GC0098:

Using GB Grid Code data to construct the EU Common Grid Model in accordance with Regulation (EU) 2015/1222 (CACM), Regulation (EU) 2016/1719 (FCA) and Regulation (EU) 2017/1485 (SOGL).

What stage is this document at?

01	Modification Proposal
02	Code Administrator Consultation
03	Draft Grid Code Modification Self-Governance Report
04	Grid Code Modification Self-Governance Report
05	**Second Code Administrator Consultation**
06	Draft Grid Code Modification Self-Governance Report
07	Grid Code Modification Self-Governance Report

Purpose of Modification: This modification seeks to give all parties visibility as to which data collected through the Grid Code is to be used to construct the GB Individual Grid Model in accordance with Regulation (EU) 2015/1222 (CACM), Regulation (EU) 2016/1719 (FCA) and Regulation (EU) 2017/1485 (SOGL). A common grid model representing the European interconnected system is to be established so that TSOs can calculate cross-zonal capacity in a coordinated way.

Published on: **4 May 2018**

Length of Consultation: **10 Working days**

Responses by: **21 May 2018**

High Impact: *None*

Medium Impact: None

Low Impact:
Transmission system owners and operators as it is linked to their compliance with the EU network guidelines.
Generators, Independent Distribution Network Operators, Distribution Network Operators, Generation, Interconnectors as data collected from these parties through the GB Grid Code will be used to construct a GB grid model and shared with other EU Transmission System Operators (TSOs).

Contents

1 Summary 4

2 Modification Proposal 4

3 Governance 5

4 Why Change? 6

5 Code Specific Matters 7

6 Original Solution 9

7 Revised Solution (Post-appeal) 9

8 Impacts and Other Considerations 10

9 Relevant Objectives 10

10 Implementation 11

11 Responses 11

12 Legal Text (original) 11

Annex 1 Code Admin Consultation responses from Sept 2017 14

Annex 2 Grid Code Panel Determination vote (Sept 2017) 14

Annex 3 Grid Code Code Administrator Consultation Response Proforma (re-issue) 16

Annex 4 Self-Governance Statement 16

Annex 5 Legal Text (revised/post appeal) 16

Annex 6 Legal Text (clean version) 16

Annex 7 Industry Feedback and NGET Responses 18

Any Questions?

Contact:
Christine Brown
Code Administrator

Christine.Brown1@nationalgrid.com

01926 65 3328

Proposer:
Robert Selbie
National Grid

Timetable

Below is the post appeal timetable approved by the Grid Code Panel:

Revised Proposal Report presented to Panel	24 April 2018
Code Administrator Consultation Report issued to the Industry (10 Working Days)	4 May 2018
Code Administrator Consultation closes	21 May 2018

Draft Grid Code Self-Governance Report presented to Panel	28 June 2018
Panel Determination Vote	28 June 2018
Final Grid Code Self-Governance Report published	6 July 2018
Appeal window opens (15 Working days)	6 July 2018/27 July 2018
Implementation (10 Working Days after closure of appeal window)	10 August 2018

About this document

The purpose of this document is to re-consult on the revised GC0098 proposal with Grid Code and all other interested parties. Responses received to this Consultation document will be included in the revised Code Administrator Grid Code Modification Report that will be submitted to the Grid Code Review Panel and subsequently, to the Authority.

Parties are requested to respond by **5pm 21 May 2018** to grid.code@nationalgrid.com using the Code Administrator Consultation Response Pro-forma which can be accessed here.

All documents published in relation to GC0098 can be accessed here.

Document Control

Version	Date	Author	Change Reference
1.0	21 August 2017	Code Administrator	Code Administrator Consultation to Industry
1.1	13 September 2017	Code Administrator	Draft Grid Code Self-Governance Report
1.2	3 October 2017	Code Administrator	Grid Code Self-Governance Report
1.3	4 May 2018	Code Administrator	2nd Code Administrator Consultation to Industry

Acronyms Table

Acronym	Definition
CGMES	Common Grid Model Exchange Specification
TSO	Transmission System Operator

1 Summary

1.1 GC0098 was originally proposed by National Grid Electricity Transmission (NGET) and submitted to the Grid Code Modifications Panel for their consideration on 30 May 2017. The Panel recommended that the Proposer of this modification amended the legal text provided. The Proposer completed this work and the modification was resubmitted to the Grid Code Panel for discussion on the 19 July 2017. The Panel decided that this Modification should be classed as Self-Governance and should proceed directly to Code Administrator Consultation for 15 Working-Days.

1.2 The first Code Administrator Consultation closed on the 12 September 2017. One response was received (see Annex 1).

Grid Code Panel Determination

1.3 On conclusion of the Code Administrator Consultation and on 20 September 2018, a draft Grid Code Self-Governance Report for GC0098 was presented to the Grid Code Review Panel. The Panel assessed the proposed solution against the Grid Code objectives, determining by majority that it does. During the subsequent appeal window which closed on 20 October 2017, a notice of appeal was submitted by one interested party which suspended proposed implementation.

Post Panel Appeal

1.4 On 19 October 2017, Ofgem received notice of an appeal by Senvion UK ('Senvion') in accordance with clause GR.24.13 of the Grid Code. This appeal was made in respect of the decision of Grid Code Review Panel published on 3 October 2017 to approve Grid Code modification GC0098.

1.5 On 12 February 2018 the Authority decided to quash the Self-Governance decision of the Grid Code Review Panel and to refer GC0098 back to the GCRP for further review, and a further GCRP Self-Governance decision. The Ofgem appeal decision letter can accessed here.

1.6 On 22 February 2018, the GCRP agreed for modification to be issued for a second Code Administrator Consultation once revisions to the legal text had been made in response to industry feedback and to address the concerns raised in the appeal.

1.8 The revised Self-Governance Report was submitted to the April GCRP who approved for the Consultation to be issued.

The legal text has been revised to address the concerns raised in the appeal.

2 Modification Proposal

What

2.1 Existing data collected through the Grid Code will be used to construct a GB Individual Grid Model and shared with other EU TSOs. Without this

modification it is unclear which data is being used to build the Individual Grid Model. CACM, FCA and SOGL specify confidentiality obligations on TSOs regarding *"information received, exchanged or transmitted pursuant to this Regulation"* in Articles 13, 7 and 12 respectively.

Why

2.2 The requirement for TSOs to construct and send an Individual Grid Model is set out in CACM, FCA and SOGL. Without this modification, TSOs will still be obliged to share Individual Grid Models; however GB parties would have little visibility on which data was used to construct these models.

How

2.3 The proposed solution is to include a general statement on why the data is to be shared referencing the EU regulations, and then to include an annex where the relevant sections of the Grid Code are listed.

2.4 The proposed modification was raised 12 April 2017 was presented by the Proposer to the Panel on 30 May 2017.

The panel requested;
- the legal text was amended to give greater clarity on the type of data items, rather than just the paragraph references.
- clarification on whether the modification included the SOGL Common Grid Model requirements, this has now been included.
- confirmation that merging the Common Grid Model is a SO (rather than TO) responsibility.

2.5 The amended modification was presented to panel 19 July 2017. The Proposer of GC0098 amended the legal text as suggested by the Grid Code Panel. In addition, following the July Panel meeting some more wording was added to ensure there is clarity of the modification.

3 Governance

3.1 The Proposer of GC0098 put forward that this modification should be considered for ***Self-Governance*** procedures as the modification is unlikely to have a material effect on any party, but rather gives greater visibility to interested parties on the data used within EU processes. The criteria can be found outlined below:

Self-Governance - *The modification is unlikely to discriminate between different classes of Grid Code Parties and is unlikely to have a material effect on:*

i) Existing or future electricity customers;

ii) Competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution or supply of electricity,

iii) The operation of the National Electricity Transmission System

iv) Matters relating to sustainable development, safety or security of supply, or the management of market or network emergencies

v) The Grid Code's governance procedures or the Grid Code's modification procedures

3.2 At The Grid Code Panel on the 19 July 2017 the Panel decided that the modification will be treated as Self-Governance. The Code Administrator furnished a Self-Governance Statement to the Authority.

3.3 The Panel determination took place on 20 September 2017 the details of this vote can be found in Section 11.

4 Why Change?

4.1 This Proposal is one of a number of Proposals which seek to implement relevant provisions of a number of new EU Network Codes/Guidelines which have been introduced in order to enable progress towards a competitive and efficient internal market in electricity. Some EU Network Guidelines are still in development and these may in due course require a review of solutions developed for Codes that come into force beforehand. The full set of EU network guidelines are;

- Regulation 2015/1222 – Capacity Allocation and Congestion Management (CACM) which entered into force 14 August 2015
- Regulation 2016/1719 – Forward Capacity Allocation (FCA) which entered into force 17 October 2016
- Regulation 2016/631 - Requirements for Generators (RfG) which entered into force 17 May 2016
- Regulation 2016/1388 - Demand Connection Code (DCC) which entered into force 7 September 2016
- Regulation 2016/1447 - High Voltage Direct Current (HVDC) which entered into force 28 September 2016
- Transmission System Operation Guideline (SOGL) - entry into force anticipated Summer 2017
- Emergency and Restoration (E&R) Guideline - entry into force anticipated Autumn 2017
- Electricity Balancing Guideline (EBGL) - entry into force anticipated Autumn 2017

4.2 This modification relates to the CACM, FCA and SOGL guidelines which together aim to; promote effective competition in the generation, trading and supply of electricity, promote effective long-term cross-zonal trade with long-term cross-zonal hedging opportunities for market participants, and determining common operational security requirements and principles.

4.3 The guidelines require National Grid Electricity Transmission plc (NGET) to contribute data towards a pan-EU Common Grid Model (CGM) which will underpin the new European processes. NGET has carried out a mapping exercise with GB industry parties and is confident that we already collect the required data through the GB Grid Code. The legal right for NGET to share the data with EU TSOs arises from the CACM guideline; however several stakeholders have requested a Grid Code Modification be raised so that it is transparent to all parties which data will be shared.

4.4 With reference to the Ofgem decision[1] on the assignment of Transmission System Operator obligations under the Capacity Allocation and Congestion Management Regulation within GB, NGET understands the obligation to merge inputs to form the Common Grid Model (CGM) is an SO obligation. Extract from Annex 2 of the Ofgem decision; "We consider this Sub Paragraph [CACM Article 28.5] applicable to SOs only as it will be the SO's individual grid models (which they are responsible for the operation of) which are merged to form the common grid model."

4.5 For the avoidance of doubt, the scope of GC0098 is limited to describe the sharing of data between the SO and other EU TSOs. GC0098 does not actually describe the *gathering* of that data from generators. It is noted that other Grid Code modifications (GC0100-GC0103) are currently being developed which may change the data which is currently collected.

5 Code Specific Matters

Technical Skillsets

5.1 The Proposer considers that the technical skillset required to assess this modification includes; an understanding of data currently collected by NGET under the Grid Code and an understanding of the common grid processes proposed under CACM, FCA and SOGL.

Reference Documents

Ofgem Decisions on the Generation and Load Data Provision Methodology and Common Grid Model Methodology:
https://www.ofgem.gov.uk/publications-and-updates/decisions-generation-and-load-data-provision-methodology-and-common-grid-model-methodology

COMMISSION REGULATION (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management:
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.197.01.0024.01.ENG&toc=OJ:L:2015:197:TOC

Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation Generation and Load Data Provision Methodology (GLPDM) code mapping:
http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589938097

[1] Decision for our consultations on the assignment of Transmission System Operator obligations under the Capacity Allocation and Congestion Management Regulation within GB
https://www.ofgem.gov.uk/publications-and-updates/decision-our-consultations-assignment-transmission-system-operator-obligations-under-capacity-allocation-and-congestion-management-regulation-within-gb

The draft Regulation establishing a guideline on system operation received a positive vote in comitology on 4 May 2016
http://ec.europa.eu/energy/en/topics/wholesale-market/electricity-network-codes

6 Original Solution

6.1 Inclusion of a reference within the Planning Code section of the Grid Code that data collected by NGET through the Grid Code, as specified in a separate Appendix to Planning Code shall be used to build an individual grid model, so that NGET can fulfil its obligations under CACM, FCA and SOGL.

7 Revised Solution (Post-appeal)

7.1 This modification was raised at the request of a number of stakeholders for greater transparency on the information that will be used to construct the GB individual grid model. It is not required to enable NGET to collect and share information to fulfil the EU obligations. One of the key concerns raised in the appeal was that all of the information listed in the appendix of the previous legal text would be directly shared with other EU TSOs, including detailed dynamic control models. For the avoidance of doubt, all of the information listed in the appendix will be used to create a model of the GB transmission system. This model will be constructed using the common grid model exchange specification (CGMES) as the data exchange format. It will be this model of the GB transmission system that will be shared with other EU TSOs, rather than explicitly sharing the data collected. This aspect has been clarified in the updated legal text.

7.2 There is no obligation on NGET to collect the information in a particular format, therefore to minimise disruption to all parties NGET will utilise the existing information collection processes established under the Grid Code. NGET is required to share the information using a CGMES, as agreed with all other EU TSOs and NGET will be translating the information it already receives into this more anonymised format. NGET will then provide the GB individual grid model to other EU TSOs to meet the minimum requirement as specified in the EU regulations and associated methodologies. Following the review of the requirements referred to above, NGET believes that sufficiently detailed information is already collected under existing GB provisions to enable NGET to construct the GB individual grid model.

7.3 NGET, alongside other EU TSOs, will employ a simplified form of customers' data which, while not fully anonymised, does go some way towards being so. Given that that all individual grid models need to be constructed in the same way it is not possible to fully anonymise the data. The common grid model methodology requires that individual grid models sufficiently describe the behaviour of connected generators. Aggregation is specifically excluded in this circumstance. Please note that the information used to construct the model will not be directly shared in the form that NGET collects it. It is only the GB individual grid model itself that will be shared.

8 Impacts and Other Considerations

7.1 No impacts to other codes or processes, modification purely provides greater visibility of processes set out under EU regulations.

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

No

Consumer Impacts

None

9 Relevant Objectives

Impact of the modification on the Relevant Objectives:	
Relevant Objective	**Identified impact**
To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity	**None**
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)	**None**
Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole	**None**
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; and	**Positive**
To promote efficiency in the implementation and administration of the Grid Code arrangements	**Neutral**

10 Implementation

9.1 This revised modification will continue as a Self-Governance modification. It will be implemented ten working days following the closure of the 15 day appeal window that opens on 6 July 2018. This modification will therefore be implemented on 10 August 2018 pending any successful appeals being received.

9.2 System changes are not required to implement GC0098.

11 Responses

11.1 If you wish to respond to this Code Administrator Consultation, please use the corresponding Response Pro-forma which can be accessed online here.

11.2 Responses are invited to the following questions;

Q1: Do you believe that GC0098 better facilitates the Grid Code Objectives? Please include your reasoning

Q2: Do you support the proposed implementation approach?

Q3: Do you have any other comments?

11.3 Views are invited upon the proposal outlined within this report. Please submit your formal response to grid.code@nationalgrid.com by **5pm** on **21 May 2018.**

11.4 If you wish to submit a confidential response, please note that information provided in response to this consultation will be published on National Grid's website unless the response is clearly marked "Private & Confidential". The Code Administrator will contact you to establish the extent of the confidentiality. A response marked "Private & Confidential" will be disclosed to the Authority in full, but unless agreed otherwise will not be shared with the Grid Code Review Panel or industry and may therefore not influence the debate to the same extent as a non-confidential response. Please note an automatic confidentiality disclaimer generated by your IT System will not in itself mean that your response is treated as if it had been marked "Private and Confidential.

12 Legal Text (original)

PC2 .1(f)

(f) to provide for the supply of information required by NGET from Users in respect of the pan-EU Common Grid Model (CGM) and to enable NGET to carry out its duties under Regulation (EU) 2015/1222, Regulation (EU) 2016/1719 and Regulation (EU) 2017/1485 [SOGL]. Details of the information which may be transferred is given in Appendix G.

…

APPENDIX G
All data items collected under the following sections of the Grid Code may be used by NGET to fulfil the obligations under Regulation (EU) 2015/1222, Regulation (EU) 2016/1719 and Regulation (EU) 2017/1485 [SOGL];

Physical Notifications, Export and Import Limits, Bid-Offer Data, Dynamic Parameters,
BC1.4.2
BC1.A.1.1
BC2.5.1

Grid Voltage Variations, Plant Performance Requirements, Control Arrangements, System Ancillary Services, Commercial Ancillary Services
CC.6.1.4
CC.6.3.2
CC.6.3.7
CC.8

Generation Planning Parameters, Generator Performance Chart, Final Generation Outage Programme, Genset inflexibility, Outages Adjustments, EU Transparency Availability Data, Test And Monitoring
OC2
OC2.4.1.2.1
OC2.4.1.2.2
OC2.4.1.3.2
OC2.4.1.3.3
OC2.4.2.1
OC2.4.7
OC5
OC6.6

Standard Planning Data, Detailed Planning Data, Power Park Unit model, Single Line Diagram, Lumped System Susceptance, Reactive Compensation Equipment, Power Factor of the Power Park Module, production type, Busbar Arrangements, Registered Capacity, Output Usable, Minimum Generation, Rated Parameters Data, General Generating Unit Power Park Module and DC Converter Data, primary source of power, demand and active energy data, User's User System Demand (Active Power) and Active Energy Data, Connection Point Demand (Active and Reactive Power), Post Fault User System Layout, General Demand Data, Synchronous Generating Unit Parameters, Non-Synchronous Generating Unit and Associated Control System Data, Transient Overvoltage Assessment Data, User's Protection Data, Harmonic Studies, Voltage Assessment Studies, Short Circuit Analysis
PC.4.3.1
PC.A.5.4.2
PC.A.2.2
PC.A.2.2.2
PC.A.2.2.4

PC.A.2.2.5
PC.A.2.2.6
PC.A.2.3
PC.A.2.4
PC.A.2.5.6
PC.A.3.1.4
PC.A.3.1.5
PC.A.3.2.2
PC.A.3.3.1
PC.A.3.4.1
PC.A.3.4.3
PC.A.4.1
PC.A.4.1.4.2
PC.A.4.2
PC.A.4.3
PC.A.4.3.1
PC.A.4.3.2
PC.A.4.3.3
PC.A.4.3.5
PC.A.4.5
PC.A.4.7
PC.A.5.2
PC.A.5.2.1
PC.A.5.3.2
PC.A.5.4.2
PC.A.5.4.3.1
PC.A.5.4.3.2
PC.A.5.4.3.3
PC.A.6.2
PC.A.6.3
PC.A.6.4
PC.A.6.5
PC.A.6.6

Text Commentary

A reference in the Planning Conditions of the Grid Code and a list in a separate annex of all sections in the Grid Code where the relevant data is collected through.

Annex 1 Code Admin Consultation responses from Sept 2017

The original GC0098 Code Administrator Consultation closed on 12 September 2017 and received one response.

Respondent	Do you agree that the GC0098 Proposal better facilitates the Grid Code objectives	Do you agree with the Proposed Implementation?	Do you have any other comments?
Scottish Power Generation Ltd	Yes, as the transfer of this data will be a legal requirement	Yes	I assume the correction to reference for System Operation Guide Line (SOGL) will be carried out once the regulation number is known as an administrative modification and not need to repeat this consultation process.

Annex 2 Grid Code Panel Determination vote (Sept 2017)

Grid Code Panel Determination vote

Following the original Code Administrator Consultation, the GCRP met on Wednesday 20 September to assess GC0098 against the Grid Code Objectives. The Panel agreed by majority that it better facilitates the objectives and therefore should be implemented. Details of the Panel member's votes are as follows;

Panel Member	(i)	(ii)	(iii)	(iv)	(v)	Overall
Graeme Vincent	Neutral	Neutral	Neutral	Yes	Neutral	Yes
Alastair Frew	Neutral	Neutral	Neutral	Yes	Neutral	Yes
Alan Creighton	Neutral	Neutral	Neutral	Yes	Neutral	Yes
Fergus Healy on behalf of Kyla Berry	Neutral	Neutral	Neutral	Yes	Neutral	Yes
Damian Jackman	Neutral	Neutral	Yes	Yes	Neutral	Yes
Kate Dooley	Neutral	Neutral	Yes	Yes	Neutral	Yes
Robert	Neutral	Neutral	Neutral	Yes	Neutral	Yes

Longden						
Guy Nicholson	Neutral	Neutral	No	Neutral	No	No
Steve Cox	Yes	Yes	Yes	Yes	Yes	Yes

11.2 The Panel were also asked to provide a statement with their vote which can be found below:

Graeme Vincent

I believe that the proposal facilitates the implementation of the CACM and SOGL code requirements and will allow TSOs to demonstrate compliance with the codes.

Alastair Frew

This modification allows NGET to comply with European Regulations and does not affect any other users.

Alan Creighton

The proposal increases the transparency relating data used to comply with EU regulations.

Fergus Healy (Kyla Berry alternate)

CACM, FCA and SOGL guidelines require NGET to contribute data towards a pan EU Common Grid Model that will underpin a number of new European processes. NGET already collects the data required via the GB Grid Code and whilst the CACM guideline gives NGET the right to share this data with other European TSOs we have raised this modification to ensure transparency of the data that will be shared. This better facilitate relevant objective (iv) as it will help NGET to efficiently discharge our obligation to comply with the Electricity Regulation and any legally binding decisions of the EU Commission.

Damian Jackman

I support this modification.

Guy Nicholson

I voted against this modification because I received last minute stakeholder feedback on this consultation concerned that detailed and commercially sensitive IP data that is necessary for a connection design and assessment would be made available on a European level when a) this granular data is far too detailed to be used in a macro European model and b) it exposes confidential IP to unnecessary increased risk of leaking to competitors, and industrial espionage.

Robert Longden

I support this modification

Annex 3 Grid Code Code Administrator Consultation Response Proforma (re-issue)

Annex 4 Self-Governance Statement

The original Self-Governance Statement submitted to the Authority in July 2017 can be accessed here.

Annex 5 Legal Text (revised/post appeal)

See attached document for revised legal changes with track changes.

Annex 6 Legal Text (clean version)

NGET New proposal;

PC2 .1(f)

(f) to enable **NGET** to use the information provided to it by **Users**, as specified in Appendix G, to fulfil its obligations pursuant to Regulation (EU) 2015/1222, Regulation (EU) 2016/1719 and Regulation (EU) 2017/1485, in preparing the Common Grid Model (CGM) envisaged under those Regulations. The information specified in Appendix G will only be exchanged or transmitted by **NGET** to the extent necessary for the purpose of the performance of functions under these Regulations. In using the information provided by **Users** as specified in Appendix G for the purposes of fulfilling its obligations under such Regulations, **NGET** will develop the CGM in accordance with its obligations of confidentiality to **Users**. Information transferred by **NGET** may take the form of simplified, standardised structures as specified within the most recently approved version of the Common Grid Model Exchange Specification (CGMES). This includes control system information to be transferred in the form of standardised dynamic model structures.
…

APPENDIX G
All data items collected under the following sections of the Grid Code may be used by **NGET** to fulfil the obligations under Regulation (EU) 2015/1222, Regulation (EU) 2016/1719 and Regulation (EU) 2017/1485;

Physical Notifications, Export and Import Limits, Dynamic Parameters,
BC1.4.2 (a), (b) and (c)
BC1.A.1.1

Grid Voltage Variations, Plant Performance Requirements, Control Arrangements, System Ancillary Services, Commercial Ancillary Services
CC.6.1.4
CC.6.3.2

CC.6.3.7
CC.8

Generation Planning Parameters, Generator Performance Chart, Final Generation Outage Programme, Genset inflexibility, Outages Adjustments, EU Transparency Availability Data, Test And Monitoring
OC2.4.1.2.1
OC2.4.1.2.2
OC2.4.1.3.2
OC2.4.1.3.3
OC2.4.2.1
OC2.4.7
OC5
OC6.6

Standard Planning Data, Detailed Planning Data, Power Park Unit model, Single Line Diagram, Lumped System Susceptance, Reactive Compensation Equipment, Power Factor of the Power Park Module, production type, Busbar Arrangements, Registered Capacity, Output Usable, Minimum Generation, Rated Parameters Data, General Generating Unit Power Park Module and DC Converter Data, primary source of power, demand and active energy data, User's User System Demand (Active Power) and Active Energy Data, Connection Point Demand (Active and Reactive Power), Post Fault User System Layout, General Demand Data, Synchronous Generating Unit Parameters, Non-Synchronous Generating Unit and Associated Control System Data, Transient Overvoltage Assessment Data, User's Protection Data, Harmonic Studies, Voltage Assessment Studies, Short Circuit Analysis
PC.4.3.1
PC.A.5.4.2
PC.A.2.2.1
PC.A.2.2.2
PC.A.2.2.4
PC.A.2.2.5
PC.A.2.2.6
PC.A.2.3
PC.A.2.4.1 a), b), d) and e)
PC.A.2.4.2
PC.A.2.5.6
PC.A.3.1.4
PC.A.3.1.5
PC.A.3.2.2 a)
PC.A.3.3.1
PC.A.3.4.1
PC.A.3.4.3
PC.A.4.1
PC.A.4.1.4.2
PC.A.4.2
PC.A.4.3.5
PC.A.5.4.2 a), d), e), g) and h),
PC.A.5.4.3.1
PC.A.5.4.3.2
PC.A.5.4.3.3 i) and ii)

PC.A.6.2
PC.A.6.3.1 d) and e)
PC.A.6.4
PC.A.6.5
PC.A.6.6

…

Annex 7 Industry Feedback and NGET Responses

In April 2018, the Proposer presented the revised modification to the Grid Code Development Forum. NGET provided the following responses to industry:

1) Can NGET provide a tracked changes version of the legal text?
Response: (attached – this compares the new legal text with the previous version that went to panel in September last year).

2) Why is the sentence "Information transferred by NGET may take the form of simplified, standardised structures as specified within the most recently approved version of the Common Grid Model Exchange Specification (CGMES). This includes control system information to be transferred in the form of standardised dynamic model structures" in a separate appendix, rather than simply within the PC2.1(f)?

Response: The proposer has made this change to the updated legal text attached.

3) How is the CGMES is governed? And would references to the CACM, FCA and SOGL CGM methodologies be more appropriate instead?

Response: The Common Grid Model Exchange Specification (CGMES) 2.4.15. has now been adopted by the International Electrotechnical Commission as IEC CGMES Technical Specifications (IEC TS 61970-600-1:2017 & IEC TS 61970-600-2:20). More information can be found here; https://www.entsoe.eu/major-projects/common-information-model-cim/cim-for-grid-models-exchange/standards/Pages/default.aspx

To ensure that the International Electrotechnical Commission's (IEC) CIM standards are developed in line with TSO requirements, ENTSO-E established liaisons with IEC TC 57/WG13 (the working group dealing with CIM for transmission) and IEC TC57/WG16 (the working group responsible for CIM for energy markets). In addition, ENTSO-E is actively cooperating with the CIM User's Group and UCAI User's Group to exchange information within the CIM community.

The CIM standards are continuously evolving to meet the changing requirements for data exchange, which are increasing in both frequency and type, with higher RES integration and the introduction of smart grids. Specific ENTSO-E CIM specifications have been defined to ensure the suitability of the CIM for ENTSO-E and to reflect the complexity of TSO data exchanges.

I view the references to CGMES as more appropriate than references to the CACM, FCA and SOGL methodologies for two reasons;

1) Whilst the CACM, FCA and SOGL methodologies set the requirements for the *content* of the Common Grid Model (CGM), they do not directly specify the *data exchange formats*. This is detailed in the CGMES.
2) The legal text already makes references to the CACM, FCA and SOGL EU regulations. This reference covers associated the methodologies which, when approved, are essentially extensions of the EU Regulations.