














BSC Modification Proposal Form		At what stage is this document in the process?
Mod Title: Removal of BSC obligations to provide BMRS Data via TIBCO and the High Grade Service		<div>01 Modification</div> <div>02 Workgroup Report</div> <div>03 Draft Modification Report</div> <div>04 Final Modification Report</div>
Purpose of Modification: <p>This Modification would remove the existing requirement within BSC Section V 'Reporting' for the Balancing Mechanism Reporting Agent (BMRA) to provide BMR Service (BMRS) data via the legacy High Grade Service, otherwise referred to as the TIBCO service. This Modification would prevent any new Parties from signing up to use TIBCO and enable Elexon to work with existing users to move them to alternative methods. The cost to provide the TIBCO service has become disproportionate compared to modern alternative methods. Since 2014, there have not been any new TIBCO users and the number of users has reduce by approximately half to 20 users.</p>		
Is this Modification likely to impact any of the European Electricity Balancing Guideline (EBGL) Article 18 Terms and Conditions held within the BSC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
	<p>Elexon recommends that this Modification should:</p> <ul style="list-style-type: none"> • be raised by the Panel in accordance with the provisions of Section F2.1.1(d)(i); • not be a Self-Governance Modification Proposal • be assessed by a Workgroup and submitted into the Assessment Procedure <p>This draft Modification Proposal will be presented to the BSC Panel to the BSC Panel on 13 April 2023. The Panel will determine how best to progress the Modification.</p>	
	<p>High Impact:</p>	

	Medium Impact:
	<p>Low Impact:</p> <p>First order impact: BSCCo</p> <p>Second order impact: BSC Parties and Non BSC Parties using the High Grade Service to receive BMRS data</p>

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Timetable		Contact: Ivar Macsween
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		Proposer: The BSC Panel
		Proposer's representative:
		
		
		Other:
		
		
		Other:
		
		

The Proposer recommends the following timetable:	
Initial consideration by Workgroup	W/C 2 May 2023
Assessment Procedure Consultation	7 August 2023 – 29 August 2023
Workgroup Report presented to Panel	12 October 2023
Report Phase Consultation	16 October 2023 – 30 October 2023
Draft Modification Report presented to Panel	09 November 2023
Final Modification Report submitted to Authority	10 November 2023

1 Why Change?

What is the issue?

Summary:

Elexon is currently modernising its technology and building a cloud based solution for its BSC Agents' systems as part of [Elexon Kinnect](#)¹.

While Elexon has continued to maintain TIBCO for the current subscribers, the service can no longer be sustained efficiently and economically. The BSC's High Grade Service and TIBCO software, based on 20-year-old legacy systems, present significant barriers for new entrants due to lead time, operational costs, and bandwidth restrictions. As a result there have been no TIBCO users since 2014. Further, the ageing architecture causes operational issues, limits scaling, and imposes high costs on market participants.

Elexon believe the time is right to remove the obligation to provide the unsustainable TIBCO service, to reduce costs for Parties and provide them with a modern, resilient, and cost-effective real-time data service. We believe the [Insights Real-Time Information Service \(IRIS\)](#) is the right long term alternative and will explore this option as part of this Modification.

Furthermore, explicit reference to the High Grade Service in Section V is inconsistent with the idea that the BSC should be agnostic when it comes to specific technologies and vendors that deliver it, and this should be addressed via a BSC Modification.

Recognising the effort in maintaining TIBCO's current implementation and the Elexon drive to optimise costs for industry with a cloud based architecture, [Issue 95 'Assessing the continued use of TIBCO service as a source of data for market participants'](#)² made a group recommendation to raise a BSC Modification to explore the removal of the obligation for Elexon to provide BMRA data through the High Grade Service.

Further detail on issues with TIBCO:

TIBCO's high proprietary costs (mutualised amongst BSC Parties whether they use the service or not) and constraints on the format of data output through our endpoints (creating usability issues for participants) are not necessary for Elexon to deliver data to the standard that industry needs and expects, however TIBCO usage is mandated by the current requirements within the BSC and this should be addressed via a BSC Modification.

Elexon has written to TIBCO users to encourage engagement with the Workgroup and will continue to seek engagement with TIBCO users throughout the course of assessment of this Modification. In the letter, Elexon commits to maintaining the current BMRS and the TIBCO service until March 2024.

Background:

¹ <https://www.elexon.co.uk/operational/kinnect-customer-solution/>

² <https://www.elexon.co.uk/smg-issue/issue-95/>

The BMRS was implemented after New Electricity Trading Arrangements (NETA) go live in 2001 to provide the GB electricity industry with operational data relating to the Balancing and Settlement Arrangements. Since inception, the BSC has made provision for publication of BMRS data to participants via multiple methods including a High Grade leased line as well as the public internet. When using the High Grade line, BMRS users can subscribe to a licensed software product, TIBCO Rendezvous, which provides a mechanism to publish BMRS data.

Since 2014, the current BMRS has offered a Data Push Service (DPS) as a cost effective alternative to TIBCO and consequentially there have been no new TIBCO subscriptions since this date. The overall number of TIBCO users has also decreased by over 50%, leaving around 20 organisations with active subscriptions.

While Elexon has continued to maintain TIBCO for the current subscribers, the service can no longer be sustained efficiently and economically. The current TIBCO set-up is based upon “on premise” communications hardware and is not readily supported by cloud based architecture, therefore it would add significant complexity to migrate this to Kinnect in its current form. In addition to this, the legacy architecture will run out of support unless a significant technical upgrade is carried out.

As the TIBCO Service cannot be efficiently implemented on the new cloud-based platform, the only way to continue to fulfil the TIBCO obligation (as described within the code) would be to maintain the legacy system. However, the ageing infrastructure is unable to provide the required scaling to cater for our users and suffers from sporadic operational issues/unplanned outages as well as being incapable of accommodating industry changes at pace. The Legacy architecture severely limits vertical and horizontal scaling and the constraint on bandwidth means users do not always receive the complete data updates³.

As such, there is no zero-change option.

The high operational costs of the legacy infrastructure are passed on to all market participants and end consumers. TIBCO users bear additional costs for proprietary software and the required leased network lines. The legacy charging model means Elexon has not ring fenced operational costs for TIBCO, resulting in all BSC Parties funding the majority of the operational costs. Whilst it is hard to isolate costs, due to shared infrastructure across central systems, a full assessment will be carried out to provide an accurate view and some residual costs will continue until all legacy applications are fully migrated.

Insights Solution Realtime Information Service (IRIS):

Elexon’s data strategy is to unify data structures across all its endpoints and ease onboarding for all our users through open source protocols, avoiding proprietary licensed software to reduce both central and BSC Parties cost.

Elexon is currently modernising its technology and building a cloud based solution for its BSC Agents’ systems as part of Elexon Kinnect. As part of the programme, the new BMRS labelled Kinnect Insights Solution is being implemented to migrate all reports and publication capabilities from the legacy Balancing Mechanism Reporting Service (BMRS) platform by the end of 2023.

The Insights Solution provides three endpoints for accessing data: a website for interactive users, RESTful APIs and a real-time data subscription service referred to as Insights Solution Realtime Information Service (IRIS). The Insights platform is being developed using Agile principles with each

³ 2-156 Weeks ahead by BMU is restricted to once daily updates on legacy endpoints.

iteration providing fully tested and accepted functionality in a production environment, available to customers as a Beta version. Since launching as a Beta offering to wider industry in June 2022, early adopters⁴ have sent in highly positive feedback about performance, functionality and availability of the new platform. It should also be noted that during recent unplanned BMRS outages the Insights solution provided a resilient and available service to Elexon data users

In practice due to the high cost, lead time and network constraint, TIBCO/High Grade Service is effectively closed to new subscribers. The new alternative solution will ease on boarding with website registration flow and ready-to-go code clients. Connection can be established within 10 minutes and the subscription established with 1 day development effort (notwithstanding the effort to integrate the new endpoint within customers' processes).

Elexon have already built approximately 50% of the BMRS reports and by June this year, we will include REMIT and Transparency data and build the Settlement calculations engine to include system prices and imbalance volume. We expect this to be in place by the end of the year.

Since launching as a Beta offering to wider industry in June 2022, early adopters of the Insights Solution have sent in highly positive feedback about performance, functionality and availability of the new platform. During the recent unplanned BMRS outages the Insights Solution provided a resilient service to Elexon data users (since January 2023, the Insights Solution has average availability 99.98% across all endpoints compared to 99.8% BMRS).

The Insights Solution provides three endpoints for accessing data, a website for interactive users, RESTful APIs, and the new instant data facility, the Insights Solution Realtime Information Service (IRIS). The IRIS service has been available for organisations to sign up to since December 2022 and in total 108 subscribers have signed up so far. Interested participants can register to receive the updates on the [Insights Solution site](#).

The Insights Solution unifies data structures across all of its endpoints and eases on-boarding for all of users through the use of open-source protocols, avoiding proprietary licensed software. This will reduce both central costs and BSC Parties' operational costs. Elexon highlighted their understanding that any system change is disruptive and made a commitment to support users through the transition.

Elexon also offered technical support to customers who wish to adopt the new real time data service to ensure a smooth transition.

Issue 95 'Assessing the continued use of TIBCO service as a source of data for market participants'

Recognising the effort in maintaining current implementation and the Elexon drive to optimise costs, data access and scalability of the BMRS for industry with a cloud based architecture, Issue 95 was raised to assess the continued use of TIBCO and High Grade requirements for BMRS data.

In the Issue 95 Proposal Form, Elexon suggested that the following questions form a 'terms of reference' for the Issue Group to aid the flow of discussion.

- How is TIBCO currently used by market participants and to what extent?
- What would the implications of discontinuing TIBCO be?

⁴ 2.1 Million hits on APIs and 108 IRIS subscribers in the last 30 days

- What would the implications of continuing to use TIBCO be? Are there any associated opportunity costs to its continued support?
- Is there merit in supporting a High Grade service in the future?
- If deemed appropriate, what would be the best approach to phase out TIBCO service?

The BMRS Change Board (BCB) endorsed the progression of this Issue [at their meeting](#) on 23 March 2021.

Over the course of Issue 95 meetings, members described their experience that, since implementing TIBCO about 10 years ago, they had found it to be robust and stable, with issues limited to the physical line rather than the software. However, they would be open to a new method, if that method is as fast and stable as TIBCO, acknowledging that TIBCO is expensive and can be difficult to implement.

Issue Group members highlighted the following issues with TIBCO:

- On-premise infrastructure is inefficient, impractical and costly to maintain;
- The requirement for a high-grade line presents a barrier to new users;
- It is unscalable - restricting new data being added to the platform;
- It suffers unplanned outages - industry need something more reliable;
- It requires customer licences, leading to more costs for users; and
- The data structures are inconsistent with Data Push and API, and this should be simplified.

During the course of the Issue group meetings Elexon reaffirmed to the group that, should TIBCO be discontinued, an alternative without the identified issues would be developed and made available. In later meetings Elexon went into further detail on the benefits and functionality offered by IRIS, with the group noting the benefits that IRIS seems to offer vs TIBCO and accepting that the current iteration of TIBCO has its limitations and drawbacks.

The group believed there were sufficient grounds to raise a BSC Modification to explore the removal of the obligation for Elexon to provide TIBCO data. In principle, the group were provisionally comfortable with the replacement of TIBCO with a viable alternative that meets the industry's needs for reliability and speed of service but noted that this will be assessed at a later date, with further cost benefit information to be sourced to present the case to industry at the appropriate time.

The BSC Issue Group concluded in November 2022 with the recommendation to raise a BSC Modification to remove the obligation for Elexon to provide BMRA data through the High Grade Service.

Potential Decommissioning of TIBCO

On 16 March 2023 [Elexon wrote to current TIBCO users](#) (20 in total) stating Elexon's intention to decommission the TIBCO Service in March 2024. Recipients were informed that development of our new cloud platform, [Elexon Kinnect](#), is replacing the legacy [Balancing Mechanism Reporting Service \(BMRS\)](#) with the [Insights Solution](#) which will deliver a more visual, detailed and customisable data service for all users.

Beyond informing TIBCO users of the reason for decommissioning the TIBCO Service and the High Grade Service, recipients were also requested to join the BSC Modification process and feed back into this Modification to change the obligation to provide the BMRS data via the High Grade Service.

In the event that industry and the Authority agree that BMRS High Grade data obligations should be removed from the BSC, as a consequence Elexon will continue the migration and engage with Industry plan for decommissioning of the BMRS and its legacy endpoints.

In the event that industry and the Authority do not agree that BMRS High Grade data obligations should be removed from the BSC, Elexon intend to raise a consequential Modification to change the charging methodology for all overheads so that costs for supporting and maintaining the TIBCO Service charged back to users.

Desired outcomes

The desired outcome for this Modification is to remove the obligation to provide BMRS data via the High Grade Service currently set out within the BSC.

This Modification would effectively cease onboarding of new subscribers to the service and enable Elexon to work with existing users to move transition to alternative methods. In practice, due to the high cost, lead time and network constraint, TIBCO is already effectively closed to new subscribers.

Removing the High Grade obligations within BSC will enable Elexon to eventually phase out the TIBCO service and legacy system and reduce the operational costs for all BSC Parties, should this be the most appropriate option to take.

While this Modification will not directly terminate the TIBCO service (removal of the obligations merely facilitates this option in the future), Elexon recognise that the Workgroup will likely only be comfortable with removing the TIBCO service upon demonstration that the IRIS service addresses feedback received during Issue 95 and ultimately delivers a more reliable service than TIBCO. Elexon therefore intend to present further cost benefit analysis, demonstrations and address the feedback received by TIBCO users, Issue 95 and the BSC Panel to ensure that industry are comfortable with this change and its supporting timescales.

2 Solution

Proposed Solution

This Modification seeks to remove the obligations to provide BMRS data via the High Grade Service.

An initial view of the necessary changes to deliver the solution indicate that the proposed solution could amend Paragraph 2.3 'Grades of Service' of [Section V 'Reporting'](#) to achieve this goal, however it may be necessary to amend more areas of Section V, the wider BSC or its Code Subsidiary Documents (CSDs) which will become clear over the course of assessment of this Modification.

This is a facilitating change that would not directly retire TIBCO or directly lead to its replacement and therefore the impact on the code and market participants of such a change is minimal.

However, Elexon recognise that the changes this Modification facilitate are much more significant and as such, believe these "Second Order" impacts and benefits should be factored in to Workgroup discussions and captured as part of work on this Modification, so that TIBCO users and the wider industry are able to feed back their requirements and ensure they are comfortable with any potential next steps regarding provision of this information in the future.

Elexon note that references to TIBCO are also present in Section D - Annex D 'Specified BSC Charges', but do not propose to amend these references as they will need to remain in place to allow these charges

to be recouped until TIBCO is fully decommissioned (currently planned in March 2024), and after that point will become redundant but with no further impact.

Benefits

This Modification is an enabling, document-only, change that removes restrictions on Elexon to enable it to act in the best interests of its customers by implementing a modernised, scalable and efficient solution for the reporting of BMRS data.

Wider “Second Order” work to retire and replace TIBCO has significant benefits - replacing a service that is used by a minority of BSC Parties (that is nevertheless funded by all BSC Parties) and effectively unavailable for anyone wishing to onboard the service, with a modern, user-friendly and reliable service which is free for its users.

3 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	Positive (Second order impact)
(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 Panel are invited to agree that this Modification will better facilitate Applicable BSC Objective (d) as it is expected to:

- introduce a more flexible arrangement for the future provision of BMRS data, to ensure that BSCCo can continue to meet the industry's future needs; and
- remove barriers that tie BSCCo to provision of BMRS data via TIBCO technology, so that the BMRS continues to provide a cost effective and timely publication mechanism

As a second order impact, this Modification could better facilitate Applicable BSC Objective (c) as it enables further work to open up access to real time BMRS data, allowing more parties to better compete within the electricity industry.

4 Potential Impacts

Impacts on Core Industry Documents

Impacted Core Industry Documents			
<input type="checkbox"/> Ancillary Services Document	<input type="checkbox"/> Connection and Use of System Code	<input type="checkbox"/> Data Transfer Services Agreement	<input type="checkbox"/> Use of Interconnector Agreement
<input type="checkbox"/> Retail Energy Code	<input type="checkbox"/> Transmission License	<input type="checkbox"/> System Operator Transmission Owner Code	<input type="checkbox"/> Supplemental Agreements
<input type="checkbox"/> Distribution Code	<input type="checkbox"/> Grid Code	<input type="checkbox"/> Other (please specify)	<input checked="" type="checkbox"/> None

This Modification is not expected to impact on any existing Core Industry Documents.

Impacts on BSC Systems

Impacted Systems				
<input type="checkbox"/> CRA	<input type="checkbox"/> CDCA	<input type="checkbox"/> PARMS	<input type="checkbox"/> SAA	<input checked="" type="checkbox"/> BMRS
<input type="checkbox"/> EAC/AA	<input type="checkbox"/> FAA	<input type="checkbox"/> TAAMT	<input type="checkbox"/> NHHDA	<input type="checkbox"/> SVAA
<input type="checkbox"/> ECVA	<input type="checkbox"/> ECVA Web Service	<input type="checkbox"/> Elexon Portal	<input type="checkbox"/> Other (Please specify)	

This Modification is expected to be a document-only change that will have no direct impact on BMRS or any other BSC System. However, the Modification is expected to facilitate future work as a second order effect that would impact on the BMRS, should BSCCo choose to go down this route.

Impacts on BSC Parties

Impacted Parties			
<input type="checkbox"/> Supplier	<input type="checkbox"/> Interconnector User	<input type="checkbox"/> Non Physical Trader	<input type="checkbox"/> Generator
<input type="checkbox"/> Licensed Distribution System Operator	<input type="checkbox"/> National Electricity Transmission System Operator	<input type="checkbox"/> Virtual Lead Party	<input checked="" type="checkbox"/> Other (Please specify) TIBCO Users

As this Modification is a facilitating change, merely removing obligations for BSCCo to provide BMRA Data via the High Grade Line that would enable Elexon to implement a new solution at a later date, it is not directly expected to impact any BSC Parties. However, the further second order changes to the provision of TIBCO data that this change facilitates is expected to impact all current TIBCO users who will need to migrate to any new, replacement platform in order to receive the data that they currently receive. All types of BSC Parties are able to be TIBCO users, it is our understanding that remaining users are mainly Non Physical Traders and Generators.

Impacts on consumers and the environment

Impact of the Modification on consumer benefit areas:	
Consumer benefit area	Identified impact
Improved safety and reliability	Neutral
No impact	
Lower bills than would otherwise be the case	Positive
This change is expected to facilitate the introduction of a replacement for TIBCO as a method for receiving BMRS data. Any new replacement will be free to users and not require a license fee (unlike the status quo) which will reduce the costs that are ultimately borne by the end consumer. A reduction in customer bills could also come about as a result of more parties being able to access real time BMRS data	
Reduced environmental damage	Neutral
No impact	
Improved quality of service	Positive
This change is expected to facilitate the introduction of a replacement for TIBCO as a method for receiving BMRS data. Any new replacement will be more seamless, efficient and effective than the current TIBCO set up and improve the quality of service for new and existing users.	
Benefits for society as a whole	Neutral
No impact	

Legal Text Changes

The full scope of necessary changes to the BSC will be assessed by the Workgroup, however an initial scoping suggests that [BSC Section V 'Reporting'](#) will most likely require amendment to give effect to the proposed solution.

5 Governance

Self-Governance

<input type="checkbox"/> Not Self-Governance – A Modification that, if implemented:	
<input type="checkbox"/> materially impacts the Code's governance or modification procedures	<input type="checkbox"/> materially impacts sustainable development, safety or security of supply, or management of market or network emergencies
<input type="checkbox"/> materially impacts competition	<input checked="" type="checkbox"/> materially impacts existing or future electricity consumers
<input type="checkbox"/> materially impacts the operation of national electricity Transmission System	<input type="checkbox"/> is likely to discriminate between different classes of Parties
<input type="checkbox"/> involves any amendments to the EBGL Article 18 Terms and Conditions related to Balancing; except to the extent required to correct an error or as a result of a factual change	
<input type="checkbox"/> Self-Governance – A Modification that, if implemented:	
Does not materially impact on any of the Self-Governance criteria provided above	

This Modification should not be progressed as a Self-Governance Modification as it materially impacts existing or future electricity consumers, namely the users of Elexon's TIBCO service.

Further, it is appropriate for Ofgem to make the final decision on this Modification as it involves the removal of an obligation from BSCCo.

Progression route

<input checked="" type="checkbox"/> Submit to assessment by a Workgroup – A Modification Proposal which:	
does not meet any criteria to progress via any other route.	
<input type="checkbox"/> Direct to Report Phase – A Modification Proposal whose solution is typically:	
<input type="checkbox"/> of a minor or inconsequential nature	<input type="checkbox"/> deemed self-evident
<input type="checkbox"/> Fast Track Self-Governance – A Modification Proposal which meets the Self-Governance Criteria and:	
is required to correct an error in the Code as a result of a factual change including but not limited to:	
<input type="checkbox"/> updating names or addresses listed in the Code	<input type="checkbox"/> correcting minor typographical errors
<input type="checkbox"/> correcting formatting and consistency errors, such as paragraph numbering	<input type="checkbox"/> updating out of date references to other documents or paragraphs
<input type="checkbox"/> Urgent – A Modification Proposal which is linked to an imminent issue or current issue that if not urgently addressed may cause:	
<input type="checkbox"/> a significant commercial impact on Parties, Consumers or stakeholder(s)	<input type="checkbox"/> a Party to be in breach of any relevant legal requirements.
<input type="checkbox"/> a significant impact on the safety and security of the electricity and/or gas systems	

We believe this Modification should be assessed by an industry Workgroup. While the proposed solution can be seen as straightforward, we believe that a Workgroup should be formed to agree the solution and ensure understanding and consideration of the next steps enabled by this Modification (i.e. the potential replacement of TIBCO with an alternative solution). It is proposed that feedback received by the Issue 95 group, the BSC Panel and TIBCO Users is discussed to ensure that industry are supportive of this modernisation of systems and comfortable with the identified timelines and testing periods.

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

We do not believe this Modification impacts any open SCR and have requested Ofgem to class this change as SCR-exempt.

Does this Modification impact any of the EBGL Article 18 Terms and Conditions held within the BSC?

We believe it is unlikely that this Modification will impact any of the EBGL Article 18 Terms and Conditions held within the BSC, but will assess and verify this with the industry Workgroup as part of its assessment phase.

Implementation approach

As a low impact, document-only change, this Modification should be implemented as soon as possible to allow BSCCo to conduct further work and make the best decision on behalf of industry regarding the future of TIBCO. It may be suitable to implement this change 5 Working Days after approval, however this approach will be discussed and verified by the Workgroup.