

## Workgroup Terms of Reference and Membership

### TERMS OF REFERENCE FOR GC0096 WORKGROUP

*This proposal seeks to modify the Grid Code to define the appropriate technical requirements for Storage technologies connecting to the Transmission system and associated changes to the Grid Code requirements for making a connection.*

#### Responsibilities

1. The Workgroup is responsible for assisting the Grid Code Review Panel in the evaluation of Grid Code Modification Proposal **GC0096 – Energy Storage**, submitted by Patrick Cassels (Robert Wilson Alternate Proposer) at the Grid Code Review Panel meeting on 18 May 2016.
2. The proposal must be evaluated to consider whether it better facilitates achievement of the Grid Code Objectives. These can be summarised as follows:
  - (i) *To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;*
  - (ii) *To facilitate competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity);*
  - (iii) *Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national; and*
  - (iv) *To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency. In conducting its business, the Workgroup will at all times endeavour to operate in a manner that is consistent with the Code Administration Code of Practice principles.*

#### Scope

3. The Workgroup must consider the issues raised by the Modification Proposal and consider if the proposal identified better facilitates achievement of the Grid Code Objectives.
4. In addition to the overriding requirement of point 3 above, the Workgroup **shall** consider and report on the following specific issues:
  - a) Workgroup meeting one: “Definitions” We will determine which Storage categories shall be the focus of the workgroup; either “Energy Storage” or “Electricity Storage”, or both. Once agreed, we will form a high-level working definition (noting the link to the BEIS/Ofgem call for evidence) to set the context for delivering the next workgroup deliverables. We will also consider how this definition links with existing Transmission Generation or Demand users looking to co-locate with Storage.

- b) Workgroup meeting two-to-three – “Technical and Planning Requirements” We will form the minimum Grid Code technical requirements applicable to Storage equipment defined above - either via a stand-alone connection or co-located with an existing user, ensuring consistency and transparency with other classes of Transmission System user.
- c) Workgroup meeting four – “Structure” consideration of how (or if), the outcomes from the previous workgroup meetings need to be structured in the Grid Code via legal text changes.
- d) Workgroup meeting five – “Next steps” this will be an open attendance meeting allowing a full review of the outputs from the previous workgroups to confirm what will be written up in reports/consultations to progress any Grid Code mod proposals. It will also check the outcomes of GC0096 against the BEIS/Ofgem call for evidence published outcomes (if available) This meeting will also set out what additional arrangements (see ‘Out of Scope’ below) may need to be considered in other GB frameworks to support Storage, and recommend items for escalation if not currently being considered.

The scope of the Workgroup **shall not** include:

- a) Charging arrangements for Storage; network charging is defined in other GB codes
  - b) Commercial services for Storage; whilst the Grid Code sets certain technical requirements to deliver response services, the delivery of services is discharged via contractual agreements. This includes procedures to facilitate Aggregation and virtual Power Plants
  - c) Connection requirements for Distribution Code; however, we will coordinate with the DCRP and our DNO colleagues to ensure that GC0096 proposals are compatible
- 5. As per Grid Code GR20.8 (a) and (b) the Workgroup should seek clarification and guidance from the Grid Code Review Panel when appropriate and required.
  - 6. The Workgroup is responsible for the formulation and evaluation of any Workgroup Alternative Grid Code Modifications arising from Group discussions which would, as compared with the Modification Proposal or the current version of the Grid Code, better facilitate achieving the Grid Code Objectives in relation to the issue or defect identified.
  - 7. The Workgroup should become conversant with the definition of Workgroup Alternative Grid Code Modification (WACM) which appears in the Governance Rules of the Grid Code. The definition entitles the Group and/or an individual member of the Workgroup to put forward a Workgroup Alternative Code Modification proposal if the member(s) genuinely believes the alternative proposal compared with the Modification Proposal or the current version of the Grid Code better facilitates the Grid Code objectives The extent of the support for the Modification Proposal or any Workgroup Alternative Modification (WACM) proposal WACM arising from the Workgroup’s discussions should be clearly described in the final Workgroup Report to the Grid Code Review Panel.
  - 8. Workgroup members should be mindful of efficiency and propose the fewest number of WACM proposals as possible. All new alternative proposals need to be proposed using the Alternative request Proposal form ensuring a reliable source of information for the Workgroup, Panel, Industry participants and the Authority.
  - 9. All WACM proposals should include the Proposer(s)'s details within the final Workgroup report, for the avoidance of doubt this includes WACM proposals which are proposed by the entire Workgroup or subset of members.
  - 10. There is an option for the Workgroup to undertake a period of Consultation in accordance with Grid Code GR. 20.11, if defined within the timetable agreed by the Grid Code Panel.

Should the Workgroup determine that they see the benefit in a Workgroup Consultation being issued they can recommend this to the Grid Code Review Panel to consider.

11. Following the Consultation period the Workgroup is required to consider all responses including any Workgroup Consultation Alternative Requests. In undertaking an assessment of any Workgroup Consultation Alternative Request, the Workgroup should consider whether it better facilitates the Grid Code Objectives than the current version of the Grid Code.
12. As appropriate, the Workgroup will be required to undertake any further analysis and update the appropriate sections of the original Modification Proposal and/or WACM proposals (Workgroup members cannot amend the original text submitted by the Proposer of the modification) All responses including any Workgroup Consultation Alternative Requests shall be included within the final report including a summary of the Workgroup's deliberations and conclusions. The report should make it clear where and why the Workgroup chairman has exercised their right under the Grid Code to progress a Workgroup Consultation Alternative Request or a WACM proposal against the majority views of Workgroup members. It should also be explicitly stated where, under these circumstances, the Workgroup chairman is employed by the same organisation who submitted the Workgroup Consultation Alternative Request.
13. The Workgroup is to submit its final report to the Modifications Panel Secretary on 09 October 2018 for circulation to Panel Members. The final report conclusions will be presented to the Grid Code Review Panel meeting on 17 October 2018.

## Membership

It is recommended that the Workgroup has the following members:

Role	Name	Representing (User nominated)
Chair	Emma Hart	Code Administrator
Technical Secretary	Matthew Bent	Code Administrator
National Grid Representative/Proposer	Antony Johnson	National Grid Electricity System Operator
Industry Representative	Ahmed Shafiu	Siemens
Industry Representative	Ander Madariaga	Offshore Renewable Energy Catapult
Industry Representative	Chinglai Hor	Fitchner Consulting Engineers
Industry Representative	Chris Smith	Innogy
Industry Representative	David Lyon	Frontier Power
Industry Representative	David Spillett	ENA
Industry Representative	Eric Lewis	Enstore
Industry Representative	Garth Graham	SSE
Industry Representative	Harry Vickers	Camborne Energy Storage
Industry Representative	Herve Biellmann	GE
Industry Representative	Hui Heng	SSE
Industry Representative	Lisa Waters	Waterswey
Industry Representative	Marc Smeed	Xero Energy
Industry Representative	Matthew White	UK Power Networks
Industry Representative	Mick Barlow	S & C
Industry Representative	Paul Graham	UK Power Reserve
Industry Representative	Razvan Pabat	SP Energy Network
Industry Representative	Rui Rui	Scottish Power
Authority Representative	Shilen Shah	Ofgem
Industry Representative	Sridhar Sahukari	DONG
Industry Representative	Tim Ellingham	RWE

14. A (\*) Workgroup must comprise at least 5 members (who may be Panel Members). The roles identified with an asterisk(\*) in the table above contribute toward the required quorum, determined in accordance with paragraph 15 below.
15. The Grid Code Review Panel must agree a number that will be quorum for each Workgroup meeting. The agreed figure for GC0096 is that at least 5 Workgroup members must participate in a meeting for quorum to be met.
16. A vote is to take place by all eligible Workgroup members on the Modification Proposal and each WACM proposal and Workgroup Consultation Alternative Request based on their assessment of the Proposal(s) against the Grid Code objectives when compared against the current Grid Code baseline.
  - Do you support the Original or any of the alternative Proposals?
  - Which of the Proposals best facilitates the Grid Code Objectives?

The Workgroup chairman shall not have a vote, casting or otherwise.

The results from the vote and the reasons for such voting shall be recorded in the Workgroup report in as much detail as practicable.

17. It is expected that Workgroup members would only abstain from voting under limited circumstances, for example where a member feels that a proposal has been insufficiently developed. Where a member has such concerns, they should raise these with the Workgroup chairman at the earliest possible opportunity and certainly before the Workgroup vote takes place. Where abstention occurs, the reason should be recorded in the Workgroup report.
18. Workgroup members or their appointed alternate are required to attend a minimum of 50% of the Workgroup meetings to be eligible to participate in the Workgroup vote.
19. The Technical Secretary shall keep an Attendance Record for the Workgroup meetings and circulate the Attendance Record with the Action Notes after each meeting. This will be attached to the final Workgroup report.
20. The Workgroup membership can be amended from time to time by the Grid Code Review Panel and the Chairman of the Workgroup.