC Meeting and Seminar is another opportunity for us to interact with our key stakeholders. Following the success of previous years, the 2017 Annual BSC Meeting was once again followed by a Seminar. This year we had a unique opportunity of having Dermot Nolan, Ofgem's CEO and Lawrence Slade Energy UK's CEO as our two exceptional keynote speakers. The seminar focused on the key issues impacting, and likely to impact Settlement and the operation of the BSC. We welcomed over 80 people to our offices and, based on the positive feedback we received, we are holding a similar event in 2018 with similar high profile keynote speakers.

CUSTOMER SURVEY RESULTS

We are proud to see another year of high scores across our services with particular appreciation shown for our expertise and professionalism, with 94% of the respondents saying our service has improved or stayed the same and what is important to them is our expertise and the quality and reliability of the services we deliver.

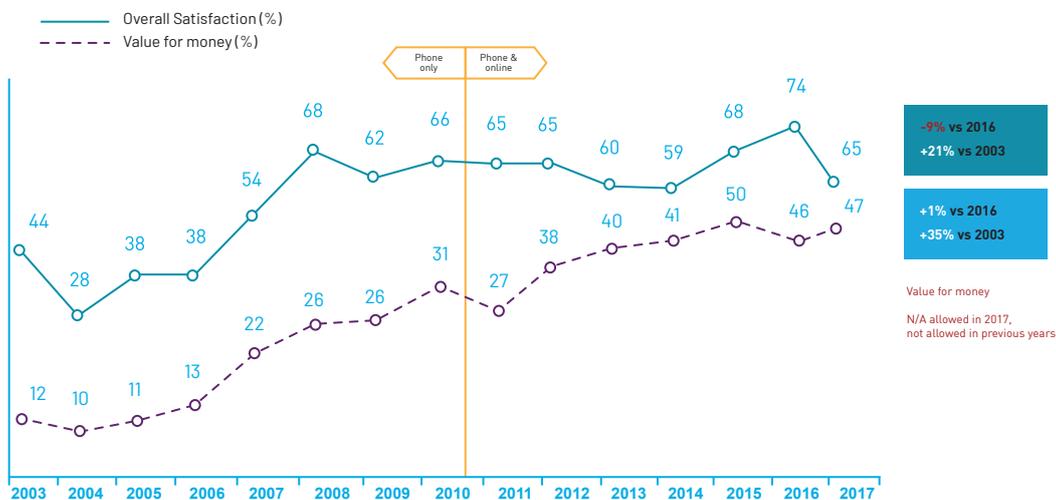
The results also showed that our smaller, newer customers, who made up 44% of those surveyed, would welcome more guidance and support from us.

The results showed that our customer base has been changing over the last few years and we have a broader, more diverse set of stakeholders, so it is important that we are adaptable and flexible in the services we provide to all of our customers. While the scores of larger incumbents showed significant improvement, those smaller or newer parties (1 in 4 had fewer than two years' experience of dealing with ELEXON) showed they desired greater support and we endeavoured to provide that.

Despite our high scores, we weren't complacent during the year. By using the results, we made interim improvements to our website before launching our new version in April and we also reviewed and increased our interactions with smaller parties.

OVERALL SATISFACTION & VALUE FOR MONEY RATING

SCORE 8+ (Out of 10)
 1 = Not at all satisfied/ 10 = Extremely satisfied
 1 = Poor/ 10 = Excellent value for money



New ELEXON website launched

We continued our long-term project to improve the ELEXON website and made some interim changes during the year. We launched our new-look website in April 2018, which included the option for users to customise an area on the website with their 'favourites'. We will continue to use our customers' feedback to improve the users' experiences during 2018/19.

Electricity Market Reform (EMR)

In addition to our role delivering the BSC, we continue to apply our skills and expertise to delivering EMR services, through ELEXON's wholly owned subsidiary company, EMRS. EMRS continued to provide settlement services for Contracts for Difference (CFD) and Capacity Market (CM), under contract, to Low Carbon Contracts Company (LCCC) and Electricity Settlement Company (ESC) for the third year.

As well as the financial benefits to BSC Parties via the defrayment of our overhead costs, industry has also benefitted through synergies of knowledge and ELEXON's involvement in this settlement activity, plus it has provided and will continue to provide new and interesting opportunities for our staff.

ELEXON provides the people and office facilities to EMRS to enable it to perform its EMR functions. All costs and liabilities associated with delivery of the service are ring fenced from ELEXON's activities and budget.

Changes made to the BSC ensure that there is no cross-subsidy between BSC and EMR services. The budget process for EMRS is carried out as a separate exercise from that conducted with BSC Parties. LCCC and ESC fund EMRS' costs, and the Government consults on the total costs of LCCC and ESC (which include those of EMRS) separately.

The charges that EMRS passes onto the LCCC and ESC for EMR services include people costs and a proportion of ELEXON's fixed overheads. This enables the fixed overheads that BSC Parties are currently paying, for example occupancy and the IT infrastructure, to be partly defrayed.

Our net recommendation score also increased and is now at its highest recorded level too, with 76% of respondents speaking highly about us.

Our customer survey scores were also validated in 2016 when a cross-code survey involving all 11 code bodies was conducted on behalf of Ofgem by an independent research company. The survey focused on code administration and the service provided and comprised online, telephone and in depth interviews.

Overall ELEXON scored the highest net satisfaction rating of all the code bodies, with 82% of those surveyed being satisfied with the BSC as a whole.

We came out top in several other categories too: for the provision of support that we give, 85% of respondents are satisfied with this area of our service, and a fantastic 93% of participants felt satisfied with how we keep them informed about the BSC.

In fact of the seven categories, we came first in three, second in two and third in one, and for all questions we scored above the average, leading to the assessor's conclusion that 'Overall, ELEXON is regarded highly'.

IMPROVING THE ELEXON WEBSITE

We continue our long-term project to improve the ELEXON website. Using feedback already received from our customers we are building robust user requirements and business specifications. This work will continue throughout 2017/18.

ELECTRICITY MARKET REFORM (EMR)

In addition to our core role of delivering the BSC, we continue to apply our skills and expertise to an area beyond our traditional scope. The Secretary of State directed changes to the BSC to enable EMR settlement services for the Contract for Difference (CFD) and Capacity Market (CM), which we provide, under contract, to the Low Carbon Contracts Company (LCCC)/Electricity Settlement Company (ESC). EMR is at the heart of Government's energy policy and we're proud that since being awarded our contract by DECC to undertake these roles from 1 April 2015, we have continued to deliver systems and services to the CFD and CM schemes.

As well as the financial benefits to BSC Parties via the defrayment of our overhead costs, and through synergies of knowledge and service gained from ELEXON's involvement in this additional settlement activity, this has provided, and will continue to provide, new and interesting opportunities for our staff.

EMR services are provided through ELEXON's wholly owned subsidiary company, EMR Settlement Limited (EMRS), under contract to the LCCC and ESC, the two companies that Government established to deliver the CFD and CM regulations. ELEXON provides the people and office facilities to EMRS to enable it to perform its EMR functions. All costs and liabilities associated with delivery of the service are ring fenced from ELEXON's activities and budget.

Changes made to the BSC ensure that there is no cross-subsidy between BSC and EMR services. The budget process for EMRS is carried out as a separate exercise from that conducted with BSC Parties. The LCCC and ESC fund EMRS' costs, and the total costs of LCCC and ESC (which include those of EMRS) are consulted on separately by Government. The charges that EMRS passes onto the LCCC and ESC for EMR services include people costs and a proportion of ELEXON's fixed overheads. This enables the fixed overheads that BSC Parties are currently paying, for example occupancy and the IT infrastructure, to be partly defrayed.

BSC CENTRAL SYSTEMS

This year, we completed the Architecture Strategy project, which carried out an assessment of the expected increase in the velocity and complexity of market changes over the next 5 to 10 years and the ability of ELEXON's systems and processes to continue to support our role and obligations under the BSC.

This work, which was completed in October 2017, created a Conceptual Foundation Architecture, which will be able to handle increasingly complex process and system changes. The proposed architecture is underpinned by paradigms that simplify our processes and monolithic applications, reuses common services and enables flexibility by migrating to modern technologies and services. Once established, our Foundation Architecture will enable us to deliver more efficient, effective and flexible BSC operations including faster delivery of future change, while reducing the risk of undertaking complex BSC changes.

A programme of work, the 'Foundation Programme', began in December 2017 to implement this Foundation Architecture, with Phase 1 of the Foundation Programme focussing on developing the logical and solution Architecture. It was supported by Proof of Concepts to validate key architectural elements and to introduce agile ways of delivering changes.

Phase 1 produced a Solution Architecture for delivering P344, the BSC changes required to support TERRE, on the new architecture. The solution balances the need to de-risk TERRE delivery whilst delivering core components on the new architecture. Phase 2 will start in 2018/19 and will deliver the first iteration of the Foundation Architecture.

Future phases will deliver the target Foundation Architecture over the next three years, adapting and evolving the roadmap and pace of delivery to meet industry needs.

BALANCING MECHANISM REPORTING SERVICE

During the last year, we continued to see a steady growth in users accessing the Balancing Mechanism Reporting Service (BMRS) via both the Application Programming Interfaces (APIs) and the BMRS website. The data retrieved via the APIs on a daily basis has seen more than a threefold increase, for example on 19 April 2017, there were 336,000 requests made which increased to 1.2m requests on 19 April 2018 (yearly total of 273m) equating to 138Gb of data. There are approximately 14,000 users accessing the BMRS APIs.

BSC AUDIT

KPMG completed its work for 2017/18 encompassing all Reconciliation Runs processed in the year, with its scope of work covering all Settlement Days to 31 March 2018. KPMG will present its final report to the BSC Panel in June 2018.

The BSC Audit opinion was unqualified, with the volume of error identified falling below the audit materiality threshold of 1.3TWh. However, the Auditor noted that there had been a significant increase in the number of Settlement-impacting issues identified across the market. More positively, the findings of the BSC Audit showed that a number of legacy audit issues had been closed or reduced in severity because of efforts by ELEXON, market participants and the Performance Assurance Board. In particular, improvements were identified in the processing of Change of Measurement Class scenarios and issues relating to incomplete or delayed provision of meter reads and Meter Technical Details.

Key areas of concern identified were:

- ▶ Issues relating to metering
- ▶ Data quality issues in the Non Half Hourly Market
- ▶ Data quality issues in the Half Hourly Market.

The Auditor's findings are a key information source for ELEXON's work on Settlement Risks, and the report will be available on the Performance Assurance section of the ELEXON website. ELEXON's response to these findings will be included in the Annual Performance Assurance Report 2017/18, which will be published later this year.

Looking forward, ELEXON, the PAB and the BSC Auditor will continue to review and enhance the performance assurance techniques and to tackle the issues identified in the 2017/18 Audit using the corrective tools available within the Performance Assurance Framework (PAF) and with targeted support to organisations through the Operational Support Manager (OSM) network.

Ahead of setting the scope for the 2018/19 BSC Audit, ELEXON will work in collaboration with KPMG, the PAB and Panel to make improvements to the scope and approach, allowing more flexibility, improving transparency, delivering added value and responding to feedback from BSC Parties and the PAB on the efficiency of the audit.

TECHNICAL ASSURANCE AGENT

In its role as TAA, C&C Group, provide the Technical Assurance of Metering Service on behalf of ELEXON. This service involves visiting customer sites, ensuring that the meters installed meet our requirements and provide accurate data for electricity settlement processes. In turn this gives ELEXON's stakeholders confidence that electricity Settlement operates efficiently and accurately.

In its Technical Assurance of Metering Systems Annual Report, which will be presented to the Panel in June 2018, the TAA reported an increase in SVA Category 1 non-compliances, with the most significant increase relating to various Metering Equipment failures.

In the CVA market, two Category 1 non-compliances were discovered. Both were resolved following their discovery by repair and replacement of Outstation communications equipment. Non-compliances relating to Commissioning reduced during the year. This was largely attributed to National Grid's Meter replacement programme affecting many of its CVA Metering Systems.

In 2017/18, we saw some changes to the TAAMT (Technical Assurance Agent Management Tool) to enable it to inspect meters located on offshore windfarms as well as audit meters with multiple circuits. These changes will enable the metering systems to be fully audited at each site visit.

TRADING DISPUTES REFERRED TO THE PANNEL

No Trading Disputes were referred to the BSC Panel.

PERFORMANCE ASSUREANCE FRAMEWORK FOCUS

The Performance Assurance Framework (PAF) consists of 16 assurance techniques and aims to address over 200 identified Settlement Risks. It is delivered at an annual central cost of around £3m. In 2017/18, we continued to deploy a range of Performance Assurance Techniques to remedy issues identified through the BSC Audit, by the TAA and through our regular monitoring and reporting.

A significant amount of effort was put into addressing Settlement Risk 74 – Settlement Performance in the Non Half Hourly Market. Error and Failure Resolution was applied to 26 Supplier Ids for this risk during the period, encouraging Suppliers to address root causes of non-compliances. Improvement plans are closely monitored by ELEXON, with escalation to the Performance Assurance Board if improvements are not made. In addition, in September ELEXON hosted a Non Half Hourly Performance improvement workshop for Suppliers. The workshop encouraged Suppliers to work together to obtain solutions that could be incorporated into their business processes.

ELEXON conducted Technical Assurance of Performance Assurance Party (TAPAP) checks on the accuracy of Meter Technical Details, following up on areas of non-compliance by applying EFR.

It is also worth noting that, at the request of the BSC Panel, ELEXON has been conducting a thorough review of the Performance Assurance Framework. The key aims of the review are:

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- ▶ Better engagement with parties.
 - ▶ Increase the quantity and quality of participation in consultations.
 - ▶ Meet the current and future assurance needs of the Panel, the PAB and the wider electricity industry e.g. smart metering, alternative business models, CVA risk.
 - ▶ Improve the measurability of Settlement error and the mitigating effect of assurance activities.
 - ▶ Deliver a valued and trusted assurance service to BSC Parties under the strategic and tactical guidance of the BSC Panel and PAB.

The review is scheduled to run to the second quarter of 2019.

BUSINESS PLAN

In 2017, ELEXON had operated successfully under the new Governance arrangements put in place by Modification P324 in November 2016. Modification P324 gave the Board sole responsibility for approving the BSCCo Business Plan after issuing to BSC Parties for comment and introduced improved accountability to BSC Parties, giving them the opportunity to approve the appointment of directors and, in extremis, to vote to remove directors. For the 2017/18 Business Plan, the core themes, building on the BSC Panel Strategy and workplan, were:

- ▶ ongoing commitment to the delivery of our core BSC work to the same high standard as confirmed by our own independent customer survey and Ofgem's Code Administrators' performance survey published in April 2017
- ▶ seeking improvements to the delivery of the BSC and its services to our customers
- ▶ ensuring value for money through efficient and economic delivery.

The BSC Panel and the industry were invited to provide comments on the BSCCo Business Plan. We held a webinar to describe the Business Plan to BSC Parties in more detail and provide an opportunity for them to ask questions on it. Feedback on the Business Plan from both Panel and Parties was positive.

CORPORATE SOCIAL RESPONSIBILITY

ELEXON's Corporate Social Responsibility (CSR) Strategy is built around four themes (Environment, Community, Workplace and Marketplace) and ensures that we behave in a sustainable, socially and environmentally responsible manner while supporting our ambition, values, brand and business objectives.

Environment

ELEXON's environmental policy provides its staff and visitors with clear responsibilities and guidelines on how we manage our impact on the environment in our day-to-day work activities. We aim to reduce our environmental impact through staff awareness campaigns and by monitoring our energy consumption.

We use smart metering technology to help us identify where we can make savings, in lighting controls, airconditioning running times and by turning off IT equipment.

Community

At the beginning of April 2017, we started a three-year partnership with two new charities, Guide Dogs for the Blind and the Alzheimer's Society, both of which were chosen by ELEXON employees. During the first year, employees raised over £1,500 for each charity through various fundraising activities and we look forward to raising more money for these well-deserved charities during next year.

As well as company activities, our employees are encouraged to continue to use volunteering days, or individually participate in fundraising activities. From running marathons, charity boxing matches, and cycling counties, our staff are frequently willing to raise money for the company charities or a personal cause.

Marketplace

This year we have continued to embed CSR into the tender process as standard, with a weighting applied to suppliers' commitment to it. We have been working with new or potential suppliers and service providers to ensure they are providing CSR credentials compatible with our own. Also by working proactively with suppliers, we are improving our supply chain so we ensure we do the right thing by everyone.

Workplace

As a business, we believe 'our people' are our greatest asset, and we depend on the skills and commitment that they bring to the organisation. We recognise that to provide a great place to work, we need to retain our focus on health, well-being, flexible-working, personal development and engagement initiatives with our people.

05 OPERATIONAL UPDATES

05 / OPERATIONAL UPDATES

For information about operational performance, including each Supplier Meter Registration Service (SMRS) and Master Registration Agreement (MRA) arrangements, please see our Trading Operations Report, ELEXON Circulars, Quarterly Reports and the monthly System Price Analysis Report on the ELEXON website.

	Target	Actual*
Performance of key operational services		
System availability		
Balancing Mechanism Reporting Service (BMRS)	99.90%	99.91%
Energy Contract Volume Allocation Agent (ECVAA)	99.90%	99.99%
Service Desk	99%	100%

* The actual performance does not include any downtime or interruption experienced during planned outages (such as those required to implement a BSC Release) or where inputs from third party providers have been the root cause of a degradation in performance.

06 REVIEW AGAINST THE ANNUAL BUDGET

06 / REVIEW AGAINST THE ANNUAL BUDGET

The audited result for the 2017/18 financial year shows total BSC expenditure outturn of £34.5m, contributing to a £7.1m underspend (17.1%) against an annual budget of £41.6m. The position against budget for the full year is summarised in the table below. Involvement in EMR has enabled £763k of BSC overheads to be defrayed.

Expenditure by type	Budget (£m)	Actual (£m)	Var. (£m)
ELEXON Operational	18.1	16.5	1.6
Demand Led	4.0	1.3	2.7
Contracted	15.3	14.4	0.9
System strategy	3.7	2.2	1.5
Market development	0.5	0.1	0.4
Total	41.6	34.5	7.1

The £7.1m of the underspend was mainly attributable to savings on resources and associated overhead costs, reduced activity on system transformation and fewer system changes as well as less market development activity.

OPERATIONAL EXPENDITURE

The operational expenditure is £1.6m (8.9%) under budget.

People costs are £1.1m (8.1%) under budget, mainly because of delays in recruitment during the year.

The remainder of the £0.5m savings were realised due to less spend on consultancy, associated legal costs and contingencies that were not needed to be drawn down upon during the year.

DEMAND LED EXPENDITURE

Demand led expenditure is £2.7m (67%) under budget mainly because of fewer than expected BSC system releases and modifications requested by the Industry.

CONTRACTED EXPENDITURE

Contracted expenditure for the financial year is £0.9k (5.8%) less than budget. This is mainly attributed to savings realised within the Performance Assurance Framework (less audit and assurance costs) and Central Systems and PARMS (lower BMRS depreciation costs and lower central security enhancement costs).

SYSTEM STRATEGY

Final spend for the year is £1.5m (41%) below budget due to less activity on system transformation than expected.

MARKET DEVELOPMENT

Actual spend is £0.4m (80%) under budget. Existing BSC resources were sufficient to provide for 'horizon scanning' activities and therefore much of this budget was not utilised.

07 APPENDIX 1: COMMITTEE SUMMARY

07 / APPENDIX 1: COMMITTEE SUMMARY

PERFORMANCE ASSURANCE BOARD (PAB)

The Performance Assurance Board (PAB) conducts and administers activities to provide assurance that all participants in the BSC arrangements are suitably qualified and that relevant standards of performance are maintained.

During 2017/18, the PAB considered 204 papers, which was a 13% decrease from the previous year. Of these papers 71% (145) were decision papers compared to 64% (149) in 2016/17.

A summary of the reasons behind the PAB invitations are as follows:

Issue	2017/18	2016/17
Non Half Hourly 97% standard	16	12
Half Hourly 99% standard	5	1
P272/322	2	10
Supplier Agent Market Issues	3	1
Total	26	24

We can see that as migration activity associated with moving the higher consuming Non Half Hourly sites (Profile Class 5-8) to the Half Hourly market ends in April 2017, there is an increasing negative effect on both Non Half Hourly and Half Hourly performance against the industry standards.

Qualification activity has slowed down during 2017/18 with seven Qualification requests coming to PAB for approval compared with 16 in 2016/17.

IMBALANCE SETTLEMENT GROUP (ISG)

The Imbalance Settlement Group oversees and helps to develop the Central Volume Allocation (CVA) Arrangements. Over the year, the group has achieved the following:

- ▶ Approved 13 BSC Change Proposals (CPs): CP1486, CP1485, CP1488, CP1480, CP1490, CP1491, CP1492, CP1493, CP1494, CP1496, CP1498, CP1499, CP1500.
- ▶ Approved six temporary Metering Dispensations.
- ▶ Approved seven lifetime Metering Dispensations.
- ▶ Approved four Trading Unit Applications.
- ▶ Approved 14 Non-Standard Balancing Mechanism Unit (BMU) Applications.
- ▶ Approved changes to Credit Assessment Load Factor (CALF) values for one BSC Party following formal Appeal.
- ▶ Approved changes to the generic Supplier Export Credit Assessment Load Factor (SECALF) values.
- ▶ Approved CVA Line Loss Factors (LLFs) for use during the 2018/19 BSC Year.
- ▶ Approved LLF calculation methodologies for Licensed Distribution System Operators.
- ▶ Approved Delivering and Offtaking Estimated Transmission Losses Adjustment (ETLMO) values for use during the 2018/19 BSC Year.
- ▶ Reviewed and recommended to the BSC Panel no changes to the Market Index Definitions Statement (MIDS).
- ▶ Approved Configurable Items amended as part of the June 2017 Release.
- ▶ Approved Configurable Items amended as part of the November 2017 Release.
- ▶ Approved Changes to the Transmission Loss Factor (TLF) Service Description pursuant to the implementation of approved Modification P350.

SUPPLIER VOLUME ALLOCATION GROUP (SVG)

The Supplier Volume Allocation Group oversees and helps to develop the Supplier Volume Allocation (SVA) arrangements. To assist it, the group also has some advisory subgroups in specific areas:

- ▶ Metering Dispensation Review Group (MDRG, a joint subgroup with the ISG)
- ▶ Profiling Expert Group (PEG)
- ▶ Software Technical Advisory Group (STAG)
- ▶ Unmetered Supplies User Group (UMSUG)

Over the year, the Supplier Volume Allocation Group:

- ▶ made decisions on 18 Change Proposals
- ▶ recommended the approval of one Change Proposal to the BSC Panel, as the implementation costs exceeded its delegated authority
- ▶ approved amended Configurable Items for three BSC Releases
- ▶ oversaw more than 240 changes to Market Domain Data
- ▶ allocated three new Grid Supply Points (GSPs) to GSP Groups
- ▶ approved new profiling Technical Product Deliverables, Default Estimated Annual Consumption values and Annual Fraction of Yearly Consumption values, following the PEG's annual review
- ▶ approved new SVA Line Loss Factors (LLFs) following the annual LLF audit
- ▶ approved two applications for Metering Dispensations and one extension to an existing Metering Dispensation
- ▶ approved the UMSUG's recommended changes to the Unmetered Supplies Operational Information Document
- ▶ approved two applications for measured Central Management Systems, to be used with unmetered 'slow' charging points for electric vehicles
- ▶ approved one application for a Central Management System, to be used with unmetered street lighting
- ▶ approved updates to the UMSUG's and STAG's Terms of Reference.

TRADING DISPUTES COMMITTEE

During 2017/2018, the Trading Disputes Committee (TDC) upheld 65 Trading Disputes. The total error corrected through the Trading Dispute process is approximately £8.2m.

There were two Trading Disputes which have a materiality of over £1m. A Licensed Distribution System Operator (LDSO) raised one of these disputes after it discovered that the Main Meter of a Grid Supply Point (GSP) in GSP Group _H was faulty and had been recording zeroes. As a result, approximately 168,500 MWh of energy was not accounted for in Settlement.

The other dispute was raised by ELEXON after it discovered that a Non Half Hourly (NHH) Supplier had made amendments to consumption data (approximately 112,835 MWh) at the Post-Final Settlement Run (DF) without an approved Trading Dispute. This was caused by a defect in its Non Half Hourly Data Collector (NHHDC) system that resulted in new Annualised Advances (AAs) for crystallised periods being produced and included in data aggregation. The materiality of these two disputes accounts for 84.6 % of the overall materiality associated with the upheld Trading Disputes in the reporting period.

CREDIT COMMITTEE

The Credit Committee looks after the Credit Assessment Price (CAP) parameter. The CAP is used as a proxy for outturn System Buy Price in BSC Parties' Credit Cover calculation and is based on forward market prices. A review of the CAP is triggered when the CAP reference price, calculated using forward market prices, varies from the CAP by more than a set threshold (the trigger level).

At the start of the 2017/18 BSC year, we presented a proposal to improve the CAP review process by automatically setting the new CAP value to the closest reference price unless Parties or a member of the Credit Committee request a meeting. The proposal was taken to the Credit Committee, which agreed on the proposed changes, and a consultation considered industry participants views.

The process is now in use and increases efficiency by reducing the resource required in a CAP review. There have been three CAP changes across the year with the CAP ranging from £43/MWh to £55/MWh.

08 APPENDIX 2: URLS

08 / APPENDIX 2: URLS

MODIFICATIONS RAISED BY AREA

- ▶ P363 'Simplifying the registration of new configurations of BM Units'
(<https://www.elexon.co.uk/modproposal/87223/>)
- ▶ P364 'Clarifying requirements for registering and maintaining BM Units' (<https://www.elexon.co.uk/modproposal/p364/>)
- ▶ P359 'Mechanised process for GC/DC declarations'
(<https://www.elexon.co.uk/mod-proposal/p359/>)
- ▶ P358 'Roll over of BSC Seasonal GCDC'
(<https://www.elexon.co.uk/mod-proposal/roll-bsc-seasonalgcdc/>)
- ▶ P357 'Removal of GC/DC tolerance parameters from BSC Section K'
(<https://www.elexon.co.uk/modproposal/p357/>)
- ▶ P362 'Introducing BSC arrangements to facilitate an electricity market sandbox'
(<https://www.elexon.co.uk/mod-proposal/p362/>)
- ▶ P365 'Enabling ELEXON to tender for the Retail Energy Code (REC)'
(<https://www.elexon.co.uk/modproposal/p365/>)
- ▶ P356 'Aligning the BSC with Grid Code Modification GC0099
'Establishing a common approach to interconnector scheduling consistent with the single intraday market coupling processes set out within Regulation (EU) 2015/1222 (CACM)'
(<https://www.elexon.co.uk/mod-proposal/p356/>)
- ▶ P361 'Revised treatment of BSC Charges for Lead Parties of Interconnector BM Units'
(<https://www.elexon.co.uk/mod-proposal/p361/>)
- ▶ P360 'Making the BSC's imbalance price compliant with the European Balancing Guideline'
(<https://www.elexon.co.uk/mod-proposal/p360/>)
- ▶ P355 'Introduction of a BM Lite Balancing Mechanism'
(<https://www.elexon.co.uk/mod-proposal/p355/>)

OPERATIONAL UPDATES

Trading Operations Report (<https://www.elexon.co.uk/about/key-data-reports/trading-operations-report/>)

ELEXON Circulars (<http://www.elexon.co.uk/news-events/elexon-circulars/>)

Quarterly Reports (<https://www.elexon.co.uk/about/who-we-are/elexon-quarterly-report-2/>)

System Price Analysis Report (<https://www.elexon.co.uk/about/key-data-reports/system-prices-analysis-report/>)

ELEXON.CO.UK