

By e-mail to: [flexibility@ofgem.gov.uk](mailto:flexibility@ofgem.gov.uk)

Chiara Redaelli  
Ofgem  
9 Millbank,  
London,  
SW1P 3GE

27 November 2017

Dear Chiara,

**ELEXON's response to Ofgem's consultation: 'Clarifying the regulatory framework for electricity storage: licensing'**

We welcome the opportunity to respond to Ofgem's consultation relating to the regulatory framework for electricity storage. We support Ofgem's plans to clarify the regulatory framework. We note that changes to provide clarity for storage providers are not limited to the licence and believe that changes across the licensing and industry code arrangements are developed together to ensure holistic and consistent arrangements. In this regard, ELEXON is considering how best to improve the BSC arrangements in conjunction with the proposed licence changes and changes being progressed under the Grid Code<sup>1</sup>.

In fulfilling our role as manager of the Balancing and Settlement Code (BSC), we have been working with a small but growing number of distribution and transmission connected electricity storage providers to help them register their facilities and participate within the BSC arrangements.

In addition to supporting their day-to-day operational interaction with the BSC, we are working with industry to improve the BSC and facilitate innovative business models and technologies. For example, ELEXON is working with Parties to make changes to the BSC to clarify and simplify how Parties register electricity storage under the BSC (see below for more details). Also, ELEXON recently sought the BSC Panel's approval to raise BSC Modification [P362 'Introducing BSC arrangements to facilitate an electricity market sandbox'](#)<sup>2</sup>. This initiative will allow the BSC Panel to give Parties temporary derogations from BSC requirements, which will enable pre-competitive or proof of concept testing for innovative products/business models in the live BSC Settlement environment.

**How we currently handle electricity storage under the BSC?**

Although the BSC does not specifically define or contain specific provisions for electricity storage, we have worked with providers to treat large electricity storage facilities (e.g. connected to transmission systems owned or operated by transmission licensees) as though they were generators. This is because the BSC requires BSC Parties to register plant and apparatus to Balancing Mechanism (BM)

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<sup>1</sup> Grid Code Modification [GC0096 'Energy Storage'](#)

<sup>2</sup> Our proposal was considered by the BSC Panel at its November 2017 meeting – please see paper [272/02](#)

Units and in the context of electricity storage we have advised providers that their facilities are similar to a 'Generating Unit' which the BSC defines as 'any Apparatus which produces electricity'<sup>3</sup>.

The BSC specifies standard configurations of plant and apparatus that are deemed to constitute BM Units. The simplest configuration is a single Generating Unit. Parties can register standard BM Units relatively easily and quickly. Where a configuration of plant and apparatus does not satisfy a standard configuration, ELEXON works with the responsible Party to help them explore their options and if necessary request that the BSC Panel approve a non-standard BM Unit.

In the last six months, ELEXON has helped BSC Parties prepare documentation and apply to register four non-standard BM Units for electricity storage facilities<sup>4</sup>. This is because the BSC does not specify standard BM Units that explicitly include electricity storage. Therefore, we have considered battery/storage units and battery/storage modules to be similar to Generating Units and Power Park Modules respectively. This approach takes account of existing definitions in the BSC and Grid Code and aligns with the proposed definitions and treatment of electricity storage being developed under Grid Code Modification [GC0096 'Energy Storage'](#)<sup>5</sup>.

### **Impact of proposed licence changes**

Ofgem's proposed licence changes do not have direct implications for the BSC and do not require specific changes to the BSC, e.g. to treat electricity storage in a different way to generators more generally. This is because Ofgem's proposed licence changes intend to recognise existing licensing practice, i.e. that electricity storage is treated as though it were a generator. As such, the proposed licence changes generally apply existing licence requirements for generators (e.g. to be a party to and comply with the BSC) to licensable electricity storage by including new definitions and ensuring the requirements clearly apply to electricity storage too.

ELEXON recognises that, along with a number of other novel non-traditional business models, the increasing participation of electricity storage in the electricity industry is challenging the traditional operation of central industry arrangements. We believe that the overall industry arrangements should be updated in a coordinated manner to ensure a consistent and holistic set of arrangements are developed that facilitate the participation of new business models and technologies. Therefore, whilst the proposed licence changes do not require specific changes to the BSC, we are considering how to improve the BSC to provide greater clarity and certainty to electricity storage providers, and ensure the BSC remains aligned with other regulatory and industry code arrangements.

In particular, we are working with BSC Parties to raise two BSC Modifications at the BSC Panel's meeting in December 2017 to implement the findings of our 'Review of Metering Dispensations and

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<sup>3</sup> See [BSC Section X, Annex X-1](#).

<sup>4</sup> The Imbalance Settlement Group (ISG) approved applications in relation to Pen y Cymoedd (22MW) and West Burton B (49MW) battery modules at its September 2017 meeting (ISG198). Please see papers 198/01 and 198/02 - <https://www.elexon.co.uk/meeting/isg-198/>. The ISG is due to consider two more applications at its next meeting on 11 December 2017 (ISG200) – the papers are due to be published on 4 December 2017.

<sup>5</sup> GC0096 is currently being developed by an industry workgroup. National Grid expects to publish an industry consultation for GC0096 in January 2018.

non-standard BMUs<sup>6</sup>. Amongst other things, these modifications will propose to clarify how Parties should register electricity storage and simplify the process for registering 'standard' BM Units for electricity storage facilities. Our proposals will require consideration of and, where appropriate, alignment with the proposals developed under GC0096.

### **Observations regarding proposed licence changes**

Whilst Ofgem's proposed licence changes do not have direct implications for the BSC, we have the following three observations:

*Proposed Licence Condition E1* - We note that Ofgem has drafted Condition E1 flexibly to accommodate a diverse range of storage services and business models. Furthermore, we believe storage providers would find it helpful if Ofgem provided guidance on how they see this condition working in practice. In particular, how do Ofgem foresee the licensing arrangements applying to storage providers who are not eligible for a class exemption (so must be licensed as a generator) but would like to provide a supply, as a primary function, to a person or persons connected to a private network? Is onward supply of this nature considered 'self-consumption' even where the 'end-consumer' is not the storage provider?

Ofgem proposes to include the term 'Export', as defined in the BSC<sup>7</sup>, in proposed Condition E1. In the BSC, 'Export' means the flow of electricity from a BSC Party to another BSC Party whose plant and apparatus comprise part of the 'Total System' (i.e. a distribution or transmission system owned or operated by a licensee). In the context of Condition E1, does this mean that Ofgem intends that storage licensees' 'primary function' should be to transfer electricity back to a distribution or transmission system owned or operated by a licensee? If so, this point may need to be clearer as neither of the preceding paragraphs containing the substantive requirements of Condition E1 refer to 'Export'. Consequently, the inclusion of the defined term does not appear to have a material effect.

We also note that should Ofgem retain the use of the BSC term 'Export' in Condition E1, it would mean that the effect of the Condition may change because of a future change to the BSC.

*Mandatory HH Settlement* – ELEXON is leading the development of a Target Operating Model for mandatory HH Settlement<sup>8</sup>. As part of our work, we noted that there are no requirements on license exempt generation (and therefore storage) to register Export Metering Systems and settle this energy, and so any exported electricity will be spilt onto the Total System. As the number of exempt generators increases, it may result in inaccurate allocation of energy in Settlement. This consultation is part of a wider piece of work considering how storage participates in the overall industry arrangements. Therefore, as part of clarifying the regulatory arrangements for storage, we encourage you to further consider how those arrangements might need to develop to enable the effective measurement and management of exempt generation and storage. We understood BEIS was looking at this requirement in regards to the rollout of smart meters and the ability for these meters to record export energy and the relationship to Feed-In-Tariffs.

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<sup>6</sup> We presented our final report to the BSC Panel at its meeting on 9 March 2017. You can find the final report (papers 264/08 and 264/08a) on the ELEXON website:

<https://www.elexon.co.uk/meeting/bsc-panel-263/>.

<sup>7</sup> [BSC Section K1.1.4\(b\)\(i\)](#)

<sup>8</sup> For more information please see our dedicated page on the ELEXON website -

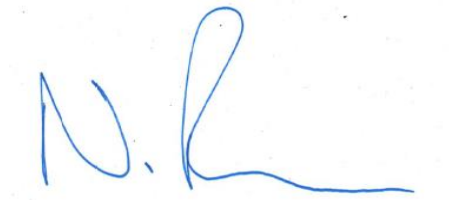
<https://www.elexon.co.uk/design-working-group-market-wide-half-hourly-settlement/>.

*Accounting for losses* - The conversion of electricity into a storable form of energy and the reconversion back to electricity is imperfect. The technical losses incurred by converting and reconverting electrical energy mean there is a discrepancy between the electrical energy a storage facility imports and exports. We understand that these losses can result in being charged or treated in ways that undermine the business case for operating a storage facility. ELEXON is considering how parties use primary and secondary meters to measure imports and exports for Settlement and non-Settlement purposes, with a view to enhancing the transparency of and accuracy of measurement of different activities. We will welcome a discussion with Ofgem on how storage and other novel technologies should be metered to ensure transparency and fair participation.

The views expressed in this response are those of ELEXON Ltd, and do not seek to represent those of the BSC Panel or Parties to the BSC.

If you would like to discuss any areas of our response, please contact me on 020 7380 4007 or by e-mail at [nicholas.rubin@elxon.co.uk](mailto:nicholas.rubin@elxon.co.uk).

Yours sincerely,

A handwritten signature in blue ink, appearing to read "N. Rubin". The signature is fluid and cursive, with a long horizontal stroke at the end.

Nicholas Rubin  
Market Architect, ELEXON, and Imbalance Settlement Group Chairman