Final Authority Led SCR Modification Report

P439 'Enabling BSCCo to undertake development of the EDA-based Data Integration Platform'

This Modification makes changes to the Balancing and Settlement Code (BSC) to enable Elexon, in its capacity as the Market-wide Half Hourly Settlement (MHHS) Implementation Manager, to develop the Event Driven Architecture (EDA) based system for MHHS, which will be known as the Data Integration Platform (DIP).

The proposed changes place specific obligations on the MHHS Implementation Manager to ensure effective and timely procurement and development of the EDA-based DIP and a timely transition to an enduring operator. This Modification is concerned only with the development of the DIP and not with its on-going operation.

This is an Authority (Ofgem) Led SCR Modification. It has not followed the standard Modification Procedures but the timetable set by the Authority in accordance with BSC Section F5.3A.

The BSC Panel recommends **approval** of P439.

The BSC Panel **does not** believe that P439 impacts the European Electricity Balancing Guideline (EBGL) Article 18 Terms and Conditions held within the BSC.

This Modification is expected to impact:

- Suppliers; and
- Elexon, in its capacity as BSCCo and as MHHS Implementation Manager.

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Phase

- Initial Report
- Consultation
- Draft Report
- **Final Report**
- Implementation

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About This Document

Not sure where to start? We suggest reading the following sections:

- Have 5 mins? Read section 1
- Have 15 mins? Read sections 1, 8, 9 and 10
- Have 30 mins? Read all sections
- Have longer? Read all sections and the annexes and attachments
- *You can find the definitions of the terms and acronyms used in this document in the BSC Glossary.*[1]

This is the P439 Final Authority Led SCR Modification Report, which Elexon has submitted to the Authority on behalf of the BSC Panel. It includes the Panel's views and evaluation of the Authority Led SCR Modification Proposal, including the responses received to the Panel's consultation on its initial recommendations. The Authority will consider this report and will decide whether to approve P439.

P439 is an Authority Led SCR Modification Proposal and so has not followed the standard Modification Procedures. Instead it has followed the timetable set by the Authority and the Authority Led SCR Modification Proposal procedure detailed in BSC Section F5.3A.[2]

There are five parts to this document:

- This is the main document. It provides details of the solution, impacts, costs, benefits/drawbacks and implementation approach.
- Attachment A contains the Authority Led SCR Modification Proposal form.
- Attachment B contains the letter sent by the Authority to the Panel outlining its approach to this Modification.
- Attachment C contains the draft redlined changes to the BSC for P439.
- Attachment D contains the full responses to the Authority Led SCR Modification Consultation.

[1] https://www.elexon.co.uk/glossary/?show=all
[2] https://www.elexon.co.uk/bsc-and-codes/balancing-settlement-code/

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1 Summary

Why Change?

An EDA-based DIP is proposed under the MHHS Target Operating Model (TOM). It is proposed by Ofgem that Elexon, as MHHS Implementation Manager, should be responsible for developing the DIP system to ensure MHHS Implementation timeframes can be met. However, Elexon is only permitted to undertake the activities outlined in BSC Section C 'BSCCo and its Subsidiaries'[3] and this does not include the EDA development. The ongoing operation of the EDA is outside the scope of this Modification Proposal. The exact contract details, and therefore the updates that would be required to the BSC, are not yet known.

Solution

To implement the solution to this Modification, Elexon's functions and vires as Implementation Manager need be expanded to encompass the procurement and development of the EDA-based DIP. The Proposed amendments to BSC Section C can be found in Attachment C.

Impacts & Costs

The only costs expected as a direct result of this Modification are those incurred by Elexon to implement the necessary document-only changes. All other costs related to EDA development are part of the MHHS Implementation Manager costs.

Costs Estimates			
Organisation	Implementation (£)	On-going (£)	Impacts
Elexon	<1k	0	Documents
Industry	0	N/A	Development costs are already included in the MHHS Programme budget
Total	**<1k**	**0**	

Implementation

P439 should be implemented **5 Working Days following Authority approval**. This will ensure that there is no undue delay in enabling BSCCo as MHHS Implementation Manager to begin development of the DIP.

Recommendation

The Panel unanimously agrees that P439 will better facilitate the achievement of both:

- Applicable BSC Objective (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'; and
- Applicable BSC Objective (d) 'Promoting efficiency in the implementation and administration of the balancing and settlement arrangements'.

The Panel therefore unanimously recommends to Ofgem that P439 should be approved.

[3] https://www.elexon.co.uk/the-bsc/bsc-section-c-bscco-subsidiaries/

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An Authority Led SCR Mod
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2 Why Change?

What is the issue?

MHHS will utilise the potential of smart meters to create a faster, more accurate Settlement process for all market participants. The additional meter readings available from smart meters will result in a big increase in the volume and frequency of metered data that needs to be Settled. The Architecture Working Group (AWG) recommended to Ofgem that 'event driven' reference architecture is developed to support MHHS implementation, based on 'business events' such as new meter readings or changes in registration.

In December 2021, Ofgem published its decision to support the AWG's recommendation[4]. The new architecture will be a hybrid comprising ElectraLink's Data Transfer Network (DTN) with minor modifications and a new EDA-based platform to meet the requirements of the MHHS TOM. The EDA-based system will be able to respond more quickly, and at a much higher scale than is possible with the current DTN systems and arrangements. The EDA-based platform will have the potential to process millions of messages per second and be dynamically scalable in response to heavy volumes of data.

It is proposed by Ofgem that Elexon, as MHHS Implementation Manager, should be responsible for developing the DIP system to ensure that MHHS Implementation timeframes can be met. Additionally, in April 2022 Ofgem published its decision on the ongoing governance of the DIP[5], stating that initially, BSCCo should govern the MHHS EDA-DIP.

The activities that Elexon are permitted to undertake are outlined in BSC Section C 'BSCCo and its Subsidiaries'. Currently, the activities stipulated in BSC Section C surrounding Elexon's role as the MHHS Implementation Manager do not include provisions for development of the DIP.

As Elexon has been selected as the responsible party for the ongoing operation, funding and governance of the DIP, Elexon's vires within the BSC will have to be expanded further to include this. However, this is currently out of scope for this Modification as the exact contract details, and therefore the updates that would be required to Elexon's vires, are not yet known.

Desired outcomes

The desired outcome from this Modification is to enable BSCCo, in its capacity as MHHS Implementation Manager, to procure a service provider to design, build, test, and implement the DIP system before transferring it to an enduring DIP system operator for ongoing operation and governance.

You can find a copy of the Modification Proposal Form in Attachment A.

[4] https://www.ofgem.gov.uk/publications/decision-reference-architecture-market-wide-half-hourly-settlement-target-operating-model

[5] https://www.ofgem.gov.uk/publications/decision-governance-funding-and-operation-event-driven-architecture-market-wide-half-hourly-settlement

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3 Solution

Proposed Solution

To implement the solution to this Modification, amendments will be required to BSC Section C 'BSCCo and its Subsidiaries'. The proposed legal text for this Modification can be found in Attachment C.

The proposed legal text will amend the provisions for BSCCo as MHHS Implementation Manager, to allow it to:

- Develop the systems and processes that may be necessary to implement the Data Integration Platform;
- Procure a service provider to develop the system;
- Consult with potential enduring operators of the system; and
- Transfer the system to an enduring DIP system operator.

The proposed legal text provides for DIP system development costs to be included as MHHS Implementation Costs.

The proposed legal text also allows for a potential future enduring DIP service operator to take over the development of the DIP if directed by the Authority and for the associated costs to remain MHHS Implementation Costs.



How are MHHS Implem

P413 'Market-wide Half Ho
Specified Charge, the MHH
This charge is payable by e
day of that month. The cha

Benefits

There are several benefits of utilising an EDA-based DIP for MHHS. This type of system is flexible and extendable, to facilitate future industry changes. An EDA-based DIP could also streamline existing processes and assist other use cases such as faster switching and peer-to-peer trading.

Developing the EDA-based DIP through the MHHS Implementation Manager can help ensure that development of the DIP will align with the MHHS Implementation timetable, and its key milestones that rely on the DIP development.

While BSCCo has been initially selected to govern the DIP, the proposed Modification would ensure any potential future enduring operator of the DIP could take over delivery following Ofgem's decision.

Legal Text

BSC Section C 'BSCCo and its Subsidiaries' will be impacted by this Modification, with proposed legal text in Attachment C.

[6] https://www.elexon.co.uk/mod-proposal/p413/

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4 Applicable BSC 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	**Positive**
(d) Promoting efficiency in the implementation of the balancing and settlement arrangements	**Positive**
(e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]	Neutral
(f) Implementing and administrating the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation	Neutral
(g) Compliance with the Transmission Losses Principle	Neutral

The Competition and Markets Authority (CMA), in its 2016 Energy Market Review findings[7], found that "the absence of a firm plan for moving to Half Hourly Settlement for domestic electricity customers… gives rise to an adverse effect on competition". Successfully implementing MHHS will benefit competition by developing a more effective and flexible energy market, and will encourage increased market entry. MHHS will facilitate the development of new, innovative business models, products and services that consumers can engage with in the future. The Proposer, Ofgem, therefore believes that P439 will better facilitate **Applicable BSC Objective (c)** as it will enable the delivery of the EDA-based DIP, which is central component of delivering MHHS.

The Proposer also believes that P439 will better facilitate the achievement of **Applicable BSC Objective (d)** as the EDA-based DIP will support MHHS Implementation. The implementation of MHHS and the supporting EDA-based DIP will result in a faster and more efficient settlement system and processes.

Ofgem believes that P439 has a neutral impact on all other Applicable BSC Objectives.

[7] https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf

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5 Impacts & Costs

Impacts and costs overview

P439 will expand Elexon's vires to enable it, as the MHHS Implementation Manager, to develop the DIP. As such, the only costs expected as a direct result of this Modification are those incurred by Elexon to implement the necessary document-only changes. All other costs related to EDA development are part of the MHHS Implementation Manager costs.

Estimated central implementation costs of P439

Direct costs of implementation for Elexon are restricted to document only changes.

Implementation cost estimates			
Organisation	Item	Implementation (£)	Comment
Elexon	Documents	<1k	Amendments to one BSC Section
	Total	**<£1k**	

Estimated on-going costs of P439

On-going cost estimates		
Organisation	On-going (£)	Comment
Elexon	0	-
Industry	N/A	Development costs are already included in the MHHS Programme budget
Total	**0**	

P439 impacts

Impact on BSC Parties and Party Agents		
Party/Party Agent	Impact	Estimated impact
Suppliers	Suppliers will be funding the development, however these costs are already included in the MHHS Programme budget	L

Impact on the NETSO	
Impact	Estimated cost
No impact	N/A

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Impact on BSCCo		
Area of Elexon	Impact	Estimated cost
Rules Management	Implementing necessary Code change	L

Impact on BSC Settlement Risks
No direct impact on BSC Settlement Risks, as this Modification is simply expanding Elexon's functions and vires as MHHS Implementation Manager.

Impact on BSC Systems and process	
BSC System/Process	Impact
No impact	No impact

Impact on BSC Agent/service provider contractual arrangements	
BSC Agent/service provider contract	Impact
No impact	No impact

Impact on Code	
Code Section	Impact
Section C	Expanding Elexon's functions and vires as MHHS Implementation Manager

Impact on EBGL Article 18 terms and conditions and objectives
It is the Proposer's, Elexon's and the Panel's view that P439 would not impact in BSC provisions that constitute EBGL Article 18 terms and conditions, as listed in Section F Annex F-2. It would also not create any new provisions that could be seen to constitute EBGL Article 18 terms and conditions.

Impact on Code Subsidiary Documents	
CSD	Impact
No impact	No impact

Impact on Core Industry Documents and other documents	
Document	Impact
Ancillary Services Agreements	No impact

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Impact on Core Industry Documents and other documents	
Document	Impact
Connection and Use of System Code	
Data Transfer Services Agreement	
Distribution Code	
Distribution Connection and Use of System Agreement	
Grid Code	
Retail Energy Code	
Supplemental Agreements	
System Operator-Transmission Owner Code	
Transmission Licence	
Use of Interconnector Agreement	

Impact on a Significant Code Review (SCR) or other significant industry change projects
P439 is an Authority Led SCR Modification Proposal directed under Ofgem's Electricity Settlement Reform Significant Code Review.

Impact of the Modification on the environment and consumer benefit areas:	
Consumer benefit area	Identified impact
1) Improved safety and reliability	**Positive**
2) Lower bills than would otherwise be the case	**Positive**
3) Reduced environmental damage	**Positive**
4) Improved quality of service	**Positive**
5) Benefits for society as a whole	**Positive**

What are the consumer benefit areas?

1) Will this change mean that the energy system can operate more safely and reliably now and in the future in a way that benefits end consumers?

2) Will this change lower consumers' bills by controlling, reducing, and optimising spend, for example on balancing and operating the system?

3) Will this proposal support:
i) new providers and technologies?
ii) a move to hydrogen or lower greenhouse gases?
iii) the journey toward statutory net-zero targets?
iv) decarbonisation?

4) Will this change improve the quality of service for some or all end consumers. Improved service quality ultimately benefits the end consumer due to interactions in the value chains across the industry being more seamless, efficient and effective.

5) Are there any other identified changes to society, such as jobs or the economy.

Improved safety and reliability

This Modification is necessary for the successful development and implementation of the EDA-based DIP and the wider MHHS programme. MHHS is a key enabler for a smarter, more flexible electricity system and will facilitate the development of innovative business models that will improve safety and reliability. Additionally, an EDA-based DIP will enable services to respond to real-world business events more quickly and at a much higher scale than at present, allowing industry to create more reliable processes for Settlement.

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Lower bills than would otherwise be the case

MHHS will ensure that charges to Suppliers for wholesale electricity more accurately match actual consumption, rather than relying on estimates of consumer usage. This will incentivise Suppliers to offer new tariffs and products that encourage a more flexible use of energy and help consumers to lower their bills, for example through time of use tariffs, automation, vehicle to grid solutions, and battery storage. It will help to reduce cost to current and future consumers, through reducing the need for infrastructure investment and facilitating more efficient use of generation and network assets. Ofgem estimate that MHHS will deliver net benefits to GB energy consumers in the range of £1.6bn-£4.5bn between 2021 and 2045.

Reduced environmental damage

MHHS will encourage a more flexible use of energy and will create opportunities for the market to develop new products and services, including lowering the barriers for entry for new green energy Suppliers and helping to cost-effectively decarbonise the sector. Innovation enabled by MHHS will be able to reward consumers for matching their consumption with periods of high generation from renewables such as wind and solar photovoltaics, which could help to integrate renewable generation into the system.

Improved quality of service

EDA-based DIP enables services to respond to real-world business events more quickly, and will support the greater volume of data that will be generated through smart meters and MHHS processes. This allows industry to create faster and more efficient processes for Settlement, providing an improved quality of service. The incentives created by MHHS will encourage development of new products and services for consumers, helping them use electricity more flexibly, saving money, and reducing their carbon footprint.

Benefits for society as a whole

MHHS will increase competition between Suppliers, encourage innovative new entrants to the market, create a more flexible electricity wholesale market, and facilitate the development of new products and services that consumers can engage with in the future. There will be numerous benefits, some quantifiable and some intangible, that are detailed in the Ofgem Impact Assessment attached to the April 2021 decision to proceed with MHHS[8]. The implementation of MHHS will have a positive impact on the reliability, sustainability, and quality of service in the GB electricity market.

[8] https://www.ofgem.gov.uk/publications/electricity-retail-market-wide-half-hourly-settlement-decision-and-full-business-case

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6 Implementation

Implementation Date

The Proposer suggests, and the Panel agreed, that this Modification Proposal, as a Code-only change, should be implemented **5 Working Days after Ofgem approval**.

This will ensure that there is no undue delay in enabling BSCCo as MHHS Implementation Manager to begin development of the DIP following Ofgem decision, and therefore to the implementation and benefits of MHHS.

P439 Progression Timeline

An Authority Led SCR Modification Proposal must follow the process set out in BSC Section F5.3A, which enables Ofgem to direct the progression and implementation timetable. Ofgem's directed progression timetable for this Modification Proposal is set out below.

Activity	Date(s)
Initial Authority Led SCR Modification Report presented to Panel	14 April 2022
Authority Led SCR Modification Consultation (10WD)	19 April 2022 – 3 May 2022
Draft Authority Led SCR Modification Report presented to Panel	12 May 2022
Final Authority Led SCR Modification Report submitted to Authority	16 May 2022
Target date for Authority decision	7 June 2022
Implementation	5WD following Authority decision

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7 Panel's Initial Discussions

Elexon presented the P439 Initial Authority Led SCR Modification Report to the Panel at its meeting on 14 April 2022 (325/03[9]).

A Panel Member queried whether the amount that Elexon had included for the EDA in the MHHS budget was on track. He reported that there had been several other large programmes of work that had under estimated costs, impacting Parties' planning assumptions and budgets. Elexon said it was too early to say, as the procurement had not yet got to the stage where bidders had provided cost estimates. Elexon confirmed that updates on the MHHS budget, including EDA costs, would continue to be reported via the Programme Steering Group[10].

The Panel also asked Ofgem to confirm it was aligned to the proposed timetable so that a timely decision could be made. Ofgem confirmed they had proposed the timetable and so were aligned to it.

[9] https://www.elexon.co.uk/documents/groups/panel/2022-meetings-panel/325-april/325-03-p439-initial-authority-led-modification-report/

[10] https://www.mhhsprogramme.co.uk/psg/

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8 Authority Led SCR Modification Consultation Responses

Three consultation responses were received, from a Supplier, a Supplier Agent, and the NETSO. The responses are summarised below.

Summary of P439 Authority Led SCR Modification Consultation Responses				
Question	Yes	No	Neutral/No Comment	Other
Do you agree with the Panel that the redlined changes in Attachment C deliver the intent of P439?	1	1	0	1
Will P439 impact your organisation?	0	3	0	0
Will your organisation incur any costs in implementing P439?	0	3	0	0
Do you agree with the Panel's initial view that P439 does not impact the EBGL Article 18 terms and conditions related to balancing held within the BSC?	3	0	0	0
Do you have any further comments on P439?	1	2	0	0

Overview of Consultation Response

The respondents provided several specific comments on the P439 redlining. The table below shows these comments and Elexon's response to each. These responses have been shared with Ofgem and the respondents.

Document	Respondent's comment	Elexon's response	Document amended?
BSC Section C 12.9A.2 (a)	There is no overt responsibility for acceptance of the "finished product" nor responsibility for the development of the acceptance criteria. These may be developed as part of the MHHS TOM and imposed on the DIP development project but it is suggested that this responsibility is written into the redlined text at this stage to prevent confusion over acceptance responsibility between OfGEM and Elexon (and any sub-contracted party) at a later date.	Elexon agrees that responsibility for acceptance and development of acceptance criteria are important to specify. However, the purpose of this Modification is simply to make clear that Elexon has the necessary authority under the BSC to build the DIP system. The governance of the DIP project should form part of the wider MHHS governance under which the DIP will be built.	No

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Document	Respondent's comment	Elexon's response	Document amended?
BSC Section C 12.9.A.2 (a)	In this section "may appoint" should be changed to "appoints"	This paragraph references Section 12.4.4, which allows Elexon discretion as to whether to appoint external service providers, but also states "Where directed by the Authority, BSCCo shall appoint an external service provider to provide one or more of the MHHS Implementation Manager roles."	No
BSC Section C 12.9.A.2 (d)	When read in conjunction with the primary clause it is not clear what the objective or intent of this sub-paragraph is. This section needs to be changed to make its intention clear.	The purpose of this paragraph was to ensure that Elexon was never in a position where it was committed to a contract for which it did not have the right to recover its costs under the BSC. This principle was also reflected in sub-paragraph (a). In order to clarify: • Current sub-paragraph (d) has been deleted • Subparagraph (a) has been broken down into two parts (a) and (b). The intention of these is substantially the same as the previous iteration. The changes to the wording are intended to clarify and do not change the underlying purpose of the legal text.	Yes

Redlining Updates

Elexon has made a change to the drafting of BSC Section C, addressing the respondent's comments as detailed above. The new sub-paragraph (b) (ii) replaces the former sub-paragraph (d), and states "any costs, expenses and liabilities related to… the termination of any contract entered into under this paragraph 12.9A that occurs whilst BSCCo remains responsible for the Data Integration Platform… shall be BSC Costs pursuant to paragraph 12.4.6 and Section D8".

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9 Panel's Final Discussions

Elexon presented the P439 Draft Authority Led SCR Modification Report, including the results of the Authority Led SCR Modification Consultation, to the Panel at its meeting on 12 May 2022 (326/05[11]).

The Panel unanimously reconfirmed all its recommendations and had no further comments.

[11] https://www.elexon.co.uk/meeting/bsc-panel-326/

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10 Recommendations

The BSC Panel unanimously recommends to the Authority:

- That P439:
    - **DOES** better facilitate Applicable BSC Objective (c); and
    - **DOES** better facilitate Applicable BSC Objective (d);
- That P439 **DOES NOT** impact the EBGL Article 18 Terms and Conditions related to balancing held within the BSC;
- That P439 should be **approved**;
- An Implementation Date for P439 of 5WD following Authority approval; and
- The BSC legal text for P439 in Attachment C.

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