GC0096 Workgroup

Consultation responses

23 January 2019

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Welcome

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Consultation Responses Received

Eight consultation responses were received

- Drax Generation Enterprise Limited (Drax)
- Northern Powergrid
- National Grid Electricity System Operator (NGESO)
- ScottishPower Energy Networks (SP)
- Scottish and Southern Energy (SSE)
- EDF Energy (EDF)
- SMA Solar Technology AG (SMA)
- Renewable Energy Systems (RES)

Q1. Do you believe that GC0096 Original proposal or any potential alternative that you may wish to suggest better facilitates the Grid Code Objectives?

- Two responses did not answer the question (Scottish Power and Drax)
- Three responses had answers stating that the Original had both positive and neutral impacts against the Grid Code Objectives (EDF, Northern Powergrid and NGESO)
- SMA responded stating that they do not feel GC0096 better facilitates the Grid Code objectives
- SSE stated the Original will not promote efficient implementation as it is ‘over the top’ in seeking to make large changes to many pages of the Grid Code when the vast majority of changes are not required. GC0096 could be achieved in a simpler, more comprehensive and non-discriminatory manner by simply changing the Glossary and Definitions to bring electricity storage within the remit of generation.

Q2. Do you support the proposed implementation approach?

- Scottish Power did not respond to this question
- Six respondents agreed with the proposed implementation approach (EDF, RES, SMA & Northern Powergrid, NGESO, Drax)
- NGESO stated that: Yes. The addition of a date in bullet (j) of EU Code user, which we note will change from 01/01/19 (possibly as a result of the governance process as noted in Question 17 below), will give certainty to parties connecting new storage apparatus as to when the requirements become binding.
- Drax stated that: Yes in principle but this appears to be adding lots of similar definitions, but this can be dealt with - see answer 5. Also, there is an assumption a storage unit and a generating unit will always be the same plant item
- SSE neither agree or disagree to the approach, however, they note the Workgroup is yet to conclude what the implementation approach should be. The proposer suggests 10 working days which assuming there is no requirement for transition to the new approach, would seem reasonable

Q3. Do you have any other comments?

- SSE did not respond to this question

- Five responses confirm no other comments

- Drax stated that the definition of Intermittent Power Source is being changed to include “(excluding Electricity Storage Modules)”, does this mean that adding a battery to an Intermittent Power Source immediately removes any relaxation on this plant response requirements, although the battery may be of limited size? Also, in the ECC and ECP at various places the phrase “and in the case of an Electricity Storage Module allowance will be made for the storage capability of the Electricity Storage Module” is used, the question is what allowance will be made and does this need to be made more explicit.

- SMA responded that instead of the purchase date of the main components, the date of grid connection application would be a more appropriate, since it’s a well defined single date.

Q4. Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?

- Seven respondents replied that they did not wish to raise a Workgroup Alternative Grid Code Modification.

- Drax did not respond to this question

Q5. Do you agree with the proposed 'Electricity Storage' definitions? Please provide your reasoning for your answer to this question. If you answered no, what would you include / amend / remove?

- Four of the respondents agreed with the proposed definitions and provide no further comments. (SMA, NGESO, EDF, RES).
- Three respondents agree but provide the below views
  - SSE agree with the definition and note it will need to be applied consistently to all storage situations to avoid any discrimination.
  - SP state there is a difference between the workgroup report and legal text. 'in a controllable manner' should be removed from the consultation text on page 9 to avoid any confusion.
  - Northern Powergrid agree in principle, however feel the definitions seem more confusing. They have provided suggested amendments to the legal text
- Drax do not agree with the definitions as it takes two parallel approaches which is leading to multiple definitions covering the same item. On the following slide Drax has made further proposed changes

Q5. Drax extended response

It appears that the work group wish to ensure that storage units continue to meet the appropriate generating requirements whilst they are producing electricity, so it would be simpler just modify the very basic generator definitions which are an Onshore Generating Unit and an Offshore Generating Unit to allow them to be part of a storage unit. Also additional storage requirements need to be defined by an additional set of storage definitions. Given that all generating units produce electricity by converting another energy source into electrical energy this is no different for a storage unit producing electricity so potential definitions for an Onshore Generating Unit and an Offshore Generating Unit are:-

Onshore Generating Unit
Unless otherwise provided in the Grid Code, Apparatus located Onshore which produces ~~electricity~~ electrical energy by converting another source of energy, including an Onshore Synchronous Generating Unit, an Onshore Non-Synchronous Generating Unit which could also be part of a Generating Module or Electricity Storage Module.

Offshore Generating Unit
Unless otherwise provided in the Grid Code, Apparatus located Offshore which produces ~~electricity~~ electrical energy by converting another source of energy, including an Onshore Synchronous Generating Unit, an Onshore Non-Synchronous Generating Unit which could also be part of a Generating Module or Electricity Storage Module.

Definitions for when operating in storage mode are also required, whilst looking at the proposed legal text there appear to be only 3 storage definitions used in the rest of the changes being Electricity Storage Module, Synchronous Electricity Storage Module and Non-Synchronous Electricity Storage Module.

Q6. Do you agree with the decision to not define 'Energy Storage'? Please provide your reasoning for your answer to this question.

- Eight of the respondents agreed with the decision to not define Energy Storage. (Drax, Scottish Power, Northern Powergrid, NGESO, SMA, EDF and RES).

However, SSE stated:

- their understanding that 'Energy Storage' differs from 'Electricity Storage' in that with Energy Storage there is no "subsequent reconversion of that energy back into electrical energy".

- This being the case the Energy Storage would be for the purposes of the Transmission and Distribution networks simply demand as we have not had on the network for many years in the form of, for example Economy 7 storage heaters.

- As such we agree that there is no need to formally define 'Energy Storage' within the Grid Code – its already included via 'Demand' and its associated definitions.

Q7. Do the proposed changes provide suitable flexibility for viable ‘Electricity Storage’ technologies and topologies? Or, do you feel these proposed changes limit the development of ‘Electricity Storage’ in any way or present barriers to entry (please provide supporting justification / evidence)?

- Four respondents responded positively (NGESO, EDF, SMA and Northern Powergrid)
- SP & RES did not respond to this question
- SSE emphasised on the importance of a level playing field, where all parties offerings are treated the same. It would be detrimental to competition if certain Electricity Storage providers were treated in a discriminatory way to other providers.
- Drax response highlights that there is an assumption that the generating unit and the storage unit are the same item operating in reverse, there is a possibility they are different.

Q8. Do you believe new Pump Storage schemes should be incorporated into the proposed approach on 'Electricity Storage'? Please provide your reasoning for your answer to this question.

- Four respondents stated that new Pump Storage should be incorporated (SMA, Scottish Power, NGESO and RES)
- Drax stated that it would appear sensible, however, current pump storage plant designs may not comply with ECC.6.3.7.16.
- Northern Powergrid stated that it is possible but it depends on whether EU requirements for Electricity Storage, being developed are expected to align with the existing requirements for pump storage.
- SSE stated to ensure a level playing field and to avoid discrimination, new Pump Storage schemes should be treated in the same way as other Electricity Storage schemes.
- EDF stated that this shouldn't be required because of the EU Network Codes and the consequent Grid Code requirements already include pumped storage

Q9. Do you believe existing Pump Storage schemes should be incorporated into the proposed approach on 'Electricity Storage'. Please provide your reasoning for your answer to this question.

- Three respondents stated they felt the schemes should not be incorporated (RES, SMA & EDF)
- SP & SSE responses stated they felt the schemes should be incorporated
- NGESO stated that the modification has not been considered retrospectivity, and will only apply to new equipment from a certain date. They therefore feel as it is unlikely to change technical requirements they do not believe it would be appropriate.
- Drax reiterated that existing plants may not be able to comply with ECC.6.3.7.16.
- Northern Powergrid stated that it is unreasonable for an existing Pump Storage scheme to be required to comply with any requirements retrospectively unless it is demonstrated to be reasonable via a CBA.

Q10. Do you believe if the definition of Pumped Storage should be included within the definition of Electricity Storage. Please provide your reasoning for your answer to this question.

- Four respondents stated that the definition should be included within the definition of Electricity Storage. (SMA, RES, SSE & NGESO)
- SP did not respond to this question
- Northern Powergrid refers to their Question 8 response
- Drax stated that it would appear sensible to treat all storage devices similarly. It should be noted that the proposed changes to the pump storage definitions by removing the station name ends up with no real definition and just two circular definitions that refer back to each and do not actually state an independent definition.
- EDF disagreed and referred to their response to Question 9.

Q11. Do you believe there are any unintended consequences behind these proposed changes, either within the Grid Code/D-Code, CUSC, BSC or elsewhere? Please provide your reasoning for your answer to this question.

- Five respondents stated that a Distribution Code modification will be required. (SSE, EDF, SP and Northern Powergrid)
- SMA responded that they do not believe there are any unintended consequence changes
- RES did not respond to this question
- NGESO highlight there should be no need for a CUSC modification, they also note the current BSC modifications P363 and P364, the proposed solution of which (at the time of writing) will enable Electricity Storage as defined here to participate in the BM as standard BMU's

Q12. Do you believe that it is appropriate to apply the same approach to Storage Providers as adopted for Power Generating Modules? Please provide your reasoning for your answer to this question, in particular, if you answered no, please state why and what different approach should be adopted.

- All respondents stated they agreed with applying the same approach to Storage Providers.
- However Northern Powergrid stated that they note that there are some aspects of the ECC where Electricity Storage Modules seem to be treated as an importing HVDC module rather than demand. Clarity in this area would be beneficial.
- Drax stated that the report would be useful in order to understand operability challenges and significant events throughout the year.

Q13. Do you agree that it is appropriate to include Electricity Storage within the definition of Generation and its related terms. Please provide your reasoning for your answer to this question, in particular, if you answered no, please state why and what different approach should be explored.

- All respondents stated agreed to include Electricity Storage within the definition of Generation and its related terms.

- However Drax stated that they partially agreed - if the apparatus performing the storage function is also the same apparatus which is performing the generating function then yes. However, if the apparatus performing the storage function is different from the generation apparatus then these need to be treated differently.

Q14. Do you believe there are any other unintended consequences behind these proposed changes? Please provide your reasoning for your answer to this question.

- Five respondents stated that they see no consequences behind the proposed changes.(RES, SP, EDF, SMA & NGESO)
- Northern Powergrid refer the response to their Question 11 response.
- Drax & SSE did not respond to this question.

Q15. Do you believe that it is appropriate to classify storage as an EU Code User with the premise that Generators who own or operate Electricity Storage Modules are explicitly excluded from satisfying the requirements of the EU Connection Codes and that they would not be enforceable under EU law. Please provide your reasoning for your answer to this question. Do you believe that this exclusion is adequately defined in the proposed draft changes to the Grid Code legal text?

- Four respondents stated that it is appropriate to classify storage as an EU Code User (NGESO, SMA, EDF & RES)
- However, NGESO stated they expect a forth-coming European Network Code on Storage, and that they believe it is right to include storage in the Grid Code ahead of this as it allows transparent connection offers sooner.
- SP stated whilst it is appropriate to classify storage as an EU User, it is important to note that they were excluded from the scope of the EU Connection Codes.
- Northern Powergrid stated that they see it as being reasonable, however they recognise that at the moment Electricity Storage Modules do not need to comply with EU Code requirements. There is an oversight in the EU drafting process, which is being currently reviewed. The drafting of the Grid Code will need to comply with the ECC's and hence the EU Codes.
- Drax state that large sections of the Grid Code are only enforced by contract law and licenses so areas which are not EU law can still be enforced using current arrangements.
- SSE did not respond to this question

Q16. Do you agree that it is appropriate to specify that these requirements are applicable from the date on which main plant items are procured rather than the Completion Date. Please provide your reasoning for your answer to this question, in particular, if you answered no, please state why you feel this is the case and if you believe there is a more appropriate solution.

- Seven respondents stated that it is appropriate to specify that requirements are applicable from the date on which main plant items are procured.

- SSE did not respond to this question

Q17. The current legal drafting is based on the proposed requirements being applicable based on a Storage User who had concluded Purchase Contracts for its Main Plant and Apparatus on or after 1 January 2019. This assumes implementation is based on the date main plant items are procured as noted in question 16, but do you have any preference for an implementation date. Bearing in mind the proposed changes are unlikely to be approved until mid 2019, a more appropriate date may be 1 January 2020. Do you support this implementation date? If not please state why and what alternative you believe would be more appropriate.

- SMA, NGESO and EDF responses agree with this implementation date.
- Drax state if the application is based on purchase date then the implementation date is less of an issue. It should be noted that when NGET raised this modification it indicated that parties applying were being treated as special cases, therefore an argument for implementation as soon as possible is valid.
- Northern Powergrid referred to their response to Question 16 response
- SP believe this could lead to practical differences given that the modification has not concluded nor the solution been finalised. SP stated that a date in January 2020 does seem distant given the length of time the modification has been in progress.
- RES support the 1 January 2020 date, however if the proposed changes are approved at a later time than mid 2019 then the threshold of 1 January 2020 should be postponed until at least 6 calendar months after such approval.
- SSE refer to their response from Question 2

Q18. Do you believe that Electricity Storage Modules which form part of a License Exempt Embedded Medium Power Station (LEEMPS) are adequately catered for in these provisions and it is clear that a License Exempt Embedded Medium Power Station comprising of storage would be caught by the requirements in the Grid Code from the obligations in the Distribution Code.

- Five respondents agreed that LEEMPS are catered for in these provisions. (EDF, RES, NGESO, SMA and SP)

- Drax stated that they are not sure.

- SSE did not respond to this question

- Northern Powergrid states LEEMPS are covered explicitly in section 2.8 of EREC G99 and EREC G99 already also explicitly includes electricity storage as generation. There would be a need to check that proposed Grid Code definitions don't affect this existing linkage.

Q19. Do you believe that the list of storage technologies shown in Annex 3 is sufficient or should some technologies be added or subtracted? Please provide your reasons for your answer to this question.

- Three respondents stated that they do believe the list is sufficient. (Drax, NGESO and SMA)
- RES stated that there are other forms of Electricity Storage which are not listed, the catchall phrase “other” is comprehensive.
- EDF state the relevance of the list is not clear. It is not included within the proposed modification.
- SP states that they believe regenerative braking from trains should be captured as this provides spill energy back into the DNO or TO network.
- SSE state that they believe the list should include all known technologies and highlight a list already provided by the European Energy Storage Association. They also go on to ask if ‘StatCom and Static synchronous series compensator’ should be included?
- Northern Powergrid state that each battery technology should be separated onto different lines. However DNO’s would be unable to comply with the requirement as drafted. Northern Powergrid provided comments separately on the draft legal text.

Legal text comments

- Drax, NGESO, SMA, EDF provided no legal text comments.
- Northern PowerGrid have provided separate draft legal text comments to be reviewed by the Workgroup.
- SSE state that their comments from the consultation consolidate the need to change the Glossary and Definitions in order to avoid duplication of work as well as the TSO discriminating in discharging their duties.

Legal text comments - SP

Glossary & Definitions

EU Code User – why is the 1 January significant for being treated as existing especially as there is not yet clarity for those who connect after this date (this consultation doesn't close until the 11 January 2019.

It looks like they are some proposed housekeeping changes to reorder the definitions into alphabetical order. If this is the case then GSP (which follows Governor deadband and Governor Sensitivity (which are being moved) should also be moved from its current location.

Main Plant and Apparatus – it is noted that there is a note saying ' Not required for Storage' however, the MP&A definition is used when defining Storage User under the EU Code User definition – so what MP&A is being referred to within the EU Code User part (e).

Registered capacity (Part C)

What the justification for adding 'auxiliary' into this definition?

European Connection Conditions

Under ECC.6.3.3.1, first paragraph should be ECC.6.3.3.1.1. (appreciate that this not strictly related to storage but it does appear that there are more than just storage changes being made e.g. ECC.6.3.3.1.1(d) where 'or an Embedded Power Station' has also been added.

Legal text comments - SP

- ECC.6.3.9.1 – is there is an extra space between ‘capability’ and ‘of’ in the text which has been added.
- ECC.6.6.2.2 - paragraph doesn’t align with numbering
- European Compliance Processes
- ECP.A.6.4.6 – Company should be bold text
- Operating Code 11 – are the changes proposed strictly necessary to accommodate Energy Storage?
- BC2.A.3.2 – reference should be to GC.6
- Data Registration Code
- Schedule 16 – add space between Electricity and Storage

Legal text comments - RES

To be reviewed at the next workgroup meeting.

Next steps - timetable

1. Workgroup vote on the solutions presented (Original)

2. Workgroup report – circulated around the Workgroup and comments

3. Grid Code Review Panel – Workgroup Report due March 2019

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