ELEXON

18 January 2022

Dear Rachel,

RE: Event Driven Architecture (EDA) Operator – Elexon's self-assessment

We are pleased to attach Elexon's self-assessment form for the EDA operator role consultation. Below we provide a summary of the key points and follow those up in detail in our answers to the self-assessment criteria.

Elexon is the Code Manager for the Balancing and Settlement Code (BSC), which facilitates the effective operation of the electricity market. We are responsible for managing and delivering the end-to-end services set out in the BSC and accompanying systems that support the BSC. This includes responsibility for the delivery of balancing and imbalance settlement and the provision of assurance services to the BSC Panel and BSC Parties (energy suppliers, generators and network companies).

We manage not just the assessment, but also the development, implementation and operation of changes to central systems and processes. In addition, our expertise is available to support the industry, government and Ofgem in considering future changes and innovation against the existing industry rules, for the benefit of the consumer.

In April 2021, in its Decision Document Ofgem stated that "Elexon, as the code administrator for the BSC, will be responsible for the overall programme management of MHHS implementation and will be the SRO". Prior to that, Elexon had been working with the industry to develop and agree the TOM (Target Operating Model) for MHHS. Also, we provided technical leadership to two industry working groups (the Code Change and Development Group and the Architecture Working Group) which have been developing the lower-level detail to support the MHHS Target Operating Model.

We believe we are best-placed to develop and deliver the EDA system in close coordination with the MHHS Programme, the industry and Ofgem due to a number of reasons:

1. **The EDA is being delivered primarily as a function of MHHS**. While we recognise the EDA will deliver multiple additional benefits to the electricity system and will have interfaces with other central systems, this service fits most closely with the systems and processes Elexon uses to deliver settlement. Delivering the EDA as a BSC service will reduce friction at these interfaces and improve the delivery of end-to-end changes to the system.
2. **Established understanding of the EDA, MHHS, market & system trends, and customer and consumer expectations.** We have developed a comprehensive understanding of the market changes, central services and, systems evolution, and customer expectations. We have also gained practical skills and experiences in translating those emerging requirements into systems design and specifications through our recent work on the transformation of our BSC systems to Elexon Kinnect, our new cloud platform.
3. **Proven experience & established capabilities relevant to procuring and overseeing a system similar to the EDA.** Elexon has proven mature capabilities in procuring and managing service providers to build, test and

operate IT systems similar in scale and complexity to the EDA. In the last two years Elexon has successfully transitioned to a multi-vendor IT delivery environment and service model. We now use an agile methodology for most aspects of business and system change.

4. **Synergies with other services delivered by Elexon to the industry; high value for money.** There are multiple synergies with existing functions and capabilities that Elexon has developed in the recent years working on the transformation of our legacy BSC systems. We believe these capabilities, approaches to system development, ways of working with service providers can be easily extended to another service such as EDA.
   We believe the synergies we have detailed further on in the document will lead to efficiency in the EDA service development, building and test phases as well as in the operational phase. This will result in faster development and deployment of the service. It also represents a prudent business case as the industry will utilise the capabilities, which have been intensively tested and verified as robust and scalable.
5. **Commitment to a fair and open way of working with the industry.** Elexon is committed to servicing all of its parties, new market entrants, and consumers in a fair and open way. This is one of the fundamental principles of Elexon's not-for-profit operational model since the company's inception 20 years ago. It has been embedded within BSC Applicable Objectives, BSC Panel composition, and our ways of working.

In addition to the above, we are confident we can agree on an appropriate governance and funding mechanism for the EDA service in a timely manner. This mechanism can be agreed with the industry and Ofgem in a timeframe required for the EDA services delivery, and in line with the overall MHHS timeline. We explore several options below and a number of examples of recent BSC Modifications that extended the BSC remit to cover new services to the industry.

For example, under BSC Mod P413 it was proposed that MHHS Programme costs are recovered by BSC Parties. Elexon has been recovering these costs since July 2021 from suppliers only, rather than all BSC Parties, as stipulated by Ofgem. We provide further examples to support our above statements in the main document below.

We have been underpinning the balancing services markets for over 20 years, working with the industry to bring changes to the central systems and services as the markets themselves change. We are excited about the future change in the energy industry and will be looking forward to putting our experience, expertise and skills to further serve the industry on its way to Net Zero.

Yours sincerely,

Peter Stanley
Director Digital Operations

	Criteria
1	**Extent to which the organisation's remit can support the governance, funding and operation of the EDA, now and in the future**
	We are confident that Elexon's remit can fully support the governance, funding and operation of the EDA, during the procurement, build and test phase as well as during the operational phase of the service [scope and roles for MHHS Programme and EDA Operator to be confirmed by Ofgem]. We provide more details in Q4 on funding and in Q5 on governance and operation of the EDA service. Elexon has demonstrated over a number of years the ability to deliver complex operational technology enabled processes and IT systems change, working with multiple stakeholders, and to deadlines driven by regulatory change. This has included development of new software and technology systems, which support market entry for smaller players. We believe that it is also important for the EDA operator to demonstrate a verifiable ability to deliver complex change/IT system development/delivery programmes and a well-established capability to manage a portfolio of service providers. We recently implemented a new organisational structure at Elexon that optimises our digital transformation and data capabilities. This change of approach to embracing new technologies and data has allowed us to deliver our ambitious digital change agenda in support of policy objectives, notably Net Zero, alongside our continued commitment to implementing services required by our customers. We have demonstrated our ability to deliver agile projects in a multi-supplier environment, by adopting best practice project and programme management frameworks and approaches. Elexon has a track record of adapting to the needs of industry and delivering complex change at the same time. We have supported Ofgem throughout the Market-wide Half-Hourly Settlement (MHHS) journey. Our expertise in managing working groups, such as DWG, CCDG and AWG on behalf of Ofgem, allowed us to demonstrate our ability to work with key industry stakeholders and garner support for the design changes necessary. The background knowledge and expertise gained within Elexon on this journey will offer benefits if managing the MHHS EDA in the future.
2	**Strategic long-term fit of the EDA within future energy system architecture**
	It has become clear that an event-driven architecture is the most effective way to manage the challenge of a massive increase in meter readings once MHHS is implemented. In addition to the changes driven by MHHS, the architecture and management of the central systems will have to support an increasingly decentralised energy market and digitalised electricity market that is transformed through the following key features: - Digitalised market operations to support no touch interactions; - Secure systems and data by design; - Open Data and system platform to increase participant engagement and enable interoperability; - Highly automated, scalable processing to manage exponential growth in assets and associated data; - Adaptable to support the development of more sophisticated incentives e.g. carbon tracking; level playing fields for new assets; - Fast real time, highly visible transactions supporting dynamic markets throughout the value chain; - Faster implementation of industry change. Not only have we developed a comprehensive understanding of the changes to the market, central services and central systems but have also gained practical skills and experiences in translating those emerging market requirements into systems design and specifications through our recent work on the transformation of our BSC systems to the Elexon Kinnect Platform. This transformation also incorporated the changes required to support industry change (such as access to the Balancing Mechanism for independent aggregators). The EDA is being delivered primarily as a function of MHHS. While we recognise the EDA will deliver multiple additional benefits to the electricity system, this service fits closely with the systems and

	processes Elexon uses to deliver settlement. The EDA interfaces directly with Elexon's customers and a number of Elexon systems. Delivering the EDA as a BSC service will reduce friction at these interfaces and improve the delivery of end-to-end changes to the system.
3	**Experience & capabilities relevant to procuring and overseeing a system similar to the EDA. The system may include:** • Effective Data Governance and Compliance Processes; • Maintaining Data Architectures including the personnel to make changes; • Customer On-Boarding and Issue Management Systems; • Data Discovery, Publishing and Transparency Processes; • Capability to provide data stewardship compliance services.
	Elexon has proven, mature capabilities in procuring and managing service providers to build, test and operate IT systems similar in scale and complexity to the EDA. We adhere to a cloud-first strategy, in which we seek to leverage the benefits of various Software, Platform and 'Infrastructure-as-a-Service' offerings in preference to on premise point solutions. In the last two years, Elexon has successfully transitioned to a multi-vendor IT delivery environment and service model, having signed and (re)procured our main contracts with service providers to upgrade the core BSC systems with a significant discount over the life of the contracts, and have secured very competitive rate cards, which have recently been benchmarked against Industry standard. The key outcomes of Elexon's Sourcing Strategy are: 1. Developed a set of new capabilities (described in more detail below) to be 'Intelligent Buyers' who fully understand the end-to-end supply chain and knowledge capital; 2. Created an optimised, modular and flexible Supplier and Service Integration and Management (SIAM) and supplier ecosystem; 3. The risk and liability profile is acceptable to our customers, fully understood and effectively managed through our Sourcing Solutions; 4. The contracts act as an 'enabler' to support the various strategic priorities such as the Kinnect Programme. Elexon prides itself on its ability to execute successful development and delivery of the new systems to meet new technological or regulatory standards. We now use an agile methodology for most aspects of business change. For example, with the agile development of Elexon's Kinnect service, we built suitable integration layers that allowed many existing communication methods and data formats to be used, avoiding the need for widespread change on the part of customers and other dependent systems. This consideration was essential to make sure the transition from old to new systems was as smooth as possible for all customers. Equally, based on the stakeholder engagement in the early phases of the project, we took the opportunity to decommission certain features that were no longer relevant and delivered new functionality that was in line with our customers' expectations for a modern data platform. The continuous completion and feedback method allows us to deliver incremental benefit to our stakeholders whilst de-risking future deliveries. Our ongoing stakeholder engagement programme allows us to agree goals that are achievable for all parties. **Effective Data Governance and Compliance Processes** • Elexon understands that the core of EDA lies within the construct of a solid data exchange framework with robust governance and security around it. Within Elexon we have established a solid data catalogue, classifications and the governance processes relating to different types of data, which we intend to leverage in operating the MHHS EDA; • We will define the people, process and technology aspects of data governance, so that the quality and security of the data is embedded into the architecture from the very beginning. We have already implemented these governance processes within our Kinnect platform and will bring these experiences into the MHHS EDA; • We have implemented governance strategy in different layers e.g. the data exposure layer and the database layer to bring flexibility to the system while maintaining the data integrity and backwards compatibility; • Our compliance process ensures that strict data classifications and appropriate security controls

are in place for the data at rest and in transit. We have defined our Information Security policy by evaluating the types of data we process and then ensuring our suppliers adhere to those policies from the start of the development process.

Maintaining Data Architectures including the personnel to make changes
We are confident in our ability to maintain Data Architectures and evolve this capability, learning best practices from other markets and industries:

- Elexon has fully developed in-house Data Management capability;
- Our Design Authority team have an in depth knowledge of data flows within the industry, and are key in understanding the impact of change;
- We have a strong track record of data governance. All data interfaces related to the core BSC systems are fully documented for review;
- Elexon's in-house Data Management capability, including Data Architects, Data Stewards and Data Scientists, has expanded in recent years and is able to leverage the data opportunities provided by our own digital transformation.

Customer On-boarding and Issue Management Systems
Elexon keeps customers at heart when designing any solution and we have deep experience in defining processes to make customer journeys a seamless experience. We have established a Customer Solution as part of our new cloud platform, Elexon Kinnect, which will provide all of our services and manage Settlement. The Customer Solution is a first for a code body in that it provides a guided digital workflow, system of record for companies to use to enter the market, and 'manage their BSC account' once active it. Since launching it in January 2021 we have imported 900 BSC party contacts into the Customer Solution and around 300 people are using it regularly. We developed the product using user experience, research and directly working with our customers.

Our Customer Solution platform operates on the principle of self service. We have designed our processes and the customer journey by utilising the guided workflow offerings provided by our platform. Our customers have benefited hugely from the following features: real-time status of the on-boarding process, Issue Management, Document Management and alerts and notifications.

- We would look to automate the whole on-boarding experience, as a self-service process, while providing the correct level of support, such as code snippet, sdk, sandbox and documentation in the developer portal;
- We handle complex integration within Elexon's ecosystem where we have established integration with third party ITSM tooling, Security Operations and other application integration;
- We are currently handling these three aspects above in our current BMRS system and Analysis and Insights platform.

We also provide a 24/7 customer helpdesk, and have teams dedicated to both customer on-boarding and ongoing account management. We invest time in ensuring our customers understand the systems and processes they interact with, which reduces errors and risks to settlement. Please see Section 6 for more information.

Data Discovery, Publishing and Transparency Processes

Data Discovery
Elexon has strong experience in maintaining their data dictionary, which is made available for consumption by different channels. Our current Kinnect platform works on a principle of Open API specifications. We make sure all data that can be exposable and made available via API. The API documentation in our developer portals ensure the data is discoverable and consumable in a self-serve mode.

The Developer Portals, introduced by our Kinnect product development, are where customers can access data themselves. These are becoming crucial components in the successful adoption of API and Event Driven Architectures.

Data Publishing
In order to achieve a pluggable data publishing platform, where services can be on-boarded, new integrations can be developed and deployed in days rather than weeks, the underlying EDA Core service should have the below integration capabilities;

	Dynamic Data Subscription: this capability will enable the consumer to register their interest in a subscription. Once the subscription is registered the service can send a message to a message queue dedicated for the subscriber or send an http request to a consumer end point. Event PUB-SUB: this capability will be responsible to identify all possible consumers of a message through dynamic subscription and publish a copy of the message to each of the recipients. API Gateway: At Elexon, the core theme of the Kinnect platform is API driven services. Our design is focused on: • Open API standards with versioning and backward compatibility; • Fit for purpose API contracts; • Auditability and Transparency of data changes; Elexon has been using the above principle in its core framework and we would intend to work with suppliers to achieve the same degree of flexibility in to the MHHS EDA. **Data Transparency** Elexon has adopted Open Data and transparent data sharing as a key principle throughout its transformation programme. We have extensive, robust experience in delivering these services, which will ensure inclusion of data auditability and change data capture. We also design services based on the user needs and publish in common formats. Modification P398 'Increasing access to BSC Data' was implemented in June 2021 to make the BSC fully compliant with the recommendation that the energy sector should 'adopt the principle that energy system data should be presumed open' from June 2019 report 'A Strategy for a Modern Digitalised Energy System' by Energy Data Task Force.
4	**Ability to put appropriate funding arrangements in place for the EDA in a timely manner**
	In recent years Elexon has started delivering several new services to energy market participants. Funding arrangements for these services vary. Below we summarise the funding arrangements and the time it took Elexon, the industry and Ofgem to devise and approve funding arrangements for these new services. The below examples give us confidence that we will be able to agree on an appropriate funding mechanism for the EDA services with the industry and Ofgem in a timeframe required for the EDA services delivery in line with the overall MHHS timeline. **New arrangements for radio teleswitch (RTS) service solution – February 2020**. Elexon worked proactively with industry to find a solution after being informed that RTS operational cost recovery arrangements were not confirmed from April 2020. Elexon convened the BSC Issue 84 Workgroup to develop a new solution with industry participants. The solution, for a contract amendment enabling recovery of costs from the normal BSC funding arrangements, was agreed in under two months. (**MHHS) Enable Elexon to be the Programme Manager for the implementation of Market-wide Half Hourly Settlement (P413) - April 2021.** Market-wide Half Hourly Settlement Programme Manager is the mechanism by which Elexon's responsibilities under the BSC are widened to include being the MHHS Programme Manager, procure programme services from third parties and recover the associated costs. It also proposed that MHHS Programme costs are recovered by BSC Parties. It was raised in September 2020, approved by Ofgem in April 2021, and Elexon has been recovering these costs since July 2021 from Suppliers (only) as stipulated by Ofgem. **(MHHS) Implementation and Governance Arrangements (P423) – October 2021**. Ofgem raised P423 on 16 August 2021. The modification was to ensure the BSC reflects implementation and governance arrangements that, amongst other things, allow Elexon to effectively manage and oversee the MHHS programme and require Elexon to undertake that programme management in a transparent, consultative and unbiased way. As an Authority Led SCR Modification, P423 followed the timetable set by the Authority and the procedure detailed in BSC Section F5.3A. The BSC Panel initially and unanimously recommended approval of P423 on 19 August 2021. Ofgem approved P423 on 30 September 2021 and was implemented on 7 October 2021. It took less than two months to have the arrangements in place. There are other possible funding options that have been implemented or can be utilised for this new

	service, for example, a grant-based approach, a specified charge, or invoice in advance. We are committed to apply any lessons learnt from these recent new services/programmes to collaboratively working with the industry, MHHS Programme and Ofgem to devise and put in place the appropriate funding arrangements for the EDA service.
5	**Ability to put appropriate governance arrangements in place e.g. handling change, role of parties in governance etc.**
	Elexon has been operating the BSC change process for the industry in an open and transparent way that has, effectively, become a best-in-class practice adopted for other codes. We manage the change process end-to-end supporting BSC parties from the moment a modification is raised through to an assessment report, drafting of legal text and implementing a change. We have a dedicated team to support the industry in bringing changes to the BSC in a fast and efficient way – Rules Management. The Rules Management team acts as a critical friend to BSC Parties and stakeholders, using their subject matter expertise to help and support the BSC Parties in developing proposals to modify the BSC and its subsidiary documents. The team also manages the implementation of those changes and the maintenance of BSC documentation to ensure the BSC is fit for BSC Parties now, and in the future. The change process is transparent and can be followed online with all the relevant documentation, including working group materials, being made available for a wide range of stakeholders in a timely manner.
6	**Stakeholder relationships**
	Elexon engages with a wide range of market participants and stakeholders on a regular basis through a well-articulated and tested stakeholder engagement strategy, which includes workgroups, education and training webinars, and individual engagement sessions. Our established team of OSM (Operational Support Managers) look after all aspects of BSC parties and new market entrants performance and are on hand to answer any questions they may have about ongoing changes to the BSC or industry wide programmes. In addition to the regular individual engagement sessions with OSMs, we conduct educational webinars on all aspects of the ongoing changes, be it Modification or changes to the central systems, in order to keep all parties informed and provide an additional avenue to ask questions and interact with our experts first hand. We conduct an annual customer survey to learn what we may need to prioritise and further improve on. Our 2021 customer survey showed that overall satisfaction with our service has increased and highlighted that quality, reliability and expertise remain the most valued aspects of Elexon's service. In addition to our own customer survey results, for the last three years we have come top of Ofgem's Code Administrators survey with 86% of survey respondents satisfied with our performance . Details of which can be found at https://www.ofgem.gov.uk/system/files/docs/2019/10/code_administrators_survey_2019_for_scs_review.pdf Results from 2021 surveys are yet to be published. We will be looking to apply the same rigour and ethos of keeping the customer first to the EDA service development and operation as we do for all other services we manage for the industry. Additionally, to the well-rounded programme of engagement with BSC parties and new market entrants, we have continued our engagement with a wider range of market participants including think tanks, academics and industry event organisers. This allows us not only to keep on top of the market development and trends in the energy industry but also actively contribute to the emerging thinking where our expertise is relevant and applicable. An example of this wider industry engagement is a joint paper that Elexon produced with Energy Systems Catapult on how a system for carbon emission tracking across the energy sector could be set up. Establishing a tracking system will be important for checking on progress to Net Zero, and the paper proposes options for this, and next steps.

7	**Value for money, efficiency including 'whole-of-system' efficiency, and cost effectiveness**
	As a not-for-profit company value for money to the industry is incredibly important to us. We understand, as corroborated through customer feedback, that we deliver significant value to our customers, the electricity industry and ultimately the end consumer as a result of being at the centre of the electricity market but we also realise our responsibility, that as a business funded by our customers we are expected to do this at the lowest possible cost. As highlighted in our answer to Q3, we have re-negotiated contracts with our core BSC systems service providers that have been competitively benchmarked against industry standards. We also looked at Elexon's internal business functions costs. An independent benchmarking exercise confirmed that Elexon's company costs are on par with its peers across the UK. The benchmarking exercise also found that project spend is managed well and, compared to peers, a higher proportion of projects are completed within budget. As evident from the above, we have been focused on costs and challenged ourselves on the needs and requirements for all the services we provide, especially the current pressures faced by our customers. As a result, for the financial year 2022/23, our BSC budget is set lower than our 2021/22 budget or forecast, as well as our previously published budget for 2022/23. While the costs for other central market functions are increasing, we have achieved a decrease of £6.6m (9.6%) over our 2021/22 budget for regular activities. We believe the synergies we have detailed in our answer to Q8 will lead to efficiency in the EDA service development, build and test phase as well as in the operational phase. Not only this will lead to a faster development and deployment of the service but also it represents a prudent business case as the industry will utilise the capabilities it has already paid for, intensively tested and verified as robust and scalable.
8	**Synergy with other services provided by an EDA operator, for example in terms of** • **Customer journey** • **Costs** • **Operations** • **Governance**
	There are multiple synergies with existing functions and capabilities that Elexon has developed in the recent years working on the transformation of our legacy BSC systems. We believe these capabilities, approaches to system development, ways of working with service providers, can be easily extended to another service such as EDA: • Our Customer Solution has been operational for over three years and allows us to manage all of our customers centrally. The high level of system and service maturity in this area will allow us to leverage these skills and capabilities to manage the additional customers, introduced via the EDA; • Our own digital transformation has resulted in increased capability and skills within the Elexon team to manage complex change in the public cloud. These capabilities will be invaluable when supporting and managing the EDA rollout; • Elexon has already established a common framework for data ingestion at scale, where we have future proofed our systems against the predicted increase in data volumes. Furthermore, our data ingestion processes are able to deal with varied data flows, such as, events, APIs and flat files; • Elexon's central operational role at the heart of the industry will make us uniquely placed to design and implement EDA changes, alongside other central industry change ongoing at the same time, without having to manage multiple service providers; • The ongoing transformation of the BSC legacy systems involves re-architecting those systems using patterns compatible with an EDA architecture. This experience will allow us to accurately predict the need to change and adapt the EDA system in response to the industry stakeholders' needs; • One of our key strengths is in managing the change brought forward from industry. These robust and efficient processes could be leveraged to manage EDA change.
9	**Ability to ensure Security and privacy of the service to an accreditable and certifiable standard**

	We take information security extremely seriously. Elexon holds ISO27001: the International Information Security certificate that is regularly renewed. All of our Information Security Management Systems processes are reviewed on an annual basis and employees complete information security awareness training on the same timeframe. We have arrangements with support organisations such as ECSC, for their intelligence and expertise, and have threat level reporting from Recorded Future. We also sit on the BEIS Energy Emergencies Executive Committee Security Operations Monthly Meetings.
10	**Information Security and Quality Assurance capability, covering Disaster Recovery and other Cloud Management capability**
	Elexon has a mature, fully-implemented capability to ensure the highest standard of information security, which is regularly-reviewed and brought up to date with the evolving best practices in the fast-moving information security field. **Information Security and Quality Assurance capability** Elexon has adapted its Information Security capability recently to adopt a cloud first approach in line with our Kinnect programme delivery. This is demonstrated by the following wider security measures we have introduced into both Application Development and Operations: • Elexon has engaged with a third party to deliver a 24/7, 365 Security Operations capability. This service utilises a wealth of experience and expertise to detect and respond to any security incidents, violations, risks or threats detected, and is backed by robust service level agreements. It offers Security Operations Centre (SOC) monitoring, analytics, and threat hunting, as well as providing vulnerability management, cyber intelligence and incident response management. This capability allows us to maintain a single pane of glass view across all of our domains and allows us to maintain a unified view of the threat landscape; • New services supporting disciplines such as Run-Time security and Dynamic Application Security Testing (DAST) tooling have been recently introduced; • Enforcement of data security controls such as classification schemes and adherence to regulatory requirements such as UK Data Protection Act and GDPR, by making use of encryption technologies, masking production data etc.; • Application of network security controls, including segregation of production and non-production systems, as well as the separation of networks associated with general business activities from networks associated with the management and control of cloud infrastructure; • Assurance of software development to include robust application security testing and penetration testing; • Application of operational security controls to continuously monitor Information security risks, by typically considering continuous logging and monitoring of environments and leverage industry frameworks such as MITRE ATT&CK framework for incident detection and response. **Disaster Recovery and Cloud Management capability** Elexon has a comprehensive and well tested business continuity/disaster recovery plan and supporting arrangements, which have been in place since 2005. This is based on best practice described in ISO22301:2019 'Business continuity management systems – Requirements'. There is an Executive led business continuity team in place with representatives from IT, Facilities communications and HR. The plan covers a number of scenarios, which are regularly reviewed and tested. Elexon has disaster recovery as a service (DRaS) in place that contains all our key systems and data, which can be live within 24 hours after invoking. This service is tested annually with all disaster recovery representatives. There are also other aspects to the arrangements to aid in the effective and speedy recovery of systems, in the event of an incident. Elexon has further developed its cloud management capability recently to support our cloud first, multi-supplier model. This capability addresses all aspect of cloud management, including: • Identity, Security and Compliance; • Monitoring and Observability; • Inventory; • Service Enablement; • Provisioning and Orchestration; • Cost Management and Resource Optimisations;

	• Cloud Migration, Back Up and DR. Elexon is designing the current BSC services with High Availability, RPO (Recovery Point Objective) and RTO (Recovery Time Objective) as key requirements. All our digital systems have been designed with minimum 99% high availability and low RPO and RTO.
11	**Ability to operate the service in a way that does not distort competition and provides a level playing field**
	Elexon is committed to servicing all of its parties, new market entrants, and consumers in a fair and open way. This is one of the fundamental principles of Elexon's operational model from the company's inception 20 years ago and has been embedded within BSC Applicable Objectives, BSC Panel composition, and our ways of working: • BSC Applicable objectives include among others c) promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting competition in the sale and purchase of electricity; d) promoting efficiency in the implementation and administration of the balancing and settlement arrangements; • The BSC Panel model is frequently cited as one of the better models for ensuring broad representation of stakeholders. The BSC Panel has two of its members appointed by organisations representing consumers in addition to the industry members and non-industry members. The Panel has clear objectives set out in the BSC, which includes the need for the Panel (and ELEXON) to give effect to the Code 'without undue discrimination between Parties or classes of Parties' and also to ensure that 'there is transparency and openness in the conduct of the business'; • Our commitment to serving the evolving energy market is evidenced from a number of recent Modifications and changes to BSC rules we progressed with the industry and NGESO, to name just a few: o Modification P375 'Settlement of Secondary BM Units using metering at the asset' has seen us working closely with a VLP (Virtual Lead Parties) and the industry to enable data from asset meters fitted at units behind the boundary point to be submitted into Settlement. It is a transformative effect on the energy system by offering DSR providers and other small asset owners more opportunities to provide balancing services; o Modification P415 'Facilitating access to wholesale markets for flexibility dispatched by Virtual Lead Parties' follows on from the Wider Access reforms. It will allow consumers offering DSR trade this in the wholesale electricity market through a VLP, rather than through their Supplier; o Modification P362: Electricity market sandbox - BSC Sandbox is a means to grant a temporary derogation from the BSC rules for companies to trial concepts without having to meet the usual BSC rules. We act on the same fundamental set of company's values to deliver all and every service that the industry and Ofgem/BEIS entrust Elexon to develop and deliver. Our values are: • **We think customer first.** We are trusted and responsive. Our decisions are underpinned by the value we bring to customers and industry; • **We work at pace**. This requires us to be courageous in making decisions and being agile and accountable in our delivery; • **We think beyond.** By using our sector expertise to be more innovative and continuously challenging ourselves to learn and grow; • **We focus on what matters.** By being proportionate in our approach and focussed on outcomes; • **We are one team.** We support, collaborate and are inclusive of one another.