

WELCOME



GC0166: Introducing new Balancing Programme Parameters for Limited Duration Assets

Workgroup 3 – 8 April 2024

Online Meeting via Teams

Agenda

| Topics to be discussed | Lead |
|--|-------------------|
| Introductions | Chair |
| Objectives, Timeline and Terms of Reference | Chair |
| Review Actions Log | All |
| Overview of Legal Text | Steve Baker, ESO |
| Workgroup Feedback on Legal Text | All |
| Update on BSC Changes | Steve Baker, ESO |
| Draft Workgroup Consultation and Questions | Chair |
| Changes to the subsidiary document Data Validation, Consistency and Validation Rules | Bernie Dolan, ESO |
| Any Other Business | Chair |
| Next Steps | Chair |

Expectations of a Workgroup Member

Contribute to the discussion

Be respectful of each other's opinions

Language and Conduct to be consistent with the values of equality and diversity

Do not share commercially sensitive information

Be prepared - Review Papers and Reports ahead of meetings

Complete actions in a timely manner

Keep to agreed scope

Email communications to/cc'ing the .box email

Your Roles

Help refine/develop the solution(s)

Bring forward alternatives as early as possible

Vote on whether or not to proceed with requests for Alternatives

Vote on whether the solution(s) better facilitate the Code Objectives

Workgroup Membership

| Name | Role | Company |
|---------------------|--------------------------|---------------------------|
| Milly Lewis | Chair | ESO Code Administrator |
| Andrew Hemus | Technical Secretary | ESO Code Administrator |
| Luke McCartney | Authority Representative | Ofgem |
| Steve Baker | Proposer | National Grid ESO |
| Giorgio Balestrieri | Workgroup Member | Tesla |
| Kamila Nugumanova | Workgroup Member | Drax Group |
| Lauren Jauss | Workgroup Member | RWE Supply & Trading GmbH |
| Jamie Clark | Workgroup Member | Conrad Energy |
| Richard Devenport | Workgroup Member | Shell |
| Isaac Gutierrez | Workgroup Member | ScottishPower Renewables |
| Stephen Knight | Workgroup Member | SSE |
| Tom Palmer | Workgroup Member | Zenobe |
| Shantanu Jha | Workgroup Member | Zenobe |
| Simon Lord | Workgroup Member | Engie |

| Name | Role | Company |
|--------------------|------------------|--|
| Eli Treuherz | Workgroup Member | Arenko Group |
| Hooman Andami | Workgroup Member | Elmya Energy |
| Oluwabukola Daniel | Workgroup Member | EDF Renewables |
| Davide Miriello | Workgroup Member | Enel X |
| Jasper Vermandere | Workgroup Member | YUSO |
| Peter Errington | Workgroup Member | Flexitricity Ltd |
| Graz Macdonald | Workgroup Member | Waters Wye & Associates / Saltend |
| Robert Longden | Workgroup Member | Cornwall Insight/Eneco Energy Trade BV |
| Damian Jackman | Workgroup Member | Field Energy |
| Chris McLeod | Workgroup Member | Habitat Energy |
| Maria Popova | Workgroup Member | Centrica |



Objectives, Timeline and Terms of Reference

Milly Lewis – ESO Code Administrator

Timeline for GC0166 – Proposed Timeline - *Workgroup*

| Milestone | Date | Milestone | Date |
|--|---|---|---------------------------------|
| Modification presented to Panel | 14 December 2023 | Code Administrator Consultation (1 Month) | 02 July 2024 to 02 August 2024 |
| Workgroup Nominations (15 Working Days) | 18 December 2023 to 18 January 2024 | Draft Final Modification Report (DFMR) issued to Panel (5 working days) | 14 August 2024 |
| Workgroup 1 Workgroup 2 Workgroup 3 To discuss the proposal, analysis required and begin refining the solution. | 01 February 2024 7 March 2024 08 April 2024 | Panel undertake DFMR recommendation vote | 22 August 2024 |
| Workgroup Consultation (15 working days) | 12 April 2024 to 03 May 2024 | Final Modification Report issued to Panel to check votes recorded correctly | 23 August 2024 – 30 August 2024 |
| Workgroup 4 Workgroup 5 To review the Workgroup Consultation responses and to finalise the solution | 15 May 2024 10 June 2024 | Final Modification Report issued to Ofgem | 02 September 2024 |
| Workgroup report issued to Panel (5 working days) | 19 June 2024 | Ofgem decision | 04 November 2024 |
| Panel sign off that Workgroup Report has met its Terms of Reference | 27 June 2024 | Implementation Date | 19 November 2024 |

Workgroup Terms of Reference

a) Implementation and costs;

b) Review draft legal text should it have been provided. If legal text is not submitted within the Grid Code Modification Proposal the Workgroup should be instructed to assist in the developing of the legal text;

c) Consider whether any further Industry experts or stakeholders should be invited to participate within the Workgroup to ensure that all potentially affected stakeholders have the opportunity to be represented in the Workgroup. Demonstrate what has been done to cover this clearly in the report; and

d) Consider EBR implications

e) Liaise with other industry groups regarding related information that Network Operators may require

Actions

| Action number | Workgroup Raised | Owner | Action | Comment | Due by | Status |
|---------------|------------------|-------|---|--|--------|-----------------------------------|
| 3 | WG2 | BD | To present the next level of detail of the 4 solutions incorporating feedback from WG members at during WG1 and WG2. | Draft legal text to be presented | WG3 | Proposed to Close |
| 4 | WG2 | SB | Expectation and scope of GC0166 in relation to newly built or yet to be built Pump Storage not covered by the existing Pump Storage Grid Code defined term and any potential unfair treatment this may cause, | Pumped Storage isn't currently Electricity Storage; The exclusion is in the definition of Pump Storage Unit which states: "A Generating Unit within a Pumped Storage Plant . For the avoidance of doubt, a Pumped Storage Unit is not considered to form part of an Electricity Storage Unit unless specifically declared by the Generator ." We shall be considering revising the definition of Electricity Storage to make this clearer of when assets are deemed to be storage/ short duration. | WG3 | Proposed to Close |
| 5 | WG2 | SB | If there is a parallel or subsequent BSC mode, it would be useful to cross check the definitions in the BSC and the Grid Code and references to various storage technologies. | BSC definitions refer to GC definitions for storage technologies, e.g.: "National Demand" and "Pumped Storage Plant" both state: "has the meaning given to that term in the Grid Code;" "Non Pumped Storage Hydro Plant" only appears in the BSC Several storage related Definitions exist only in the GC or the BSC; See below comparison | WG3 | Proposed to Close |
| 6 | WG2 | JW | Enquire with Ofgem to have an Authority representative to attend further meetings. | Luke McCartney has been added to future Workgroup Meetings | WG3 | Proposed to Close |



Overview of Legal Text

Steve Baker – ESO

Legal Text Draft Changes

| GRID CODE SECTION | CODE REQUIREMENTS | DETAILS | COMMENTS- |
|------------------------|--|---|---|
| Glossary & Definitions | New definition: Future State of Charge (FSoC) | The volume of energy (MWh) under which an Electricity Storage Module is depleted to zero. | |
| Glossary & Definitions | New definition: Maximum Delivery Offer (MDO) | A Bid Offer Acceptance (BOA) issued by The Company to a Generator in which the energy available from an Electricity Storage Module can satisfy the declared ramp rates and the declared Maximum Export Limit (MEL) , such that the energy under the BOA matches the declared value from where the BOA starts. | Hinges on the definition of "Generator" - A person who generates electricity or undertakes Electricity Storage under licence or exemption under the Act, acting in its capacity as a generator in Great Britain or Offshore. The term Generator includes a EU Generator and a GB Generator. |
| Glossary & Definitions | New definition: Maximum Delivery Bid (MDB) | A Bid Offer Acceptance (BOA) issued by The Company to a Generator in which the energy available from an Electricity Storage Module can satisfy the declared ramp rates and the declared Maximum Import Limit (MIL) , such that the energy under the BOA matches the declared value from where the BOA starts. | as above |
| Glossary & Definitions | Data Validation, Consistency and Defaulting Rules | The rules relating to validity and consistency of data, and default data to be applied, in relation to data submitted under the Balancing Codes, to be applied by The Company under the Grid Code as set out in the document “Data Validation, Consistency and Defaulting Rules” - Issue 8, dated 25th January 2012 . The document is available on the National Grid website or upon request from The Company. | Version needs updating! Housekeeping Issue 9 also includes details of EDT* & EDL* which of course never happened. Ben Carter has recently produced a new draft for version 10 which has these bits stripped out. This is due for review. Decision needed whether v10 will be issued soon or later with the storage parameters added. SCR initials on the 2016 version... |

Legal Text Draft Changes

| GRID CODE SECTION | CODE REQUIREMENTS | DETAILS | COMMENTS- |
|-------------------|--|---|--|
| Balancing Code 1 | APPENDIX 1 - BM UNIT DATA BC1.A.1.5 Dynamic Parameters Delete Maximum Delivery Volume (MDV), | • Maximum Delivery Volume (MDV), expressed in MWh, being the maximum number of MWh of Offer (or Bid if MDV is negative) that a particular BM Unit may deliver within the associated Maximum Delivery Period (MDP), expressed in minutes, being the maximum period over which the MDV applies. | No longer relevant |
| Balancing Code 1 | APPENDIX 1 - BM UNIT DATA BC1.A.1.5 Dynamic Parameters Insert new Parameters for Short Duration assets | <ul style="list-style-type: none"> • Maximum Delivery Offer (MDO), as defined in the Glossary and Definitions. • Maximum Delivery Bid (MDB), as defined in the Glossary and Definitions. | as defined in the Glossary and Definitions |
| Balancing Code 1 | APPENDIX 1 - BM UNIT DATA Add BC1.A.11 section on Battery SoC Modelling | <p>BC1.A.11 Electricity Storage Module Future State of Charge (FSoc) Modelling.</p> <p>BC1.A.11.1 Generators in respect of Electricity Storage Modules must provide relevant data to allow for modelling of Future State of Charge and the limits of operation of an Electricity Storage Module must obey.</p> <p>BC1.A.11.2 As a minimum Generators in respect of Electricity Storage Modules must provide Import and Export efficiency and Electricity Storage Module State of Charge limits resulting from commercial contracts and other technical limitations. Whenever Future State of Charge limits change, Generators in respect of Electricity Storage Modules must supply future limits for the ensuing 24 hours.</p> | <p>Q- does this better belong in Planning Code?</p> <p>Need a phrase/ definition for Battery definition- check what we have/ whats needed</p> <p>Additional text needed for Means of communication needs to be inserted..... (portal) BC1.A.11.3</p> |
| Balancing Code 2 | Throughout BC2 2.7, 2.8, 2.9 BOA sections, - do we need to provide update on Import and export limits? | N/A | New definitions of MDO/MDB as DP's covers this |



Update on BSC Changes

Steve Baker – ESO



Feedback on Legal Text

Workgroup

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Any Other Business

Milly Lewis – ESO Code Administrator



Next Steps

Milly Lewis – ESO Code Administrator