

Andrew White
Energy Systems Integration
Ofgem
9 Millbank
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27 November 2017

Dear Andrew,

Response to Storage consultations ‘Enabling the competitive deployment of storage in a flexible energy system’ and ‘Clarifying the regulatory framework for electricity storage’

This response covers both consultations associated with the regulation of electricity storage that were published by Ofgem on 29 September 2017. I attach a detailed response to the questions raised in the consultation on ‘Enabling the competitive deployment of storage in a flexible energy system: changes to the electricity distribution licence’ we have the most substantive comments to make.

We acknowledge that we are at a time of unprecedented change and uncertainty in the UK energy system and are supportive of the work being undertaken by Ofgem to ensure that the regulatory position on ownership and operation of storage by network operators is clear.

Our response to enabling the competitive deployment of storage includes a summary, but I would like to highlight a few key themes:

- The consultation asks the right questions but the solutions offered risk imposing significant limits on the actions of the DNOs such that the benefits to customers from the DNOs being able to operate storage are overly restricted. Further clarity is required on some of the policy principles so that the licence drafting is consistent with this intent.
- Ofgem should build flexibility into the regulatory system so it can allow DNOs to operate storage in certain circumstances with the permission of the regulator particularly if that facilitates system optimisation/integrity and/or provides significant consumer benefits.
- The meaning of ‘ownership’ (of storage) is clear. However, more clarity is required in respect of the ‘operation’ of storage to assist compliance with the requirement to legally separate the activity. Currently the drafting is insufficiently clear since it refers to the Electricity Act where there is no distinction between ownership and operation.
- The business separation compliance arrangements need to be proportionate to the risk (of distorting the flexibility market). We believe that it is Ofgem’s intent only to require business separation when a DNO is operating storage that is additional to the uses that are allowable exemptions. However the drafting of the licence conditions needs improving to make this clear.
- More consideration should be given to likely future DNO storage use cases and how to encourage and not stifle their development. Given the potential benefits of future uses for

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customers it would be appropriate to set a *de minimis* limit, potentially as part of the Direction Guidance, under which DNO projects may proceed to explore new or enhanced benefits for customers without the need for further regulatory decisions outside of the existing innovation governance.

Turning to the companion consultation 'Clarifying the regulatory framework for electricity storage' we note the policy direction and support the implementation set out in the consultation document. We have no points of detail to make in respect of the questions raised in the consultation that focus on the drafting of the generation licence.

We very much see this as a process and dialogue in which Northern Powergrid is committed to continue to engage. If you would like to meet to discuss the points raised in this response then please make contact.

Yours sincerely

A handwritten signature in dark ink, appearing to read 'Jim Cardwell', with a stylized, flowing script.

Jim Cardwell
Head of Trading and Innovation



Northern Powergrid's response to Ofgem's Consultation on 'Enabling the competitive deployment of storage in a flexible energy system: changes to the electricity distribution licence'

1. KEY POINTS

- The consultation asks the right questions but the solutions offered risk imposing significant limits on the actions of the DNOs such that the benefits to customers from the DNOs being able to operate storage are overly restricted. Further clarity is required on some of the policy principles so that the licence drafting is consistent with this intent.
- Whatever the final solution, **Ofgem should build flexibility into the regulatory system** so it can allow DNOs to operate storage in certain circumstances with the permission of the regulator particularly if that facilitates system optimisation/integrity and/or provides significant consumer benefits.
- The meaning of 'ownership' (of storage) is clear. However, **more clarity is required in respect of the 'operation' of storage** to assist compliance with the requirement to legally separate that activity. Currently the drafting is insufficiently clear since it refers to the Electricity Act where there is no distinction between ownership and operation.
- The **business separation compliance arrangements need to be proportionate to the risk** (of distorting the flexibility market). We believe that it is Ofgem's intent only to require business separation when a DNO is operating storage that is additional to the uses that are allowable exemptions. However the drafting of the licence conditions needs improving to make this clear.
- **DNOs currently own and operate generation assets such as uninterruptible power supplies and portable fleets of generators for emergency response and maintenance** as an integral part of the operational management of their networks. Consequently, continued ownership and operation of such assets is entirely appropriate.
- However, **consideration should be given to likely future DNO storage use cases** and how to encourage and not stifle their development.
 - For example we are developing innovation projects to consider the ability for remote parts of our network to 'island' in certain circumstances (e.g. when lines are damaged) to **improve resilience** and this will involve the use of fixed battery installations.
 - We are also exploring how enhanced resilience can be offered to **vulnerable customers** using battery technology.
 - Given the potential benefits of future uses for customers **it would be appropriate to set a *de minimis* limit**, potentially as part of the Direction Guidance, under which DNO projects may proceed to explore new or enhanced benefits for customers without the need for further regulatory decisions outside of the existing innovation governance.
- The proposals for managing existing islanded generation and existing DNO-owned and operated storage are appropriate.
- In terms of the structure of implementation, Ofgem is right to use a **more readily updatable guidance document** to describe the exceptions to the rule. This will have the intended effect of making it more future proof.

Northern Powergrid's Response to Specific Questions

Proposed new condition in the electricity distribution licence

Question 1: Do you agree that the proposed new condition will ensure legal unbundling of DNOs from the operation of storage that benefits from an exemption to hold a generation licence?

1. We agree that the proposed SLC43B will ensure that there is operational separation between DNO activities and storage assets, even when the storage activity benefits from generation licence exemption.
2. The meaning of 'ownership' (of storage) is clear. However, given that the proposed SLC43B requires that "the licensee must not carry out the activity specified in Section 4(1)(a) of the Act", which is the generation of electricity, more clarity is required in respect of the 'operation' of storage to assist compliance with the requirement to legally separate that activity. Paragraph 2.3 of the consultation says "While continuing to allow DNOs to *own* storage and generation assets for now, the new condition would ensure that DNOs could not *operate* the asset themselves." However, there is an argument that just owning (but not operating) a generation asset is an activity that generates electricity so Ofgem's intent (as expressed in paragraph 2.3) should be made clear in the proposed SLC43B.
3. The business separation compliance arrangements need to be proportionate to the risk (of distorting the market). The principle should be that SLC42 and SLC43 will only be applicable when the DNO is operating a generation asset that is not subject to a direction issued by Ofgem under the proposed SLC43B and that asset is above a certain threshold size. It is not clear from the document that this is indeed Ofgem's policy intent and the drafting needs amendment to make sure it gives effect to this direction.
4. We would suggest the following in respect of some minor drafting points. These are points of detail as opposed to addressing any of the above required clarifications:
 - i) The title of the proposed SLC43B should be "Prohibition of the Generation of Electricity by the Licensee";
 - ii) 43B.4 – Delete the "s" from "provisions" and amend "those provisions" to "that provision";
 - iii) 43B.5 – Amend "Consent Guidance" to "Direction Guidance";
 - iv) 43B.5 (a) – Amend "document" to "Direction Guidance";
 - v) 43B.7 (first reference) – Re-number as 43B.6 and then re-number 43B.6 as 43B.7 and 43B.7 (second reference) as 43B.8;

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- vi) Newly numbered 43B.8 (second line) – Amend “document” to “Direction Guidance” and delete “the” before and insert “43B.5” after “paragraph”; and
 - vii) 43.12 (a) – Amend Relevant Licence Holders to Relevant Undertakings and delete 43.12 (e) due to that change.

Question 2: Do you agree that the same principles of unbundling should apply to IDNOs?

Do you have any views on the application of the specific new condition proposed here applying to IDNOs?

- 5. Yes we agree that, in order to maintain a level playing field, the same principles of unbundling should apply to IDNOs.

Question 3: Do you agree that DNOs should be able to directly own and operate small-scale storage for the purposes of providing uninterruptible power supplies (UPS) at substations?

Do you agree that DNOs should be able to directly own and operate small-scale storage for the time-limited purposes of emergency restoration and maintenance?

Do you think DNOs should be able to directly own and operate storage for any other specific applications?

- 6. DNOs currently own and operate generation assets such as uninterruptible power supplies and portable fleets of generators for emergency response and maintenance as an integral part of the operational management of their networks. Consequently, continued ownership and operation of such assets is entirely appropriate.
- 7. However, energy storage is a transformational technology and has the potential to provide services in a similar way to that in which transformers, capacitors and mobile generator units presently do. Consideration should be given, therefore, to likely future use cases and how to encourage and not stifle their development. We believe that the making of regulatory changes that do not support future innovations should be avoided and, instead, they should support investment at the lowest costs to customers. Examples of the future use of smaller scale storage could include the use of electric vehicle batteries for network restoration and to provide network resilience.
- 8. Northern Powergrid presently deploys diesel generators on fault-repair activities for the direct benefit of its customers. However, diesel generators are noisy, contribute to air pollution and greenhouse gases and, because they are sized to the peak load not the average load they supply, are generally fuel inefficient. Our Silentnight innovation project aims to investigate whether using an electric vehicle equipped with a battery, as an alternative, can efficiently cut running costs, noise and CO₂ emissions.
- 9. In the near future, improvements and cost reductions in battery technology, the prevalence of distributed generation, particularly at lower voltages, and improvements in measurement and communications will offer smart opportunities to improve resilience. Small-scale storage

technologies installed on low voltage networks could provide true resilience to customers so that they never experience an outage of any length in the first place.

10. We are preparing innovation projects to explore the development of 'on shore' islanding of less reliable network areas to improve resilience that will involve the use of fixed battery installations.
11. We are also exploring how enhanced resilience can be offered to vulnerable customers using battery technology. We are looking at the ways to extend our existing project learning about the benefits to customers in housing association properties of trading their flexibility to consider how the technology could be used to 'keep the lights on' for those that need it most in the event of a power cut.
12. We, therefore, agree that the new licence condition should not include any specific exceptions. They should, instead, be included in the associated guidance document that will accompany the new licence condition.
13. We support the use of flexibility, including storage, being procured from the competitive market place as a commercial service. However, trials of flexibility services such as those undertaken as part of Northern Powergrid's Customer-Led Network Revolution innovation project have shown that it can be challenging to procure these services in the geographical areas required to support specific needs on distribution networks.
14. We therefore believe that there could be circumstances in which DNOs may need to own and operate storage in the future, where it will provide benefits to consumers but where the market cannot provide it. It would be appropriate to set a *de minimis* limit, potentially as part of the Direction Guidance, to cater for future use cases and instances where a market solution does not work. This ensures that DNOs may continue to innovate in the uses of this transformational technology and not adversely impact the delivery of benefits for customers.

Question 4: Do you have any views on the treatment of existing islanded system generation currently owned by DNOs?

Do you have any views on the treatment of future use of DNO owned and operated generation of storage in similar island situations?

15. The proposals for managing existing islanded generation and existing DNO-owned and operated storage are appropriate.
16. We also agree that, for new islanded networks, market-based solutions should be sought whilst recognising that this might not always provide the most cost-efficient result for customers and a DNO owned and operated asset may sometimes be required.
17. The proposals should also consider the ability for network to island in fault situations to allow continuity of supply to customers. In developing the regulatory framework care must be taken to ensure that the definition of today's form of islanded networks does not impair the flow of new benefits to customers in the future from islanding in the form of microgrids.

Guidance document

Question 1: What are your views on the three high-level criteria proposed as the basis for assessing applications for consent?

Do think there are other criteria which should also be included?

18. We agree with the three core criteria that a DNO must demonstrate to have been met when applying for consent to own and operate a storage facility and see these as being the circumstances in which we would apply for such consent.

Question 2: Do you have any other views on the scope or content of the proposed guidance document?

19. In terms of the structure of implementation, Ofgem is right to use a more readily updatable guidance document to describe the exceptions to the rule. This will have the intended effect of making it more future proof.

Question 3: Do you have any views on the process that should apply to the assessment of applications?

20. We would need to understand the proposed timescales involved in approving any consents. For example, conducting a formal consultation with the opportunity for stakeholders to comment could result in a lengthy approval process. We would need to build this timescale into any programme of works.

Reporting and monitoring

Question 1: Do you have any views on reporting requirements for DNOs that own/operate storage assets?

21. We agree with this in principle but would need to see further details of the proposed reporting requirements before commenting further. We would support proposals to publish data that would assist in developing the competitive market further and would expect this to do so.

Question 2: Are there any particular types of data that, if published, could facilitate entry of competitive parties?

22. Northern Powergrid provides heat maps which are updated monthly and provides a register of available capacity at each substation and where active network management is available. We have made improvements to our industry-leading demand and generation heat maps that give customers a red/amber/green status of available network capacity to help them identify suitable connections sites. We also now update the data on our heat maps and capacity register on a monthly basis to ensure customers have the most accurate and up to date information we can provide.

23. Our heat maps have been complimented by stakeholders for the inclusion of demand head room in addition to distributed generation head room. This functionality is particularly useful for storage developers.

Is there any other information or data that you think DNOs hold about the deployment of storage on their networks that they could usefully make public?

24. Our stakeholder engagement has not identified any specific examples at this time.