














BSC Modification Proposal Form		At what stage is this document in the process?
<div>[PXXX]</div> <div>Mod Title: Introducing BSC arrangements to facilitate an electricity market sandbox</div>		<div>01 Modification</div> <div>02 Workgroup Report</div> <div>03 Draft Modification Report</div> <div>04 Final Modification Report</div>
<b>Purpose of Modification:</b> To enable the Balancing and Settlement Code (BSC) Panel the ability to grant derogation of BSC obligations to participants of the electricity market sandbox.		
	ELEXON recommends that this Modification should: <ul style="list-style-type: none"> <li>Be raised by the Panel in accordance with Section F2.1.1(d)(i)</li> <li>not be a Self-Governance Modification Proposal</li> <li>be assessed by a Workgroup and submitted into the Assessment Procedure</li> </ul> This Modification Proposal will be presented by ELEXON to the BSC Panel on <b>09 Nov 2017</b> . The Panel will consider ELEXON's recommendations and determine whether to raise this Modification and how best to progress it.	
	<b>High Impact:</b> BSC Panel, BSCCo	
	<b>Medium Impact:</b> BSC Parties, Party Agents, non-BSC Parties facing BSC barriers to operation	
	<b>Low Impact:</b> -	

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<b>Timetable</b>		 Any questions?
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# 1 Summary

## What is the issue?

Under the current BSC arrangements, innovative projects can face barriers to pre-competitive or proof of concept testing. Prescribed BSC obligations do not allow the operation of such projects in the live Settlement environment without a formal BSC Modification. These projects may refer to industry participant systems that interact with BSC Systems, or processes.

The Modification process may not be suitable for enabling trials of innovative projects as they may require all BSC Parties to operate in a specific manner, rather than allowing an individual Party, class of Party, or generic industry participant to test or prove the new project. Alternatively, while the BSC rules might be necessary for robust operation of balancing/Settlement across the Total System, small projects with little to no impact on Settlement might find the full BSC uneconomic to comply with for a proof of concept trial. Further, progressing Modifications would likely be more resource intensive for both industry and ELEXON given the prescribed BSC Change process and associated governance.

For the avoidance of doubt, the issue is not the current BSC Change process which should remain unchanged and unaffected by this Modification.

## What is the proposed solution?

The BSC Panel should have the ability to grant derogations from existing BSC obligations for BSC Parties and Party Agents to enable testing of innovative projects in the live Balancing and Settlement environment. Derogations will be subject to the fulfilment of prescribed criteria in the still to be defined electricity market sandbox process. The derogations under the electricity market sandbox process should also be suitable for use by non-BSC Parties that wish to test or prove innovative projects. Further, the criteria used to consider derogation requests should link to the Applicable BSC Objectives. Derogations should not be permanent and we would not typically expect them to last long-term.

The concept of derogation from the existing regulatory framework currently exists in the BSC, however it is ring-fenced to particular areas of the BSC. For example, the Metering Dispensations process enables applicants to apply for dispensation for items of Metering Equipment within a Metering System. Other examples include the Non-Standard Balancing Mechanism (BM) Units process and the ability for Party Agents to be derogated from any aspect of the Code in respect of their qualification.

The proposed solution expands the ability of the Panel to grant dispensation from existing obligation more generally across the BSC and to a wider range of market participants.

## 2 Governance

### Justification for proposed progression as not Self-Governance

This Modification should not be considered suitable for urgency, Fast Track progression or Self-Governance.

This Modification is not considered to be suitable for Self-Governance on the basis it is likely to have a material impact on the Code's governance procedures. Further, it may indirectly (by virtue of what it would enable) impact existing or future electricity consumers, competition and matters relating to sustainable development, safety or security of supply, or the management of the market.

### Requested Next Steps

This Modification should:

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

## 3 Why Change?

### What is the issue?

Under the current BSC regulatory framework, provisions do not exist to enable pre-competitive/proof of concept testing for innovative products/business models in the live Settlement environment.

BSC Change governance under the Modifications process is permanent and implemented Modifications can only be reversed by subsequent Modifications. The Modifications process is the only existing method of amending overarching BSC level obligations with the exception of the limited derogation options already facilitated within the BSC arrangements. This governance constraint limits the ability to trial and evaluate the benefits that innovative projects may deliver in the live environment. Such benefits may impact on an individual or class of industry participant (e.g. embedded generators), the accuracy of Settlement or to consumers.

Further, the class of industry participant that currently has the ability to raise BSC Modifications is restricted under Section F 'Modification Procedures' to the following:

- BSC Parties;
- Citizens Advice or Citizens Advice Scotland;
- Third parties designated by the Authority
- BSC Panel
- CFD Counterparties (to reflect changes to CFD Arrangements)
- CM Settlement Body (to reflect changes to CM Arrangements)
- The Authority (for compliance issues or Significant Code Reviews)

Currently, businesses amend their working practices on a frequent basis to either remain compliant with the BSC obligations, or adjust upon, or prior to, accession to the BSC. This should continue to happen and is important in ensuring the BSC obligations are followed across the industry.

Increasingly, market participants that have not acceded to the BSC arrangements wish to have the ability to test new ways of working to allow them to establish whether it is economically viable and efficient for them to become fully compliant within the BSC framework. ELEXON have already been approached by

companies interested in electric vehicle charging solutions, peer to peer trading platforms and local community energy schemes who are finding barriers in the BSC. It is not always practical or cost effective for Parties (or even possible for non-Parties) to seek Modifications, or in the case of non-Parties to accede to the BSC, to trial innovative approaches under the BSC.

The BSC should be able to accommodate the trialling of innovative concepts and technological advances that could subsequently be incorporated into the BSC framework. It is perceived that some aspects of the BSC act as a barrier to allow testing, development or running a proof of concept exercises in a pre-competitive environment thereby preventing levels of innovation and market development that could otherwise be achieved.

ELEXON has identified a number of current issues with the BSC. Some of these are being addressed through the change process, and the electricity market sandbox is not intended to replicate or replace the change process or any of the work conducted as part of that process. It is intended to facilitate the kind of small scale testing typical of pre-competitive product design and evaluation. The table below identifies a number of areas where a sandbox approach could benefit product development.

BSC Constraint	Potential Adverse Impact on Innovators
All flows on and off the Total System must be metered and allocated to a BSC Party (even if they relate to exempt supplies not involving a BSC Party).	Peer to peer trading cannot be settled correctly. For example, suppose customer 1 wants to sell their excess PV generation to nearby customer 2 (making use of the Class A supply licence exemption), with customer 2 buying any additional 'top-up' supply from a licensed Supplier. This would require the privately supplied power to be netted off customer 2's meter readings (for purposes of settlement and supplier billing), but the BSC does not allow this.
BSC rules for metered and unmetered supply are sufficiently restrictive that certain measuring devices don't fall into either category, and cannot be settled.	Adverse impact on EV charging projects, with products having to be changed in potentially undesirable ways to ensure they can be settled.
The BSC allows Supplier imbalance positions to be adjusted for National Grid balancing actions, but not DSO balancing actions.	Adverse impact on DSO balancing markets, with balancing actions taken by a customer causing windfall profits or losses for their Supplier.
BSC does not support metering on private networks (except in limited situations e.g. difference metering).	May hinder access to balancing markets for battery storage and DSR aggregators.
BSC requires that complex sites have a single HHDC, which is not possible for combinations of	Community energy schemes wanting to use complex aggregation rules to facilitate local P2P trading can't,

SMETs and CVA metering	depending on the combination of metering points.
SVA system requirements for new market entrants <sup>1</sup>	This can make product testing uneconomic without partnering with an existing supplier (with market entry requiring significant time and financial expense, even to test with only a few customers).

The Financial Conduct Authority (FCA) started operating a regulatory sandbox in June 2016. Financial and Energy markets are similar in that they are highly regulated with associated barriers to entry, with considerable consumer and political interest, and experiencing a high rate of change. The FCA have found after the first year of operating their sandbox that it has reduced time and cost of getting innovations to market and helped facilitate access to finance. The FCA's sandbox offers guarantees of non-enforcement in place of derogations, and restricted authorisation in place of reduced market access requirements (which could be a type of requested derogation).

Ofgem began operating a sandbox for the GB energy market in February 2017. The Ofgem sandbox can provide derogations to certain licence conditions, but not to any specific aspects of the BSC. In October 2017 Ofgem called for Code Administrators to implement similar initiatives.

## 4 Code Specific Matters

### Technical Skillsets

The BSC Panel recommends that the Workgroup assessing this Modification Proposal has expertise in the following areas:

- BSC governance; and
- Ofgem's sandbox and/or innovations to which the BSC rules currently present barriers.

### Reference Documents

N/A

## 5 Solution

### Proposed Solution

The Proposer suggests that industry participants should have the ability to request derogation from certain BSC obligations in order to test and develop innovative products/business models in the live

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<sup>1</sup> This is addressed in many ways by Licence Lite; however derogation may provide a more appropriate/economic solution for temporary changes.

Settlement environment with real consumer participation. This derogation should be overseen by the BSC Panel and should be subject to a set of criteria that the applicant must meet in its application for derogation.

This Modification would add the provision for the Panel to grant derogation from existing BSC obligations upon the successful application through the electricity market sandbox process. Derogations would only be granted where the BSC Panel has determined that:-

- the product is innovative and could deliver benefit to consumers/the electricity system
- the current BSC arrangements act as a barrier to testing the product by preventing it from being used in the live Settlement environment in order to prove industry benefits ; and
- derogation would have no material impact on operation of balancing or Settlement or on other Parties to the code unless by prior agreement, e.g. in some commercial arrangement/partnership with another Party.

ELEXON would facilitate the electricity market sandbox and associated governance processes, and will work with industry participants to provide bespoke advice on the BSC and determine whether derogation was necessary and appropriate. The sandbox process would be instigated upon receipt of application from an industry participant. ELEXON would offer guidance and support to the applicant to specify which rules required derogation, for how long, and any other restrictions such as limitations on participant numbers and geographical area etc. that may be relevant. Following the completion of the application, the derogation request would be submitted to the BSC Panel for decision at a subsequent meeting.

The sandbox processes and associated guidance/criteria for applying need to be developed as part of this Modifications assessment.

In order to develop the solution to this Modification, the Proposer suggests that it would be appropriate for the Workgroup to consider the following:

- the conditions the Panel should consider when determining whether to grant a derogation (including whether Panel should consult);
- market participants that should be able to apply for derogation;
- what process, if any, applicants need to go through prior to formally requesting derogations;
- how to ensure the processes and derogated projects are transparent to industry;
- how to manage and limit risk to Settlement, the BSC and other industry participants of derogated projects;
- the role ELEXON has in supporting derogation requests; and
- the transition process from tested/proved derogated projects to full BSC compliance.

## 6 Impacts & Other Considerations

### Impacts

This Modification primarily impacts the BSC Panel due to the ability for the Panel to grant derogation from a wider range of BSC obligations, subject to the applicant fulfilling a set of pre-defined criteria.

It also impacts BSC Parties, Party Agents and non-BSC Parties wishing to access the market with products or services not currently catered for in the BSC regulatory framework, should such market participants wish to apply for derogation. BSC Parties, Party Agents and non-BSC Parties may also be impacted, although non-materially, through the granting of derogation by the BSC Panel to other market participants wishing to trial innovative projects or products.

No existing processes are impacted, and new processes will be created to facilitate the electricity market sandbox.

It's likely that BSC Section B or H will be impacted by this Modification. New processes could be introduced following the Modification Workgroup, probably as Local Working Instructions (LWIs).

The derogation and electricity market sandbox processes will be more effective if utilised in coordination with similar initiatives from other code administrators (and Ofgem, who already operate a regulatory sandbox). However, the derogations and electricity market sandbox processes can be developed independently from other Codes.

No systems are impacted, although some derogations could impact on BSC systems or require manual interventions in order to function or maintain integrity of settlement. These would need to be considered on a case by case basis.

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

No, this Modification is not linked to any live SCRs. At the time of writing the following SCRs were in the SCR Phase:

- Electricity Settlement Reform
- Targeted Charging Review

The Proposer requests that this Modification be exempt from the Significant Code Review process.

### **Consumer Impacts**

Day to day operation of balancing and Settlement will be unaffected, so there will be no direct impact on consumers. However, consumers are expected to benefit from the development of the electricity system and the greater choice that will be provided to them by enabling new and innovative products and services.

### **Environmental Impacts**

Day to day operation of balancing and Settlement will be unaffected, so there will be no direct impact on the environment. However, new technologies could be enabled which encourage more efficient usage of electricity systems, therefore the environment could indirectly benefit.



## 7 Relevant Objectives

Impact of the Modification on the Relevant Objectives:	
Relevant Objective	Identified impact
(a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence	Neutral
(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System	Neutral
(c) Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity	<b>Positive</b>
(d) Promoting efficiency in the implementation of the balancing and settlement arrangements	<b>Positive</b>
(e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]	Neutral
(f) Implementing and administering the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation	Neutral
(g) Compliance with the Transmission Losses Principle	Neutral

### Objective (c)

This Modification would have a positive impact on competition in the generation and supply of electricity. By enabling innovative businesses to test their new products and ways of working, the Modification makes it possible to introduce more disruptions to the existing ways of doing business. Greater numbers firms offering alternative solutions to providing consumers with electricity contributes to the competitive market.

### Objective (d)

This Modification would have a positive impact on efficiency in the implementation of the balancing and settlement arrangements. By negating the need for future Modifications to enable small scale product tests with no material impact on the rest of the system, ELEXON and industry resource can be focussed elsewhere. Additionally, if enduring Modifications should become necessary following a successful trial, more information about the solution and any impacts will be known in advance, facilitating a more efficient Modification process.

## 8 Implementation Approach

Industry participants are already finding barriers to their business models in the BSC. This Modification should be progressed and implemented according to a 5 month assessment procedure, with Assessment Report presented to the BSC Panel in April 2018.

Implementation requires a change to the BSC, and development of ELEXON processes to progress applications through the electricity market sandbox.

Recommend implementation considered by the Workgroup in the Assessment Procedure. As this is a document only change, implementation could be outside of a scheduled release.

## 9 Legal Text

### Text Commentary

The legal text should be determined once the scope of the derogations and conditions and the extent to which they should appear in the BSC has been determined by the Workgroup. At a minimum, the legal text should provide for Panel to grant derogation of certain parts of the Code and state who can apply for derogation. The text should also include in what capacity non-BSC Parties who have been granted derogation are subject to the Code and the reporting and monitoring requirements.

The Workgroup should consider whether legal text should specify any restrictions on derogation (i.e. limited to certain sections), what criteria/conditions the Panel should consider when granting derogation, whether there should be mandatory or optional consultation by Panel ahead of granting derogation.

## 10 Recommendations

### Proposer's Recommendation to the BSC Panel

The BSC Panel is invited to:

- Agree that [PXXX] **not** be progressed as a Self-Governance Modification Proposal;
- Agree that [PXXX] be sent into the Assessment Procedure for assessment by a Workgroup;