nationalgrid

Stage 02: Workgroup Consultation

Grid Code

What stage is this document at?

01	Modification Proposal
02	Workgroup Consultation
03	Workgroup Report
04	Industry consultation
05	Report to the Authority

GC0106: Data exchange requirements in accordance with Regulation (EU) 2017/1485 (SOGL)

Purpose of Modification: This modification seeks to change the frequency of structural data submissions from Distribution Network Operators (DNOs) from annually to six monthly and to include information on embedded small power stations of registered capacity of less than 1MW in their Week 24 data submission. This change arises from one of a number of workstreams to facilitate changes arising from the EU Regulation System Operation Guideline (SOGL).

This document details the discussions of the Joint Grid Code and Distribution Code Workgroup which formed in November 2017 to develop and assess the proposal. Any interested party is able to make a response in line with the guidance set out in Section 10 of this document.

Published on: **6 April 2018**

Length of Consultation: **15 working days**

Responses by: **27 April 2018**

High Impact: *Independent Distribution Network Operators, Distribution Network Operators, Interconnectors and Transmission owners (incl OFTOs) and GB National Electricity Transmission System Operator (NETSO) are all potentially affected*

Medium Impact: *Distribution connected Generators, Demand response and reserve providers and Interconnectors are potentially affected*

Low Impact: *Transmission connected Generators and demand Customers*

Contents

Timetable

The following timetable has been approved by the Grid Code Review Panel[1]:	
Proposal to Grid Code Review Panel	Oct 2017
Proposal to Distribution Code Panel	Oct 2017
Workgroup Meeting 1	Nov 2017
Workgroup Meeting 2	Dec 2017
Workgroup Code Mapping Meeting	Jan 2018

[1] https://www.nationalgrid.com/sites/default/files/documents/GC0106%20timeline_0.pdf

Any Questions?

Contact:

Naomi Davies

Code Administrator

naomi.davies@nationalgrid.com

01926 653328

Proposer:

Susan Mwape

National Grid

Workgroup Consultation (start/end)	6 April /27 April 2018
Workgroup Report to Grid Code Review Panel	20 Jun 2018
Code Administration Consultation	Jun 2018
Draft Final Modification Report to Grid Code Review Panel	Jul 2018
Grid Code Review Panel Recommendation Vote	Jul 2018
Publish/Submit Final Modification Report to the Authority	Jul 2018
Decision implemented in Grid Code	Sep 2018
Date of SOGL implementation	*EIF+18m (14/03/2019)*

About this document

This document is a Workgroup Consultation which seeks the views of Grid Code Users, Distribution Code Users and other interested parties in relation to the issues raised by the Original GC0106 Grid Code Modification Proposal which was raised by National Grid Electricity Transmission and developed by the Workgroup.

Parties are requested to respond by 5pm on **27 April 2018** to grid.code@nationalgrid.com using the Workgroup Consultation Response Proforma which can be found on the following link:

https://www.nationalgrid.com/uk/electricity/codes/grid-code/modifications/data-exchange-requirements-accordance-regulation-eu-0

Acronyms used in this document

SOGL (TSOG)	System Operation Guideline (Transmission System Operation Guideline)
EIF	Entry Into Force
SGU	Significant Grid User
PGM	Power Generating Module
KORRR	Key Organisational Requirements, Roles and Responsibilities
DSO (DNO)	Distribution System Operator (Distribution Network Owner)
IGM	Independent Grid Model
DRSC	Demand Response Services Code (refer to GC0104)
CACM	Capacity Allocation Congestion management
STC	System Owner Transmission Owner Code

Document Control

Version	Date	Author	Change Reference
1	23 February 2018	Code Administrator	Draft Workgroup Consultation to Workgroup
2	21 March 2018	Workgroup	Draft Workgroup Consultation to Workgroup
3	5 April 2018	Workgroup	Draft Workgroup Consultation to Workgroup
4	6 April 2018	Workgroup	Workgroup Consultation to Industry

1 Summary

The GC0106 proposal only covers data exchange Articles 40 -53 of SOGL. Other workgroups may be formed to deal with compliance of all other articles. The report aims to document how Workgroup discussions have evolved around the defined scope to develop the Proposer's solution including any alternative options, and all supporting justification. The workgroup process, consultation and subsequent submission of this proposal to the Regulator are the means by which the TSO is coordinating and agreeing with parties according to Article 40.5 and 40.7 of SOGL.

GC0106 was proposed by National Grid and the DNOs and submitted to the Grid Code Review Panel on 18 October 2017[2]. It was presented to the Distribution Code Review Panel on 26 October 2017[3].

The Grid Code Review Panel decided to form a Workgroup to develop and assess the Proposal against the Grid Code Applicable Objectives (see Section 7). The Distribution Code Panel agreed to support GC0106 as a Joint Workgroup and to assess the proposal against the Distribution Code Objectives.

Section 2 (Original Proposal[4]) and Section 6 (Proposer's Solution) are sourced directly from the Proposer and any statements/assertions have not been altered/substantiated/supported/refuted by the Workgroup. Section 9 of the Workgroup Consultation details the Workgroup discussions based on the Proposal, the potential solution and any potential alternatives. A table summarising the effects of the proposed changes on users is given on the next page.

The Terms of Reference (ToR) as agreed by the Grid Code Review Panel and the Distribution Code Panel defines the scope of work to be progressed by the Workgroup in addition to specific areas to be considered. The ToR can be found in Annex 1.

[2] https://www.nationalgrid.com/uk/electricity/codes/grid-code/meetings/grid-code-panel-meeting-18102017

[3] http://www.dcode.org.uk/assets/uploads/DCRP_17_05_01_Agenda_26-10-17_draftv1_ds_1.pdf

[4] https://www.nationalgrid.com/sites/default/files/documents/PP4.%20GC0106%20Data%20exchnage%20requirement.pdf

This modification has the following implications for GB users. The changes from the status quo are marked in red

		Existing Installations		New Installations	
		Distribution Connected	**Transmission Connected**	**Distribution Connected**	**Transmission Connected**
Generation	Type A[5]*	None – all data requirements remain as is currently	None – all data requirements remain as is currently	Domestic scale generation (ie <16A per phase) will have to provide more granular information about the power source, just once on installation	None – all data requirements remain as is currently
	Type B	None – all data requirements remain as is currently	None – all data requirements remain as is currently	None – all data requirements remain as is currently	None – all data requirements remain as is currently
	Type C forming a Small Power Station[6] (E&W)	None – all data requirements remain as is currently – D Code applies	None – all data requirements remain as is currently	None – all data requirements remain as is currently – D Code applies	None – all data requirements remain as is currently
	Type C forming a Large Power Station (Scotland)	None – all data requirements remain as is currently – D and G codes apply	None – all data requirements remain as is currently	None – all data requirements remain as is currently – D and G codes apply	None – all data requirements remain as is currently
	Type D forming a Small Power Station	None – all data requirements remain as is currently – D Code applies	None – all data requirements remain as is currently	None – all data requirements remain as is currently – D Code applies	None – all data requirements remain as is currently
	Type D forming a Medium Power Station	None – all data requirements remain as is currently – D and G codes apply	None – all data requirements remain as is currently	None – all data requirements remain as is currently – D and G codes apply	None – all data requirements remain as is currently
	Type D forming a Large Power Station	None – all data requirements remain as is currently – D and G codes apply	None – all data requirements remain as is currently	None – all data requirements remain as is currently – D and G codes apply	None – all data requirements remain as is currently
Demand	Any Demand facility	None – all data requirements remain as is currently	None – all data requirements remain as is currently	None – all data requirements remain as is currently	None – all data requirements remain as is currently

[5] * Note – New Type A power generating modules of capacity less than 16A per phase are not directly included in the scope of the SOGL. However the SOGL does put an obligation on DNOs to report on the primary energy sources employed by Type A generation of less than 16A per phase, which means that new power generating modules in this size range will need to pass on this information to their DNO in accordance with the revised prescribed list of primary energy sources.

[6] Note that any combination of power generating modules on a single site (ie forming a power station) that breach the existing thresholds for Large (100MW in E&W, 30MW in SP and 10MW in SHETL), or Medium (50MW in E&W) will need to apply the Grid Code.

		Existing Installations		New Installations	
		Distribution Connected	**Transmission Connected**	**Distribution Connected**	**Transmission Connected**
	HVDC system	None – all data requirements remain as is currently	None – all data requirements remain as is currently	None – all data requirements remain as is currently	None – all data requirements remain as is currently
	DNOs and CDSOs	None – all data requirements remain as is currently	Structural data needs to be refreshed to NG twice per year rather than once	None – all data requirements remain as is currently	Structural data needs to be refreshed to NG twice per year rather than once

2 Original Proposal

Section 2 (Original Proposal) is sourced directly from the Proposer and any statements or assertions have not been altered or substantiated/supported or refuted by the Workgroup. Section 9 of the Workgroup Consultation contains the discussion by the Workgroup on the Proposal and the potential Solution.

What

Data exchange provisions that already exist in the Grid Code were reviewed to ensure that they are in line with the data exchange requirements listed in EU regulation 2017/1485 also known as SOGL (System Operation Guideline). The proposed changes that are necessary for compliance of the SOGL include submission of an updated Schedule 5 in week 50 and submission of aggregated sub 1 MW embedded generation by DNOs in week 24.

This Regulation requires the creation of a pan-European proposal on the Key Organisational Requirements, Roles and Responsibilities (KORRR) for data exchange across Europe to be developed by all TSOs. This document may subsequently require some additional changes and/or new requirements to be added to the GB Grid Code. The pan-European proposal has been developed and submitted to Ofgem for final approval by September 2018. The Workgroup considered the changes and implications in parallel. Code mapping of the KORRR with GB stakeholders on the requirements of SOGL and how these map to the existing GB frameworks formed part of the Workgroup discussions and helped to develop the solution. The solution is based on the version of KORRR submitted to the Authority in March 2018.

Why

Guidance from BEIS and Ofgem was to apply the new EU requirements within the existing GB regulatory frameworks and to use the existing governance processes. This would provide accessibility and familiarity to GB parties, as well as putting in place a robust governance route to apply the new requirements in a transparent and proportionate way.

The SOGL entered into force (EIF) on 14 September 2017 and as such all countries of the European Union are required to comply with it. Within this regulation there is a section concerned with data exchange requirements (Articles

40-53) which is the scope of this modification proposal. These articles have a specific timeline for implementation, namely 18 months after the SOGL EIF i.e. by 14 March 2019. This is the timescale for implementation of this modification.

How

In line with Ofgem advice, this modification will make only those changes necessary to the relevant industry documents to ensure compliance with the European codes and guidelines. In the case of GC0106, only the necessary changes to existing data exchange provisions in the Grid and Distribution Codes will be made to ensure GB is compliant with the requirements detailed in SOGL and the KORRR.

When

The Data Exchange section of SOGL has a specific timeline meaning that it applies 18 months after entry into force of the SOGL, so by 14 March 2019. The all-TSO KORRR proposal was submitted to all the NRAs on 14 March 2018, 6 months after entry into force of SOGL. The 6 month approval period by the collective NRAs will end in September 2018. Given this interdependency, the modification proposal will run in parallel with the development of the KORRR so that as and when this is available it will allow for the maximum implementation time.

The aim is to submit the GC0106 Report to the Authority during the same period that KORRR is with Ofgem for approval. In this way Ofgem will have the benefit of either approving or rejecting the GC0106 proposals and KORRR at the same time.

3 Governance

This modification will be subject to Authority decision as it has been agreed by the Panel that it will have a material impact on several different classes of parties. It should also be considered in parallel with the pan-European data exchange agreement (KORRR) by the Authority as this is a major dependency.

Note that some preliminary work was already done under the previous GC0095 SOGL issue group as part of an overall SOGL assessment and mapping. Further details can be found at:

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Gridcode/Modifications/GC0095/

4 Why Change?

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. The EU Network Guidelines have been published resulting in a review of solutions for existing Codes. 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
- **Regulation 2017/1485 - Transmission System Operation Guideline (SOGL) - which entered into force 14 September 2017**
- Regulation 2017/2196 - Emergency and Restoration (E&R) Guideline which entered into force 18 December 2017
- Regulation 2017/2195 Electricity Balancing Guideline (EBGL) which entered into force 18 December 2017

This modification is required as part of the implementation of SOGL which, as a whole, aims to determine common minimum operational security requirements and principles which will ensure security of supply whilst enabling cross border exchanges and the single energy market.

Specifically, in SOGL, the data exchange requirements under the heading of Title 2, which includes Articles 40 – 53, sets out a common framework for data exchange between parties in order to ensure operational security during planning timescales and close to real time. Additionally Article 40, paragraph 6, requires an all-TSO pan-European proposal on Key Organisational Requirements, Roles and Responsibilities (KORRR) relating to data exchange to be developed. This

proposal sets out how these data exchanges will be organised and determined particularly in relation to different parties' roles and responsibilities.

SOGL Articles 40-53 form the scope of work this modification seeks to address. Whilst there are links to other sections of SOGL that are important to understand they will be out of scope. Other Modifications[7] (if required) will be raised in due course to address other sections of SOGL that may entail changes to the GB codes.

[7] For example, a new CUSC Modification, CMP291, has been raised to address the Bilateral Agreement changes, in the CUSC, arising from both SOGL and the three connection Network Codes.

5 Code Specific Matters

Reference Documents

COMMISSION REGULATION (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation:

https://publications.europa.eu/en/publication-detail/-/publication/d09a428c-8957-11e7-b5c6-01aa75ed71a1/language-en/format-PDFA1A (Specifically Articles 40-53)

Pan-European proposal on Key Organisational Requirements, Roles and Responsibilities (KORRR) in accordance with article 40, paragraph 6 of SOGL

https://electricity.network-codes.eu/network_codes/sys-ops/methodologies/

6 Solution

Section 6 (Original Solution) is sourced directly from the Proposer and any statements or assertions have not been altered or substantiated/supported or refuted by the Workgroup. Section 9 of the Workgroup Consultation contains the discussion by the Workgroup on the Proposal and the potential Solution.

This modification aims to ensure the Grid and Distribution Codes reflect the technical requirements set out in SOGL Articles 40-53 (data exchange) and KORRR for GB compliance with EU legislation. This will be achieved by retaining the existing Grid Code and Distribution Code text, unless there is a conflict with the SOGL requirements, or the SOGL requirements require new additions which are not reflected in the current GB Grid Code and Distribution Code.

For the purposes of this proposal the following principles have been adopted:

i) Retain the same structure and format as the current GB Grid and Distribution Codes
ii) Retain the current requirements of the GB Grid and Distribution Codes unless there is good reason not to do so – for example there is either a conflict between the EU Codes and the GB Codes or the EU Code requires additions to the GB Codes.
iii) Ensure that the revised GB Codes are easy to understand and use by those parties affected by them.
iv) Ensure consistency between the Grid and Distribution Codes and associated industry documents.

GC0095 and the subsequent work under GC0106 identified specific changes necessary to the Grid and Distribution Codes. They are highlighted as follows:

- Amend the submission process of offline or 'structural' network data from an annual process to a 6 monthly cycle (SOGL Article 43, paragraph 4)
- Include the total aggregated generating capacity for all Embedded Power Stations less than 1MW split per primary energy source (SOGL Article 43, paragraph 5).
- Update EREC G83 and EREC G98 to include capturing all the necessary prime movers/energy sources that the DNOs need to report
- Update the Distribution Code with a paragraph giving Users the right to request data from the DNO.
- No other changes are proposed at this time, ie. in every other respect the status quo in GB is compatible with the flexible requirements of the SOGL and any future changes will need to be progressed through normal GB governance arrangements.

Data exchange requirements in SOGL are necessary to perform security analysis and help ensure operational security in the electricity system. This regulation therefore achieves a certain level of harmonisation between ENTSO-e (TSO-TSO) members and also allows flexibility for vertical exchange of data (TSO-DSO and TSO-SGU) at national level. Title 2 of SOGL achieves harmonisation as it addresses the required exchange of information without defining all details. Establishing a specific level of detail in European regulation was considered to be

too inflexible because it would have needed a long lead time to adapt if new developments or requirements are proposed.

Article 40.5 SOGL allows for TSO discretion on the application of some of the Articles. This proposal therefore has a focus on making changes only in relation to the mandatory Articles with no TSO discretion. The following section outlines the proposed GB position for each Article, and the solution for ensuring compliance with EU legislation. SOGL and KORRR data requirements are more onerous than existing GB practices and National Grid currently has sufficient data to operate the systems efficiently, so in order to meet SOGL compliance it is sufficient to maintain the status quo. Going beyond the status quo will lead to high financial investment with little benefit to the TSO. Where flexibility is adopted in this proposal, future Grid Code and Distribution Code modifications may be raised according to system needs.

The issue of harmonization and discrimination between different SGUs connected to different networks and subject to subtly different requirements was discussed at length as part of the GC0102 modification proposals. In Great Britain the biggest source of different requirements stems from the retention of Large, Medium and Small, and the differences in the boundaries between these classifications in the three transmission owner areas. The current arrangements reflect historic GB legal and policy decisions. National Grid's conclusion from those discussions is that no change to these GB arrangements are necessary for compliance with the introduction of the EU Network Codes. Whilst further harmonization between the three transmission areas is possible and desirable this can be taken forward as future modifications under normal GB governance arrangements. The EU Network Codes provide that the technical requirements are defined by the relevant system operator. In GB, the Grid and Distribution Codes are aligned so that the minimum data is sought from embedded parties such that DNOs provide appropriate data to National Grid alongside that sought from directly connected parties.

6.1 SOGL Mapping

Article 40 - Organisation, roles, responsibilities and quality of data exchange
There are no identified changes for GB implementation in this Article as it is mainly context setting and interpreting other articles in the 41-53 range. Compliance is met therefore through existing GB frameworks and governance. The applicability and scope of data exchange is based on existing Grid Code obligations. The impact of KORRR has been considered by the Workgroup.

Article 41 - Structural and forecast data exchange
This Article outlines the requirements for neighbouring TSOs to exchange structural information related to their observability areas. National Grid has the capability to exchange structural data with other TSOs through Operational Planning Data Environment implemented by the System Operator as per Article 114 SOGL and CACM.

Based on the consultation methodology for coordinating operational security analysis no changes are proposed to the observability areas for GB in accordance

with Article 75. The methodology developed for public consultation in March 18 is due to be submitted to the Regulator in September 2018. The joint proposal recommendation is based on the existing observability areas used for Week 24 data submissions and therefore a Grid Code change is not required for this article. NGET as GB SO does not share it's observability with other Transmission SOs hence no structural data exchange is necessary. Exchange with GB TOs is currently done through the Electricity Ten Year Statements (ETYS).

Article 42 - Real-time data exchange between TSOs

Data exchanges within GB will continue to be carried out through existing STC data exchange obligations which are compliant with SOGL requirements. There is no GB requirement for this as the Article refers mainly to exchanges with neighbouring TSOs. GB code changes are therefore not required for this article.

Article 43 - Structural data exchange between TSOs and DSOs

Grid Code changes are required to ensure compliance with Article 43 paragraphs 4 and 5. The proposals are as follows:

- Changes to the submission process of offline or 'structural' network data from an annual process to a 6 monthly cycle. This will only impact DRC Schedule 5 of the Week 24 submissions in respect to SOGL Article 43, paragraph 4. As this is a Grid Code obligation on DNOs, there is no need to modify the Distribution Code.
- Changes to include a requirement to report on the total aggregated generating capacity for all embedded power stations less than 1MW split per primary energy source. This is in respect to SOGL Article 43, paragraph 5. The fuel type list derived from the Manual of Procedures for the ENTSO-E Central Information Transparency Platform will be used. DNOs currently collect data from generators connected after 2015 connected under the EREC G59 requirements, and will need to use their judgement to determine the fuel type for generators that were connected prior to 2015 or connected under EREC G83 requirements. This is acceptable given that the SOGL requirement is for DNOs to produce their best estimate of the generating capacity disaggregated by fuel type. However the existing submission of data from modules connected under EREC G83 is not sufficiently detailed and so a change needs to be made to EREC G83 and EREC G98 to collect the right primary energy source data.

The legal text will be amended in the Planning Code section of the Grid Code (Annex 4 – Planning Data Requirements) and Annex 5 for Distribution Code changes.

Article 44 – Real time data exchange between TSOs and DSOs

This is one of the flexible Articles as real time data exchange between TSO and DSOs is not a mandatory requirement in the Grid Code. Changes to the Grid Code may be raised in future based on changes to system operational requirements. For compliance of SOGL, National Grid will not request an amendment to the Grid Code as it currently has sufficient data to effectively manage the system. Flexibility not to request data beyond existing requirements is provided for in Article 40.5. Therefore a Grid Code change is not required at this time.

Data exchange between TSOs, owners of interconnectors or other lines and power generating modules connected to the transmission system

Article 45 - Structural data exchange

This defines the requirements for each Significant Grid User (SGU) which is a power generating facility owner of either a Type D, Type C or Type B power generating module connected to the transmission system to provide the TSO with structural data. These requirements are currently covered in the Connection Conditions, Operating Codes and Planning Code sections of the Grid Code and in the Balancing Settlement Code.

The data exchange for reserve services, Frequency Containment Reserves, Frequency Restoration Reserves and Replacement Reserves will continue through contract agreements as per the existing requirements which are currently sufficient for NGET to operate the system. The technical requirements of GB services will be defined in accordance with the requirements set out in Articles 154, 158 and 161. GB service mapping will be completed and published on the National Grid Balancing Services website by September 2018.

The requirements for AC interconnector owners are not applicable in GB. In summary, a Grid Code change is not required for this article.

Article 46 – Scheduled data exchange

This defines the requirements for each SGU which is a power generating facility owner of either a Type D, Type C or Type B power generating module connected to the transmission system to provide the TSO with scheduled data, depending on their type. These requirements are currently covered in Physical Notification (PN) submissions as part of BC1 Pre Gate Closure Process and Operating Codes sections of the Grid Code; therefore a Grid Code change is not required for this article.

Article 47 - Real-time data exchange

This defines the requirements for each SGU which is a power generating facility owner of either a Type D, Type C or Type B power generating module connected to the transmission system to provide the TSO with real-time data, depending on their type. Article 47 is flexible so the existing code frameworks and agreements will be maintained as sufficient data is currently exchanged until future modifications driven by system changes are raised in accordance with the Grid Code Governance. A Grid Code change is therefore not required for this article.

Data exchange between TSOs, DSOs and Distribution-connected power generating modules:

Article 48 - Structural data exchange

This is a flexible article as per SOGL Article 40.5, and requirements of this article are sufficiently covered by existing data exchange arrangements. Future modifications can be raised under normal governance arrangements based on

changes to system operational requirements; a Grid Code change is not required at this time.

Article 49 - Scheduled data exchange

This is a flexible article as per SOGL Article 40.5, and the requirements of this article are sufficiently covered by existing Distribution Code data exchange arrangements. Future modifications can be raised under normal governance arrangements based on changes to system operational requirements; a Grid Code change is not required at this time.

Article 50 – Real-time data exchange

This is a flexible article as per SOGL Article 40.5, and the requirements of this article are sufficiently covered by existing Distribution Code data exchange requirements. Future modifications can be raised under normal governance arrangements based on changes to system operational requirements; Grid Code and Distribution Code changes are not required at this time.

Article 51 - Data exchange between TSOs and DSOs concerning significant power generating modules

This is a flexible article as per SOGL Article 40.5, and the requirements of this article are sufficiently covered by existing Grid Code and Distribution Code data exchange requirements. Future modifications can be raised under normal governance arrangements based on changes to system operational requirements; Grid Code and Distribution Codes changes are not required at this time.

Article 52 - Data exchange between TSOs and transmission-connected demand facilities

This is a flexible article as per SOGL Article 40.5, and the requirements of this article are sufficiently covered by existing Grid Code data exchange. Future modifications can be raised based on changes to system operational requirements; a Grid Code change is not required at this time.

Article 53 – Data exchange between TSOs and distribution-connected demand facilities or third parties participating in demand response

Article 53 is a flexible article as per SOGL Article 40.5, therefore, no changes are proposed as compliance is met through the existing Transmission License C16 process and the standard contract agreements. Grid Code or Distribution Code changes are not required at this time. The prequalification process of existing services is listed for each service on the National Grid external website[8].

6.2 KORRR Mapping

The intention of the KORRR is not to define the detailed information to be exchanged between TSOs and significant stakeholders but to establish the responsibilities at national level around who shall define and approve the detailed information to be exchanged. The methodology recommends TSOs retain the

[8] https://www.nationalgrid.com/uk/electricity/balancing-services

flexibility in the implementation within its own control area. This is reflected in the KORRR based on open wording in order to allow flexibility for different practices in different countries regarding vertical data exchange between TSOs and DSOs and also between TSOs and SGUs.

Whereas

There are no identified changes for GB implementation in this section as it is mainly context setting and interpreting other articles in the KORRR. Paragraph 5 reinforces the national flexibility in implementing SOGL Articles 44, 47 - 53 subject to approval by the Regulator.

Article 1 - Subject matter and scope

There are no identified changes for GB implementation in this Article as it concerns the subject and scope of KORRR. Requirements set out in paragraph 5 on transparency, efficiency and in respect of the assigned responsibilities are covered through existing GB governance. SGUs that provide services to the TSO shall comply with existing rules set out for each of the services offered in GB as listed on the National Grid Balancing Services website. Data will be exchanged through the contract agreements as it is currently done. A Grid Code change is not required at this time.

Article 2 - Definitions

There are no identified changes to definitions for GB implementation. The definition of 'modification' shall be as defined in the EU network codes while the term 'significant' will be defined at national level. 'Significant modification' in a network element for GB shall be equivalent to the definition of substantial modification as proposed in the EU connection codes. A Grid Code change is not required at this time.

Article 3 - General Responsibilities

Existing quality for data exchange is as detailed in the Data Registration Code[9]. The required quality may be implicit in some cases and any party can raise concerns if the quality of data exchange does not meet the required state. For example once the TSO receives week 24 data, internal checks are carried out and if quality criteria set out on the schedules is not followed then a DNO may be requested to re-submit the data.

The default position in GB concerning data from SGUs is that data is provided to the System Operator with whom there is the connection agreement except for large embedded generators who provide it directly to the TSO. No GB changes are proposed to this established practice at this time.

Responsibility for operational metering, system monitoring and communication will be as required in the existing Connection Conditions of the Grid Code.

Article 4 - Confidentiality

[9] https://www.nationalgrid.com/sites/default/files/documents/36904-Data%20Registration%20Code.pdf

There are no changes required as confidentiality is already catered for in current legislation. The SOGL requirements merely re-enforce these rules of data exchange between parties which are no more onerous. GB changes are not proposed to this established practice at this time.

Article 5 - Access to information

Compliance for this Article is met through the Grid Code Planning Code hence no modification to the existing Grid Code is required. The Grid Code has provisions for data exchange to the TSO through the week 24 process as well as from the TSO through the week 42 process. The Distribution Code is currently silent on this so it is proposed to add an appropriate obligation on DNOs in DPC8.

Responsibilities of TSOs

Article 6 General responsibilities of TSOs

The proposed methodology for Article 75 SOGL does not require a change to the existing observability areas. The electricity supply system in Great Britain is designed to operate as a single synchronised system. NGET as the sole Transmission System Operator for whole of GB does not share observability areas with other TSOs outside the GB area. Based on the draft Coordinated Security Analysis methodology under SOGL Article 75, the GB observability area does not require data from neighbouring TSOs. Other TSO observability areas do not extend into GB.

All data exchange between NGET and GB Transmission Owners will maintain rules set out in the System Operator Transmission Owner Code and Grid Code. Changes to GB codes are not required at this time.

Article 7 Structural data used by TSOs

No changes are required as there is no requirement to share data with non GB TSOs. For GB compliance is met through the STC and Electricity Ten Year Statements (ETYS) for exchange of data with GB TOs. Data format and templates for structural data exchange with DNOs will be as per existing Grid Code Planning Code, Data Registration Code, Connection Condition and CUSC bilateral connection agreements hence no changes are proposed at this time.

Article 8 TSO Notification of changes

Changes are not required for implementation of these Articles in GB as there's is no requirement to exchange data with neighbouring TSOs. DSOs and SGUs may request updates of the structural data as listed in the planning code of the Grid Code.

Article 9 Scheduled data responsibilities of TSOs

Changes are not required for implementation of these Articles in GB as there is no requirement to exchange data with neighbouring TSOs. Grid Code Operating Code and Data Registration Code cover requirements for SGUs. Existing formats for non-BMU significant grid users that provide services to the TSO will be maintained and exchanged through contractual agreements.

Article 10 Format of real time information

Changes are not required for implementation of these Articles in GB as there is no requirement to exchange data with other TSOs. NGET as GB SO has the responsibility for ensuring that All TSO practices are followed as defined and published at ENTSOE-E level.

The requirements are set out in the connection conditions section of the Grid Code for SGUs and DSOs. The GB Transmission System Operator shall ensure the EU TSO practices are followed. No changes are required as compliance is met through the Grid Code Connection Conditions.

Responsibilities of DSOs

Article 11 Notification of changes

The intent of this article is that the scope of the structural data is only for those SGUs in the observability area of the transmission-connected distribution systems. National Grid has no proposal to make any adjustments to the existing scope of structural data exchanged with DSOs in GB. Only data for those SGUs that are connected to the observability area assets shall be provided by DSOs.

Currently data concerning commissioning and decommissioning is exchanged and updated through the week 24 data in arrears, or in some cases through the Statements of Works process in advance. Updates are currently carried out annually: implementing the proposed changed will ensure 6 monthly updates to the structural data are provided in Week 24 and 50. Changes to the observability areas will be done in agreement with the relevant DSOs as necessary as per existing practice. For errors in the submitted data the DSO shall notify NGET in writing without delay as per existing requirements set out in the Planning Code.

National flexibility in deciding the scope of structural data is also reflected in Entsoe's response to the KORRR public consultation where it is clearly stated that this Article 11 is a guide and can be adjusted by each TSO at national level during implementation. The consultation responses have been published on ENTSO-E website: https://electricity.network-codes.eu/network_codes/sys-ops/methodologies/

Article 12 Rights and responsibilities of DSOs

No changes are required as compliance is met through the Grid Code Operating Code No.2. Only those network work elements with a significant system effect on the transmission system shall be provided. There is flexibility in deciding the frequency of delivery as this is to be decided at national level. Timelines for exchange of planned and unplanned unavailability of network elements shall be in accordance with Grid Code requirements which are listed in Grid Code OC2.4.1.2.4 and DOC2 of the Distribution code. These timelines shall also be in line with Regulation 2015/1222 on capacity allocation and congestion management.

Article 13 Real Time data provided by DSOs

Existing Real Time data exchange will be maintained with no changes to Connection Conditions (CC.6.5.6) in accordance with requirements set by NGET in the Bilateral Agreements. With regards to paragraph 3 which refers to the DNO/SGU interface, real time data is generally sourced from the DNOs own

SCADA. Only those SGUs with CUSC obligations will continue providing real time data to NGET. There is no need for changes to existing GB Codes for SOGL compliance, the system operators have sufficient data for operating the distribution and transmission system. Any changes to existing process will lead to high cost against which any benefits must be formally weighed through normal GB governance processes.

Responsibilities of SGUs

Article 14 Structural data provided by SGUs

In spite of its drafting this article is interpreted as referring to the observability area, not the control area. Changes are not proposed as compliance is met through the Grid Code Planning Code. System operators have sufficient data to operate the system using the data currently received. Future modifications may be raised as the system evolves.

Article 15 Notification of changes

In spite of its drafting this article is interpreted as referring to the observability area, not the control area. No changes are proposed, all notification of changes will be in line with existing requirements. System operators have sufficient data to operate the system using the data currently received. Future modifications may be raised as the system evolves.

Article 16 Scheduled data provided by SGUs

No changes are proposed at this time; existing requirements as set out in Balancing Code and Operating Code will be maintained with no changes. System operators have sufficient data to operate the system using the data currently received. Future modifications may be raised as the system evolves.

Article 17 Real time data provided by SGUs

NGET will maintain existing rules for real time data via CUSC agreements for data provision from large and medium power stations excluding small power stations. There are no changes proposed as compliance will be met through existing Grid Code Connection Conditions and Bilateral Agreements. NGET will not request real time data from DSOs for distribution connected SGUs. Future modifications may be raised through existing governance. The DNOs will maintain the current Distribution Code arrangements in DPC 6.7, and will maintain the current practice of installing the DNO's own SCADA outstation where real time data is required, generally monitoring parameters at the connexion point via the DNO's own transducers.

7 Impacts and Other Considerations

i. The Grid Code and Distribution Code (and G83 and G98) will bear the primary impact of the SOGL Data exchange modification.

ii. No network operator system changes are anticipated as a result of implementing the EU Demand Connection Codes.

iii. Under flexibility accorded in SOGL Article 40.5, this proposal will only consider changes to the mandatory Articles as listed in section 6 of this document to achieve full compliance. Future modifications may be raised based on system needs and requirements for the TSO.

iv. The specific requirements in relation to reserve services will be dependent on the outcome of the "Synchronous Area Operation Agreement as detailed in Article 118 on load frequency control and reserves."

v. There are other indirect links to Coordinated Security Analysis (CSA) work under SOGL, for which another modification proposal will likely be raised in the near future and will endeavour to work in parallel as much as possible to best understand this link.

vi. This proposal is also dependent on the pan-European KORRR which was submitted to all NRAs on 14th March 2018 by all TSO's with a decision expected six months later.

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

No.

Consumer Impacts

No.

8 Implementation

This modification must be in place to ensure the data exchange requirements of SOGL are set out in the GB Grid and Distribution codes *by* eighteen months from Entry Into Force (which was on 14 September 2017). It is therefore crucial that this work is concluded swiftly to allow the industry the maximum amount of time to consider what they need to do to ensure compliance.

9 Workgroup Discussions

Since its formation by the Grid Code Review Panel in October 2017 and prior to the issuing of this Workgroup Consultation, the GC0106 Workgroup has convened six[10] times to develop the solution against the scope and Applicable Objectives for both the Grid Code and the Distribution Code. The Workgroup continues to develop the original proposed solution. The Workgroup has not developed any alternative proposals to date. All alternative requests submitted during the Consultation will be reviewed and considered as formal alternatives by the Workgroup at the appropriate time in the Workgroup process.

Any formal Alternatives (as those which are determined as such by Workgroup vote) will be developed with legal text and will be submitted to Ofgem as part of the Final Modification Report.

At the initial Workgroup in November, the Proposer presented the defect as outlined in the original modification proposal and the scope of GC0106. Through

[10] 2 November 2017, 6 December 2017, 12 January 2018, 28 February 2018, 28 March 2018 and 6 April 2018

presentational material[11], the Proposer highlighted the two component parts of the modification as follows:

1. The direct data requirements taken from System Operation Guidelines (SOGL)
2. Changes arising from the all Transmission System Operator proposal on Key Organisational Requirements, Roles and Responsibilities (KORRR)

Legal Interpretation

The Proposer and the majority of Workgroup members agreed that the applicability and scope of the data exchange will be based on the existing Grid Code framework recognising 'flexibility' as accorded in Article 40(5) SOGL. There was lengthy discussion in the first and second Workgroup meetings over the interpretation of how 'flexibility' should indeed be applied under Article 40(5).

Article 40(5) SOGL states that each TSO is to determine, in coordination with Distribution System Operator (DSO) and Significant Grid Users (SGU), the applicability and scope of the data exchange in relation to Articles 44, 47, 48, 49, 50, 51, 52, 53 for which data exchange is to take place. The Proposer clarified their interpretation as one which allows for 'flexibility' in the implementation of those data exchange-related Articles that begin with the wording "*unless otherwise provided by the TSO*…" Articles 41, 42, 43, 45 and 46 are therefore being treated as mandatory and as a result all proposed changes will be made on the mandatory Articles to ensure compliance.

Another Workgroup member[s] noted that the purported 'flexibility' suggested by the Proposer and other Workgroup members in Article 40(5) may not actually exist with the SOGL as the Guideline sets out the common minimum requirement needed for system operation including, in their view, the minimum data requirements. This Workgroup member provided a different legal interpretation of the wording "*unless otherwise provided by the TSO*…" The Workgroup put an action on that Workgroup member to set out their concerns. This can be found in Annex 13. In summary, the Workgroup member was concerned that if GC0106 was implemented according to the Proposer's intention, this would mean that neither the TSO or the DSO/SGU would provide certain data items. However, if the Workgroup's legal interpretation was to be incorrect then the DSOs and SGUs (but not the Proposer or TSO) would be in breach of the SOGL data exchange obligations in that situation. Whilst another Workgroup member voiced similar reservations about the approach set out by the Proposer in the context of the wording "*unless otherwise provided by the TSO*…", further legal consultation has aligned this Workgroup member's position with the Proposer interpretation.

As a result of the initial Workgroup member's reservations and given the potential consequences of the data exchange requirements on grid users, the Proposer was

[11] https://www.nationalgrid.com/sites/default/files/documents/Pr2.%20%20GC0106%20Presentation_1.pdf

requested by the Workgroup to provide legal guidance. This legal advice can be found at Annex 14. Subsequent legal guidance supported the Proposer interpretation of 'flexibility' and there was a consensus for the Workgroup to proceed with the development of the solution on that interpretation, meaning that the same requirements, structure and format as the current GB Grid and Distribution Codes is to be retained.

Workgroup members acknowledged that some of the data exchange Articles have 'flexibility' determined by the *Transmission System Operator* as both necessary and legal. The current GC0106 proposal means that existing GB code provisions will remain in place for 'flexible' Articles and modifications will be raised as and when necessary in the future.

A Workgroup member raised a concern around this purported 'flexibility' suggesting that it may be illusionary in practice given the TSO's requirement through SOGL to apply an open, transparency, non-discriminatory and harmonised approach.

At the Workgroup meeting held on the 28 March 2018 the Workgroup member requested that this matter was discussed further. The Proposer stated that they would not be amending their proposed solution from that that was outlined previously based on the legal advice provided. The Workgroup member confirmed that an alternative modification proposal with an indemnity clause would be submitted based on their interpretation.

Key Organisational Requirements, Roles and Responsibilities

The SOGL Regulation requires the creation and development of a pan-European proposal by all TSOs on the Key Organisational Requirements, Roles and Responsibilities (KORRR) for data exchange across Europe. Until approved by all EU Regulators (expected to be by September 2018 and previously outlined in Section 2), this document may subsequently require some additional changes and/or new requirements to be added to the GB Grid Code and Distribution Code. The Workgroup is aware of the interdependency and has considered the KORRR's development and impact in parallel.

A link to the original KORRR Consultation which closed at the start of December 2017 is provided here[12]. The final KORRR KORRR (as submitted to the Authority in March 2018) can be accessed via this link[13].

According to the Proposer, the The final KORRR methodology submitted to Ofgem on 14 March 2018 does not appear to require any additional changes to the Grid Code. DNO compliance with the structural data requirements would be ensured through the proposed revisions made to G83.

Implementation/Timeline

[12] https://consultations.entsoe.eu/system-operations/korrr/

[13] https://electricity.network-codes.eu/network_codes/sys-ops/methodologies/

The Workgroup understands the specificity of the timeline referenced in Article 192 of SOGL for Data Exchange which states that Articles 41-53 will apply 18 months after EIF, so by 14 March 2019. The all-TSO KORRR proposal is required 6 months after EIF (14 March 2018). It then has a 6 month approval period by the National Regulation Authorities (NRAs) ending in September 2018 before it is applied along with the rest of the Data Exchange sections as explained in the above solution. Given this intrinsic dependency between SOGL and the KORRR, the GC0106 modification proposal is aligned to the development of the KORRR such that both will be submitted to the Authority for approval in the same timeframe. This is important to allow the maximum lead time in implementation and compliance.

SOGL Code mapping

The Workgroup commenced a code mapping exercise of the data exchange Articles of SOGL during the third Workgroup in order to establish how the EU Regulation mapped to the existing GB frameworks[14]. This will accompany the Workgroup Consultation and will continue to evolve. Through the exercise, Workgroup members agreed that sections of the Grid Code Planning Code (PC) would need to be amended to ensure that they are aligned to the data exchange requirements listed in SOGL. Discussions also focussed on an aspect of work covered by GC0104, specifically a new section to the Grid Code (Demand Response Services Code) that would specifically cater for Demand Response Services.

Comments arising from the Code Mapping exercise can be summarised as follows:

1. **General Requirements on data exchange**
   Article 40: There are no identified changes for GB implementation in this Article as compliance is achieved through existing GB frameworks and governance. The impact of KORRR was considered by the Workgroup. Other changes may result from the establishment of observability areas which will be developed separately in accordance with Article 75. Workgroup discussions on observability were based on existing observability areas used for Week 24 data submissions.

2. **Data Exchange between TSOs**
   Article 41 – 42: According to the Proposer no changes identified as existing TSO data exchange as per the System Operator Transmission Owner Code and Procedures are sufficient for compliance of the listed Articles. Structural Data for the Common Grid models is already exchanged through the Independent Grid Models (IGM) process as per Regulation 2015/1222. Real time Data between TSOs is done through Operational Planning Data Environment by the System Operator as per Article 114.

[14] https://www.nationalgrid.com/uk/electricity/codes/grid-code/modifications/data-exchange-requirements-accordance-regulation-eu (xls document entitled 'Code Mapping')

3. **Data Exchange between TSOs and DSOs within the TSOs control area**

Article 43: According to the Proposer, Grid Code changes are required to ensure compliance of Article 43 paragraphs 4 and 5. The proposed changes relate to the frequency of DRC Schedule 5 of the Week 24 data submissions and submission of aggregated small generation less than 1MW to be aggregated by fuel type as detailed in the solution section of this proposal.

Article 44 is currently not included in the Grid Code as such there is no real time data exchange between the TSO and DNOs (or DSOs). Changes to the Grid Code may be raised in future based on changes to system operation requirements. According to the Proposer, for compliance of SOGL, National Grid will not request an amendment to the Grid Code as 'flexibility' is provided for in Article 44 (as highlighted in the proposed solution).

4. **Data Exchange between TSOs, owners of interconnectors or other lines and power generating modules connected to the transmission system**

Article 45 – 47: Articles 45 and 46 are mandatory and according to the Proposer, compliance will be met through the Grid Code and Balancing and Settlement Code. Provision of data from power generating owners that provide Ancillary Services to the TSO will be achieved through the contract agreements[15]. Dependencies on Articles 154, 158 and 161 will be handled through Synchronous Area Operation Agreement workstream. Article 47 is flexible hence the existing code frameworks and agreements will be maintained until future modifications are raised in accordance with the Grid Code Governance.

5. **Data exchange between TSOs, DSOs and distribution-connected power generating modules**

Article 48 – 50: According to the Proposer, these are flexible Articles hence no modifications are proposed. Compliance is met through existing code frameworks and agreements subject to future modifications in accordance with the Grid Code Governance.

6. **Data exchange between TSOs, and DSOs concerning significant power generating modules**

According to the Proposer, Article 51 is a flexible Article, therefore, no changes are proposed as compliance is met through existing code frameworks and agreements until future modifications are raised in accordance with the Grid Code Governance.

7. **Data exchange between TSOs and demand facilities**

According to the Proposer, Article 52 is a flexible Article, therefore, no changes are proposed as compliance is met through existing code

[15] **https://www.nationalgrid.com/uk/electricity/balancing-services**

frameworks and agreements until future modifications are raised in accordance with the Grid Code Governance.

8. **Data exchange between TSOs and distribution-connected demand facilities or third parties participating in demand response.** According to the Proposer, Article 53 is a flexible Article, therefore, no changes are proposed as compliance is met through existing C16 process and the standard contract agreements. The Workgroup acknowledged the demand side requirements under GC0104 as driven by the Demand Connection Code (DCC) and noted that further discussions are required and would be carried out through GC0106 and the Power Responsive Flexibility workstream. It has since been agreed that a new Grid Code section is necessary to deal with demand side providers through GC0104.

KORRR submission to NRA and Code Mapping

The Proposer confirmed that the KORRR had been submitted to the NRA on the 14 March 2018 and that they had been informed that all TSOs from all Member States had also submitted theirs. The Authority confirmed that they had received the document and that it had been published on the ENTSOE website. They also explained that there would be an opportunity at the next Joint European Stakeholder Group for stakeholders to discuss the document and that a decision had not yet been made around whether a consultation would be carried out. The Authority representative took an action to inform the Workgroup as to whether there would be such a consultation.

Workgroup members reviewed and discussed the latest iteration of the KORRR Code Mapping in detail on 28 March 2018. The latest version can be found in Annex 8.

Workgroup members agreed that a table listing all SGUs (according to SOGL) would support all users (new and existing at transmission and distribution connected) in understanding how and whether they are captured by the data exchange requirements of SOGL and thus GC0106. This now appears in the 'Summary' section of this document.

Workgroup members raised some concerns around how specific the KORRR code mapping was in terms of the need for the complete details, such as the Schedule referencing to be added and also specific areas of, for example, OC2. The Proposer took an action to update the mapping following the meeting on the 28 March 2018 and it is attached to this consultation.

The term **Significant Modification** was noted and the Chair confirmed that there were ongoing discussions occurring within the GC0104 (Demand Connection Code implementation) _Workgroup on the definition of this. The Proposer confirmed that this definition is unchanged from GC0100-102 (RfG and HVDC) modifications in their Original solution. The Code Administrator noted that a formal alternative had been raised and is being developed around the alternative interpretation of Article 4 Paragraph 1 (a) (i), (ii) and (iii) in the GC0104 Workgroup.

When reviewing Article 10 (Format of Real Time Information) a Workgroup member questioned where, in GC0106, the Proposer would be specifying the format for real time data exchange. The proposer confirmed that this would be defined at ENTSO-E level for exchange between TSOs. The Proposer noted that ENTOSE is to clarify requirements to be defined by TSOs and that this piece of work was ongoing. The Workgroup member pointed out that the KORRR states that the TSO *shall* specify this and, therefore, the proposed GC0106 solution for this Article10 is not discharging this obligation.

The Proposer clarified their position on Article 11 (Responsibilities of DSOs) and that they are proposing to have a six month update in week 50 only for elements and SGUs that are in the TSO's observability area as per existing practice. The proposed legal text for this can be located in Annex 4. Workgroup members discussed the interpretation of the demand facility wording and noted that this could be very onerous in that it could be shown to apply to every street light, for example, and that DNOs would need to hold up such installations to be able to give the required six months' notice to National Grid before it was implemented literally as written. The majority of Workgroup members stated that a pragmatic approach needed to be taken. The proposer confirmed that National Grid would not be asking for more data than is currently exchanged with DNOs. Article 11 has to be applied in agreement with the DNOs as there is flexibility at national level. It was noted that if such a 'pragmatic' approach (for Article 11) was to be applied to DSOs that an equality of treatment need to be accorded to all other parties with similar obligations (as set out in Article 15)

The Workgroup discussed Article 13 (Real Time Data provided by DSOs). The Proposer stated that SOGL flexibility allows for the TSO to determine real time data exchange scope and applicability. She stated that NGET is not requesting new real time data as part of GC0106 and that future modification may be raised when system needs change. A Workgroup member stated that the KORRR states that the TSO *shall* specify and that, therefore the proposed solution for this Article is not discharging this obligation. The Proposer reiterated that in their view it was compliant and much more helpful to Users as a matter of policy not to state a zero compliance requirement. If Users did need to do something to comply, this would need to be clearly stated – but there is no requirement for this as part of this modification. .

A Workgroup member stated that, in their view, the proposed GC0106 solution is, not harmonised, is discriminatory and does not apply a level playing field approach and thus does not discharge the requirements of the KORRR, SOGL or the Third Package.

Please note that all presentations provided and discussed at the Workgroup meetings can be found under the 'Workgroup' tab via the following link:

https://www.nationalgrid.com/uk/electricity/codes/grid-code/modifications/data-exchange-requirements-accordance-regulation-eu-0

10 Workgroup Consultation Questions

The GC0106 Workgroup is seeking the views of Grid Code Users, Distribution Code Users and other interested parties in relation to the issues noted in this document and specifically in response to the questions highlighted in the report and summarised below:

Standard Workgroup Consultation questions:

1. Do you believe that GC0106 Original Proposal or any potential alternatives for change that you wish to suggest, better facilitates the Grid Code and Distribution Code Objectives?
2. Do you support the proposed implementation approach?
3. Do you have any other comments?
4. Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?

Specific GC0106 Workgroup Consultations:

5. For those respondents that the Workgroup believes are directly affected by the GC0106 proposal (i.e. (i) new Type A power generating modules of less than 16A per phase, (ii) DNOs and (iii) CDSOs) do you agree with the proposed revised data exchange requirements? Do you have any comments on the drafting of the associated legal text set out in Annexes 4, 6 and 7?
6. Do you believe that the solution described in this Workgroup Report discharges the legal obligations of the SOGL and other relevant EU legislation?
7. For those parties that the Workgroup believes are not directly affected by the GC0106 proposed revised data exchange requirements, do you have any comments on the approach and/or legal drafting?
8. Do you have any views on the legal interpretation aspects set out in Section 9 together with the explanatory information in Annexes 12 and 13?

Please send your response using the Response Proforma which can be found on the National Grid website via the following link:

https://www.nationalgrid.com/uk/electricity/codes/grid-code/modifications/data-exchange-requirements-accordance-regulation-eu-0

Views are invited upon the proposals outlined in this report, which should be received by 5pm on 27 April 2018. Your formal responses may be emailed to: grid.code@nationalgrid.com

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", we will contact you to establish the extent of the confidentiality. A response market "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 the 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”.

11 Relevant Objectives (Initial Proposer Assessment)

SOGL is one of the eight EU Connection Codes which derive from the Third Energy Package legislation; focused on setting minimum system security, operational planning and frequency management standards to ensure safe and coordinated system operation across Europe, creating a standardised framework on which regional cooperation including balancing markets can be implemented. It therefore directly supports three of the five Grid Code Objectives as indicated below.

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	**Neutral**
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)	**Neutral**
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	**Neutral**
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**

This modification is necessary to ensure GB compliance of EU legislation in a timely manner, which positively supports the third Distribution Code applicable objective

Impact of the modification on the Distribution Code Relevant Objectives:	
Relevant Objective	**Identified impact**
Permit the development, maintenance, and operation of an efficient, coordinated and economical System for the distribution of electricity.	**Neutral**
Facilitate competition in the generation and supply of electricity.	**Neutral**
Efficiently discharge the obligations imposed upon DNOs by the Distribution Licence and comply with the Regulation (where Regulation has the meaning defined in the Distribution Licence) and any relevant legally binding decision of the European Commission and/or Agency for the Co-operation of Energy Regulators.	**Positive**
Promote efficiency in the implementation and administration of the Distribution Code.	**Neutral**

Annex 1 Workgroup Terms of Reference (ToR)

The joint Terms of Reference for this Workgroup can be accessed here:

https://www.nationalgrid.com/uk/electricity/codes/grid-code/modifications/data-exchange-requirements-accordance-regulation-eu

Annex 2 Legal interpretation – Workgroup Action

Note, of 8th December 2017, on the legal interpretation aspects requested by the Workgroup.

Background

Following the discussion at the 6th December 2017 GC0106 meeting about the data exchange aspects of the SOGL, a Workgroup Member took an action to set out the concerns they raised at the meeting with a view to National Grid obtain a legal view (from the National Grid legal department) on this matter that could be shared with the Workgroup.

The relevant Articles[16] of the SOGL in respect of data exchange are shown in Appendix 1 for ease of reference.

The Workgroup member set out their concerns in the following terms.

Introduction

At its core the issue is a simple one, namely whether a 'broad' or 'narrow' interpretation of the wording used, at various points, in the Data Exchange title of the System Operation Guideline ('SOGL') Regulation (namely Articles 40-53 inclusive) is legally correct.

As set out by the Proposer of GC0106 at the December meeting, the 'broad' interpretation would mean that the TSO could decide that, for example, no party (be it the TSO or DSO) need provide one or more of, say, the real time data items listed (a)-(i) in 44 or; in respect of 47; neither the TSO or SGU need provide one or more of the items listed in 47(1) (a)-(c). This approach was summarised as 'flexible' in the slides for the meeting.

In contrast, the 'narrow' interpretation requires that all the data items in, for example, 44(1) (a) to (i) must be provided by someone, the question is by whom.

Put simply, if the TSO does not provide the requisite date item(s) then the DSO must.

This is equally the case with 47 where, likewise, if the TSO does not provide the data item(s) (a)-(c) listed under (1) then the SGU[17] must.

Taken to its logical extreme, the 'broad' interpretation would, hypothetically, allow for TSO 'X to require all data items 44 (a)-(i) and / or 47 (1) (a)-(c) be provided by the DSOs / SGUs (and, for completeness, none of the data items be provided by TSO 'X') whilst TSO 'Y' might require, say, for half the data items to be provided

[16] 40(5), 44, and 47-53 inclusive.

[17] The data exchange provisions in SOGL also refer, in addition to DSOs and SGUs, to (i) HVDC system operator and (ii) third parties participating in demand response. The GC0106 December meeting focused on DSOs and SGUs, whilst recognising that the concerns raised could also be applicable to (i) and (ii).

from the respective DSOs / SGUs (and, for completeness, none of the data items be provided by TSO 'Y') whilst TSO 'Z' could require that none of the data items be provided by any DSOs / SGUs (and, for completeness, none of the data items be provided by TSO 'Z' either).

This 'broad' interpretation has, on the face of it, a number of redeeming qualities (many of which were mentioned during the December Workgroup meeting). Nevertheless, it seemed to the Workgroup member who raised the concerns that it has a number of potential flaws, which the member set out.

Potential flaws with the 'broad' interpretation

First, and foremost it does not ensure that common minimum technical requirements applied across the 28 Member States, as regards data exchange, are met as set out in Recitals (4), (5) and (12)[18] of SOGL as the 'broad' interpretation allows for totally different national approaches to data exchange, and thus system operation, to apply in the various Member States (and, potentially, where there are different TSOs within some Member States, different requirements within the Member States as well) - such as illustrated by the TSOs X, Y and Z example above.

Put simply, how does this demonstrate adherence to having 'common minimum technical requirements'?

Second, it does not ensure that harmonised rules, or harmonised requirements, or harmonised data formats for data exchange applied across the 28 Member States, are met as set out in Recitals (3) and (13) together with Article 114 (2)[19].

---

[18] "(4) To ensure the operational security of the interconnected transmission system, it is essential to define **a common set of minimum requirements for Union-wide system operation**, for the cross-border cooperation between the TSOs and for utilising the relevant characteristics of the connected DSOs and SGUs.

(5) **All TSOs should comply with the common minimum requirements on procedures necessary to prepare real-time operation**, to develop individual and deliver common grid models, to facilitate the efficient and coordinated use of remedial actions which are necessary for real-time operation in order to maintain the operational security, quality and stability of the interconnected transmission system, and to support the efficient functioning of the European internal electricity market and facilitate the integration of renewable energy sources ('RES').

(12) One of the most critical processes in ensuring operational security with a high level of reliability and quality is the load-frequency control ('LFC'). Effective LFC can be made possible only if there is an obligation for the TSOs and the reserve connecting DSOs to cooperate for the operation of the interconnected transmission systems as one entity **and for providers' power generating modules and providers' demand facilities to meet the relevant minimum technical requirements**." [emphasis added]

[19] (3) "**Harmonised rules on system operation for transmission system operators ('TSOs'), distribution system operators ('DSOs') and significant grid users ('SGUs') should be set out in order to provide a clear legal framework for system operation, facilitate Union-wide trade in electricity, ensure system security, ensure the availability and exchange of necessary data and information between TSOs and between TSOs and all other stakeholders, facilitate the integration of renewable energy sources, allow more efficient use of the network and increase competition for the benefit of consumers.**

The ‘broad’ interpretation; with its ability for each TSO to do its own thing in terms of allowing DSOs and SGUs not to provide some (all?) of the SOGL data items they, respectively, are listed as having to providing; runs counter to the harmonisation principle.

Put simply, how does this demonstrate adherence to having ‘harmonised rules, or harmonised requirements, or harmonised data formats for data exchange’?

Third, it seems to allow for, effectively, the TSO(s) to just ‘ignore’ some (or all?) of what the SOGL requirements are by mealy carrying on with their (national) status quo position as regards obliging their DSOs or SGUs respectively to meet the SOGL data exchange provision on the basis that this is sufficient for system operation.

If this was the intention of the Regulation then surely the simplest thing to do would have been to draft in (as per Article 2(4)) that the data exchange Articles do not apply in Member State(s) X (such as GB) on the basis that the existing data provisions in the national codes are sufficient to meet all the aims of the SOGL (as summarised in the Recitals).

Fourth, it does not appear to take account of the future possibility that a TSO in a neighbouring Member State (such as RTE, Tennet, SONI and EirGrid) could classify parts (or all??) of the GB network (both by reference to geography and / or network topology, including by voltage down to varying levels of the distribution system) as falling within their own Observability Area: and thus GB DSOs and / or SGUs would need to provide (some or all, in the ‘broad’ interpretation, and all in the ‘narrow’ interpretation) data items listed in the Article(s) to those neighbouring TSOs, although it is not clear if this ‘must’ or ‘may’ or ‘won’t’ be done via the ‘host’ TSO.

This might, for example, apply where the neighbouring TSO has a different IT system - where the ‘host’ TSO, under the ‘broad’ interpretation, does not require / collect the data item(s) from the DSOs /SGUs then, presumably, it has no IT System that (a) captures these data items from these parties or (b) can transfer those data items to the neighbouring TSO(s).

Fifth, it appears to be potentially based on a false premise, namely that as the GB TSO does not have access to the DSO/SGU data items themselves today (under the

---

(13) The provisions on LFC and reserves**, aim at setting out clear, objective and harmonised requirements for TSOs, reserve connecting DSOs, providers' power generating modules and providers' demand facilities in order to ensure system security and to contribute to non-discrimination, effective competition and the efficient functioning of the internal electricity market**. The provisions on LFC and reserves provide the technical framework necessary for the development of cross-border balancing markets.

114(2) By 6 months after entry into force of this Regulation, **all TSOs shall define a harmonised data format for data exchange, which shall be an integral part of the ENTSO for Electricity operational planning data environment**.” [emphasis added]

existing national arrangements) thus the wording in the Article cannot be applied in the way set out under the 'narrow' interpretation (from a GB perspective).

However, this is to not take account of the perhaps more logical position, namely the distinct possibility that the wording was actually put into the SOGL to cater for those Member States where the TSO(s) does already (perhaps because of history) have access, via their existing national arrangements, to some or all of the DSO/SGU data items listed. If that is the case then, in the context of those Member States, the 'narrow' interpretation makes eminent sense: it's there in order not to overburden the DSOs/SGUs in terms of requiring them to send duplicate date items to the TSO, that the TSO already has access to anyway / or can provide themselves via their own systems etc.

Sixth, a further factor to consider is that we are being invited, with the 'broad' interpretation, to apply the first use of the word 'provide' differently to the second use of the word 'provide' in the same sentence - is this realistic?

By way of illustration let us replace 'provide' with 'supply' in the sentence - the Concise Oxford Dictionary[20] first definition of 'provide' is to "supply; furnish". The second definition (where provide is usually followed by "*for"* or "*against"*) is to "make due preparation" (such as "provided for any eventuality" or "provided against invasion"). The fourth definition (where provide is usually followed by "*that*") is to "stipulated in a will, statute".

Thus, if the TSO does not 'supply' the data item(s) then the DSOs or SGUs must 'supply' the data item(s) - this extrapolation works for the 'narrow' approach but does not work in the context of the 'broad' approach.

Furthermore, with the 'broad' approach we are being invited to define the first 'provide' one way; as allowing the TSO to determine if the DSO or SGU does (or does not) have to do something; but then, when it comes to the second 'provide' we are to use a different definition (of 'provide') to say we do not allow those other parties, in turn, to adopt that same definition as the first 'provide' (when it is used just a few words later in the sentence).

Put another way, whilst the first 'provide' affords a right of optionality to the party concerned (the TSO) when it is applied to the second 'provide' there is no such optionality afforded to the parties concerned (the DSOs and SGUs respectively). It begs the question: is this schizophrenic application of the word 'provide', in the same sentence, credible?

Surely, it's more credible that the drafters intended to use the word 'provide' in the same context when used in the same sentence and thus, as illustrated with the use of 'supply' instead of 'provide' in the sentence, that the 'narrow' interpretation works here but the 'broad' does not.

[20] Ninth Edition

Seventh, it was suggested at the December Workgroup meeting that 40(5) permits the 'broad' interpretation - this may well be the case. However, it seems equally to be the case that 40(5) permits the 'narrow' interpretation to apply as well.

Put another way, in terms of 40(5), the 'broad' interpretation means that the TSO, in coordination with the DSOs, could decide that rather than provide all the data items for 44(a)-(i), that the neither the DSOs or the TSO need provide, say, (f) the bus bar voltage data.

With the 'narrow' interpretation, the 40(5) approach would mean that the TSO, in coordination with the DSOs, agree that the DSOs need only provide items 44(a)-(e) and (g)-(i) because, in this example, the TSO would provide 44(f) the bus bar voltage data item.

Eighth, if the 'broad' interpretation is correct then why is the wording in 50(2) required?

Specifically, the wording at 50(1)[21] is basically the same construct as that which appears in the other parts of the data exchange part of the SOGL.

However, the wording in 50(1) is followed with wording in 50(2) which effectively duplicates what (apparently) 50(1) already allows, if the 'broad' interpretation is correct, namely:

> "Each TSO **shall define** in coordination with the responsible DSOs **which SGUs may be exempted from providing** the real-time data listed in paragraph 1 directly to the TSO" [emphasis added]

If the intention had been that the 'broad' interpretation was the correct approach then by far the simplest thing to do was to just amend 50(1), rather than drafting a whole new paragraph 50(2), by adding into 50(1) five additional words (as shown in bold below):

> "Unless otherwise provided by the TSO **in coordination with the responsible DSOs**, each power generating facility owner of a power generating module which is a SGU"

Thus the wording, in 50(2), clearly points to the 'narrow' interpretation being the correct one, in terms of the Data Exchange parts of SOGL.

Notwithstanding the coordination with DSOs aspect (envisaged in 50(2)) it is important to note that where an exemption from the obligation to provide some data items by the SGUs (covered under 50) is allowed it is explicitly stated in terms of the addition of the wording (in 50(2)) to that effect, namely:

[21] "Unless otherwise provided by the TSO, each power generating facility owner of a power generating module which is a SGU in accordance with Article 2(1)(a) and (e) connected to the distribution system shall provide the TSO and the DSO to which it has the connection point, in real-time, at least the following data"

"Each TSO **shall define** …. which SGUs **may be exempted from** providing…"

Thus it is clear, in the case of 50(1), that the drafters of SOGL did envisage, in limited circumstances, that an exemption (from the need by the SGUs to provide certain SOGL data items) should be put in place; and they drafted text accordingly to achieve this. Which begs the question as to why this additional text (in 50(2)) was needed if the 'broad' interpretation is correct as the wording in 50(1) (coupled with and 40(5)) already permitted this anyway.

Rather, it could be argued, the drafters of SOGL did not envisage other circumstances (beyond those covered by 50(2)) in term of SOGL data exchange, where other data items would not be provided at all (by the DSOs / SGUs or TSOs) – which is the 'narrow' interpretation.

Ninth, in the context of 51(2)[22] it is noticeable that there is no 'caveat' of the obligation upon the TSO(s) to provide the data, upon request, to the DSO(s).

If the 'broad' interpretation is correct, and the TSO has exempted the SGUs from providing, say, a number of data items under 48(1) and / or 49 then, as read, 52(2) still requires the TSO to, nevertheless, provide the said data items itself. In this scenario it is not clear how the TSO would 'square this circle'.

If the 'narrow' interpretation is the correct approach, then as it's a 'binary' situation (either the TSO provides the data items under 48(1) and / or 49 or the SGU(s) provides it) the data is always available to the TSO and can thus be transferred, if requested, to the DSOs.

Why is this important

In the view of the Workgroup member who raised the concerns, the reason why this matter is of importance to GB stakeholders is that if the 'broad' interpretation goes forward into the GB industry codes via GC0106 and it subsequently turns out that the 'narrow' interpretation was, instead, correct then it is the DSOs and / or SGUs which will (a) have breached the SOGL data exchange obligations in the various data exchange Articles applicable to them (if the TSO has said one or more data items did not need to be provided, based on the 'broad' interpretation) and (b) they will have to put in place potentially costly remedial actions / systems in order to henceforth comply with SOGL going forward.

Furthermore, if the 'narrow' interpretation is correct (but the 'broad' was applied up to that point) then as the TSO was not itself providing the said data item(s) then they would not themselves be in breach of the SOGL (as in that scenario the default provider obligations fall, under the SOGL, to the DSO(s)/SGU(s) respectively).

[22] "(2) **Each TSO shall make available to the DSO**, to whose distribution system SGUs are connected, **the information specified in Articles 48, 49 and 50 as requested by the DSO**." [emphasis added]

Put another way, as the passenger who told the (DSOs/SGUs) driver that the speed limit on the road was 60MPH, when it was actually 40MPH, then the (TSO) passenger would not be the person who is fined for the drivers' speeding.

The Workgroup Member who raised the concerns mentioned during the December Workgroup meeting that, pending the legal advice received, they were minded to raise an alternative request to GC0106 based on the 'narrow' interpretation as a pragmatic solution to there concern.

This approach would mean (assuming such an alternative proceeds forward as a WACM in due course) that Ofgem would have before them both options and thus we avoid GC0106 being rejected; if it is just limited to the 'broad' and not a 'narrow' interpretation; if the 'narrow' one is considered by Ofgem to be correct. It also means that we avoid, in this rejection scenario, the need to rush through a new 'narrow' interpretation based modification at a later date.

Legal Questions

In light of the concerns set out by the Workgroup member they suggested that the following legal questions be raised by National Grid with their legal department, and the answers shared with the Workgroup in due course:

> 1) In the context of the Regulation overall, is the 'broad' or 'narrow' interpretation legally correct or are both equally correct legally?
>
> 2) Is there a greater or lesser legal risk in adopting the 'broad' or 'narrow' interpretation from the perspective of the DSOs and / or SGUs in terms of their compliance with the SOGL data exchange requirements?
>
> 3) Is there anything in any of the other approved Network Code Regulations which support the 'broad' or 'narrow' or both interpretations?
>
> 4) If the TSOs X, Y and Z scenario[23] were to occur would each TSO be equally correct legally in their approach or would one (or two) TSO(s) have stronger legal certainty than the other two (or one) TSO(s) and if so which TSO(s) would that be - X, Y or Z?
>
> 5) In the context of neighbouring TSOs Observability Areas scenario[24] could it in the foreseeable future be legally permissible under the Regulation for a neighbouring TSO 'A', where it has declared a part of TSO 'B' Network area as falling within their Observability Area 'A', to require the DSOs and / or SGUs within that Observability Area 'A' located in the TSO 'B' Network area to provide data items(s) to TSO 'A'? If the answer is yes, does the data item(s) have to come only via TSO 'B' or can they be obtained, in accordance with the Regulation, directly from the respective DSO(s) or SGU(s), as applicable, by TSO 'A'

[23] Set out in the 'Introduction' above.

[24] Set out in the Fourth potential flaw above.

6) Does Article 40(5) prevent the 'broad' or 'narrow' interpretation being applied, or are both approaches equally valid in the context of Article 40(5)?

7) Could a legal way of mitigating these concerns be for the GC0106 legal text to include a full indemnity from the TSO to the DSOs and SGUs such that if the 'narrow' interpretation was the correct one (but the 'broad' interpretation was the only version included in the GC0106 legal text[25]) then the TSO would pay all fines, penalties and costs arsing until such times as the DSOs and SGUs, exercising good industry practice, could put in place the necessary remedial actions / systems etc., to comply with 'narrow' interpretation of the SOGL?

8) As has happened in the CUSC sphere with CMP251 and CMP261 where there were legal issues arose regarding the interpretation of an EU Regulation and the National Grid legal department sort legal advice (in 2015 and 2016 respectively) on behalf of the Workgroup from their external lawyers (Addleshaw Goddard in both cases) do you believe it would be prudent to do so again in this case?

[[The Proposer] [and] [Other members of the Workgroup] raised additional points with respect to the 'broad' and 'narrow' interpretation. These are as follows:

[*are there any other questions that the Proposer or other Workgroup Members feel should be asked at this time?*]]

The Workgroup agreed that the eight [initial] legal question [plus [x] further questions suggested by [the Proposer] [and] [other Workgroup members]] should be put to the National Grid legal department.

[25] And the TSO had acted accordingly and exempted DSOs/SGUs from providing some SOGL data items.

Appendix1 – Extracts from the Data Exchange Articles of SOGL

The relevant parts of the SOGL are shown below. As the 'broad' and 'narrow' interpretation centres on the word 'provide' / 'provided' these words are underlined in the SOGL extracts below, along with Article 40(5) which was referenced in the December GC0106 meeting.

Article 40
Organisation, roles, responsibilities and quality of data exchange

(5) In coordination with the DSOs and SGUs, each TSO shall determine the applicability and scope of the data exchange based on the following categories:
(a) structural data in accordance with Article 48;
(b) scheduling and forecast data in accordance with Article 49;
(c) real-time data in accordance with Articles 44, 47 and 50; and
(d) provisions in accordance with Articles 51, 52 and 53.

Article 44
Real-time data exchange

(1)Unless otherwise provided by the TSO, each DSO shall provide its TSO, in real-time, the information related to the observability area of the TSO as referred to in Article 43(1) and (2), including:

(a) the actual substation topology;
(b) the active and reactive power in line bay;
(c) the active and reactive power in transformer bay;
(d) the active and reactive power injection in power generating facility bay;
(e) the tap positions of transformers connected to the transmission system;
(f) the busbar voltages;
(g) the reactive power in reactor and capacitor bay;
(h) the best available data for aggregated generation per primary energy source in the DSO area; and
(i) the best available data for aggregated demand in the DSO area.

Article 47
Real-time data exchange

(1) Unless otherwise provided by the TSO, each significant grid user which is a power generating facility owner of type B, C or D power generating module shall provide the TSO, in real-time, at least the following data:

(a) position of the circuit breakers at the connection point or another point of interaction agreed with the TSO;
(b) active and reactive power at the connection point or another point of interaction agreed with the TSO; and
(c) in the case of power generating facility with consumption other than auxiliary consumption net active and reactive power.

(2) Unless otherwise provided by the TSO, each HVDC system or AC interconnector owner shall provide, in real-time, at least the following data regarding the connection point of the HVDC system or AC interconnector to the TSOs:

(a) position of the circuit breakers;
(b) operational status; and
(c) active and reactive power.

Article 48
Structural data exchange

(1) Unless otherwise provided by the TSO, each power generating facility owner of a power generating module which is a SGU pursuant to Article 2(1)(a) and by aggregation of the SGUs pursuant to Article 2(1)(e) connected to the distribution system shall provide at least the following data to the TSO and to the DSO to which it has a connection point:

(a) general data of the power generating module, including installed capacity and primary energy source or fuel type;
(b) FCR data according to the definition and requirements of Article 173 for power generating facilities offering or providing the FCR service;
(c) FRR data for power generating facilities offering or providing the FRR service;
(d) RR data for power generating modules offering or providing the RR service;
(e) protection data;
(f) reactive power control capability;
(g) capability of remote access to the circuit breaker;
(h) data necessary for performing dynamic simulation according to the provisions in Regulation (EU) 2016/631; and (i) voltage level and location of each power generating module.

(2) Each power generating facility owner of a power generating module which is a SGU in accordance with Article 2(1)(a) and (e) shall inform the TSO and the DSO to which it has a connection point, within the agreed time and not later than the first commissioning or any changes to the existing installation, about any change in the scope and the contents of the data listed in paragraph 1.

Article 49
Scheduled data exchange

[1] Unless otherwise provided by the TSO, each power generating facility owner of a power generating module which is a SGU in accordance with Article 2(1)(a) and 2(1)(e) connected to the distribution system shall provide the TSO and the DSO to which it has the connection point, with at least the following data:

(a) its scheduled unavailability, scheduled active power restriction and its forecasted scheduled active power output at the connection point;

(b) any forecasted restriction in the reactive power control capability; and
(c) as an exception to paragraphs (a) and (b), in regions with a central dispatch system, data requested by the TSO for the preparation of its active power output schedule.

Article 50
Real-time data exchange

(1) Unless otherwise provided by the TSO, each power generating facility owner of a power generating module which is a SGU in accordance with Article 2(1)(a) and (e) connected to the distribution system shall provide the TSO and the DSO to which it has the connection point, in real-time, at least the following data:

(a) status of the switching devices and circuit breakers at the connection point; and
(b) active and reactive power flows, current, and voltage at the connection point.

(2).Each TSO shall define in coordination with the responsible DSOs which SGUs may be exempted from providing the real-time data listed in paragraph 1 directly to the TSO. In such cases, the responsible TSOs and DSOs shall agree on the aggregated real-time data of the SGUs concerned to be delivered to the TSO.

Article 51
Data exchange between TSOs and DSOs concerning significant power generating modules

(1) Unless otherwise provided by the TSO, each DSO shall provide to its TSO the information specified in Articles 48, 49 and 50 with the frequency and level of detail requested by the TSO.

(2) Each TSO shall make available to the DSO, to whose distribution system SGUs are connected, the information specified in Articles 48, 49 and 50 as requested by the DSO.

(3) A TSO may request further data from a power generating facility owner of a power generating module which is a SGU in accordance with Article 2(1)(a) and (e) connected to the distribution system, if it is necessary for the operational security analysis and for the validation of models.

Article 52
Data exchange between TSOs and transmission-connected demand facilities

(1) Unless otherwise provided by the TSO, each transmission-connected demand facility owner shall provide the following structural data to the TSO:

(a) electrical data of the transformers connected to the transmission system;

(b) characteristics of the load of the demand facility; and
(c) characteristics of the reactive power control.

(2)Unless otherwise provided by the TSO, each transmission-connected demand facility owner shall provide the following data to the TSO:

(a) scheduled active and forecasted reactive power consumption on a day-ahead and intraday basis, including any changes of those schedules or forecast;
(b) any forecasted restriction in the reactive power control capability;
(c) in case of participation in demand response, a schedule of its structural minimum and maximum power range to be curtailed; and
(d) by exception to point (a), in regions with a central dispatch system, the data requested by the TSO for the preparation of its active power output schedule.

(3).Unless otherwise provided by the TSO, each transmission-connected demand facility owner shall provide the following data to the TSO in real-time:

(a) active and reactive power at the connection point; and
(b) the minimum and maximum power range to be curtailed.

(4)Each transmission-connected demand facility owner shall describe to its TSO its behaviour at the voltage ranges referred to in Article 27.

Article 53
Data exchange between TSOs and distribution-connected demand facilities or third parties participating in demand response

(1).Unless otherwise provided by the TSO, each SGU which is a distribution-connected demand facility and which participates in demand response other than through a third party shall provide the following scheduled and real-time data to the TSO and to the DSO:

(a) structural minimum and maximum active power available for demand response and the maximum and minimum duration of any potential usage of this power for demand response;

(b) a forecast of unrestricted active power available for demand response and any planned demand response;

(c) real-time active and reactive power at the connection point; and

(d) a confirmation that the estimations of the actual values of demand response are applied.

(2)Unless otherwise provided by the TSO, each SGU which is a third party participating in demand response as defined in Article 27 of Regulation (EU) 2016/1388, shall provide the TSO and the DSO at the day-ahead and

close to real-time and on behalf of all of its distribution-connected demand facilities, with the following data:

(a) structural minimum and maximum active power available for demand response and the maximum and minimum duration of any potential activation of demand response in a specific geographical area defined by the TSO and DSO;

(b) a forecast of unrestricted active power available for the demand response and any planned level of demand response in a specific geographical area defined by the TSO and DSO;

(c) real-time active and reactive power; and
(d) a confirmation that the estimations of the actual values of demand response are applied.

Annex 3 Legal Interpretation – National Grid Legal Department view

National Grid Legal Advice, provided to the Workgroup on 10th January 2018

- **The purpose of the regulation is to "ensure the availability and exchange of necessary data and information between TSO's and between TSOs and all relevant stakeholders" (recital (3))**
- **Standard principles of "proportionality" and "optimisation between the highest overall efficiency and lowest total costs for all parties involved" apply (art 4.2)**
- **At heart is the need for us as a TSO to exchange the data listed at art 41 and art 42 with other TSOs so, if in order to do this we need underlying data from others, we need to have/be able to get that data and more generally perform the operational functions assigned to us.**
- **Art 40.5 states "In coordination with the DSOs and SGUs, each TSO shall determine the applicability and scope of the data exchange based on the following categories" i.e. Arts 44, 47, 48, 49, 50, 51, 52 and 53. The use of "based on" is odd English but the ref to the arts is clear and all the specific arts referred to are all prefixed with "Unless otherwise provided by the TSO…." and list "at least" the data to be provided.**
- **Art 40.6 suggests that all TSO will "agree" on "key organisational requirements, roles and responsibilities in relation to data exchange". The approach on provision of data by others would need to be dealt with in the methodology agreed for 40.6.**
- **Read in isolation you could read the prefix of "Unless otherwise provided by the TSO" in the relevant articles as meaning the data has to be provided but the requirement is only on the DSO etc. to do so where the TSO itself doesn't do so. For that to work, it would presuppose that the data is already TSO data/information or data/information held by the TSO about the DSO etc. In fact (and as a matter of fact) it seems that it is DSO etc. information/data about the DSO etc. which the TSO would only have if it got it from the DSO etc.?**
- **However in my view you have to read it in the wider context of Title 2, and an ordinary reading of the structure of the title, art 40.5 together and the prefix would suggest that those specific articles are linked and that there is a TSO a discretion as to the "applicability and scope of the data exchange" requirements under those arts. Compare other articles e.g. 45 where the requirements are mandatory and aren't prefixed/referenced in art 40.5.**
- **The use of the word "provided" in the prefix of the relevant articles isn't the most helpful formulation. It could suggest that the discretion afforded by art 40.5 is limited to those circumstances where the TSO doesn't otherwise provide the data/info but as above this doesn't seem correct.**
- **In my view the more appropriate reading is that art 40.5 gives general discretion as to the "applicability and scope" in placing requirements on the listed data/information and that the prefix is there to recognise**

this i.e. that "unless otherwise provided by the TSO" in effect means "unless and to the extent the TSO determines otherwise".

- **On the basis that there is discretion, in exercising it the effect of that discretion should be considered against the general need/ability of the TSO to meet its obligations under/ the overall aim of the regulation i.e. a degree of harmonisation. Given the intent is to set minimum requirements and articles refer to "at least" there should be clear justification as to why it is not required/appropriate and (as per comment re art 40.6) maybe something that needs to considered with other TSOs?**
- **In terms of compliance, regulations effectively form part of GB law and so all parties have an obligation to comply with them to the extent they apply with them and matters of interpretation/consequences of any breach can be decided by the courts. Generally compliance with such regulations is specifically made a requirement for entities licensed under the electricity act and is subject to the same Ofgem compliance/enforcement regime that exists for licence breach.**

Annex 4 Draft Grid Code Legal Text

These are the changes associated with the Articles included in the ToR.

Grid Code PC.A.1.2

Submissions by Users

(a) Planning data submissions by **Users** shall be:

(i) with respect to each of the seven succeeding **Financial Years** (other than in the case of **Registered Data** which will reflect the current position and data relating to **Demand** forecasts which relates also to the current year);

(ii) provided by **Users** in connection with a **CUSC Contract** (PC.4.1, PC.4.4 and PC.4.5 refer);

(iii) provided by **Users** on a routine annual basis in calendar week 24 of each year to maintain an up-to-date data bank (although **Network Operators** may delay the submission of data (other than that to be submitted pursuant to PC.3.2(c) and PC.3.2(d)) until calendar week 28). In addition DRC Schedule 5 provided by calendar week 28 shall be updated and provided by Network Operators in week 50 of each year (again which may be delayed as above until week 2 of the following calendar year).Where from the date of one annual (or in the case of schedule 5 the week 24) submission to another there is no change in the data (or in some of the data) to be submitted, instead of re-submitting the data, a **User** may submit a written statement that there has been no change from the data (or some of the data) submitted the previous time.; and

(iv) provided by **Network Operators** in connection with **Embedded Development** (PC.4.4 refers).

PC.A.1.2 Text Commentary

The aim of the modified text is simply to change the submission cycle from annually to 6 monthly for static network data in accordance with article 43, 4).

PC.A.3.1.4

(a) PC.A.4.2.4(b) and PC.A.4.3.2(a) explain that the forecast **Demand** submitted by each **Network Operator** must be net of the output of all **Small Power Stations** and **Medium Power Stations** and **Customer Generating Plant** and all installations of direct current converters which do not form a **DC Converter Station**, **Embedded** within that **Network Operator's System**. The Network Operator must inform NGET of:

(i) the number of such **Embedded Power Stations** and such **Embedded** installations of direct current converters (including the number of **Generating Units** or **Power Park Modules** or **DC Converters**) together with their summated capacity; and

(ii) beginning from the 2015 Week 24 data submission, for each **Embedded Small Power Station** of registered capacity (as defined in the **Distribution Code**) of 1MW or more:

1. A reference which is unique to each Network Operator;
2. The production type as follows:

a) In the case of an Embedded Small Power Station first connected on or after 1 January 2015, the production type must be selected from the list below derived from the Manual of Procedures for the ENTSO-E Central Information Transparency Platform:

- Biomass;
- Fossil brown coal/lignite;
- Fossil coal-derived gas;
- Fossil gas;
- Fossil hard coal;
- Fossil oil;
- Fossil oil shale;
- Fossil peat;
- Geothermal;
- Hydro pumped storage;
- Hydro run-of-river and poundage;
- Hydro water reservoir;
- Marine;
- Nuclear;
- Other renewable;
- Solar;
- Waste;
- Wind offshore;
- Wind onshore; or
- Other;

together with a statement as to whether the generation forms part of a CHP scheme;

(iii) beginning from the 2019 Week 24 data submission, for each **Embedded small Power Station** with a **Registered Capacity** of 1MW or less aggregated per production type from the list in PC.A.3.1.4 (a)(ii)(2)(a)

PC.A.3.1.4 Text Commentary

The aim of the new text is simply to request submission of aggregated capacity per fuel type for all generation less than 1MW for each Network Operator for the current year.

Annex 5 Distribution Code Legal Text

DISTRIBUTION PLANNING AND CONNECTION CODE (DPC)

DISTRIBUTION PLANNING AND CONNECTION CODE 8

DPC8 TRANSFER OF PLANNING DATA

DPC8.1 **Introduction**

DPC8.1.1 **Distribution Planning and Connection Code** DPC8 details information to be exchanged between the **DNO** and **Users** that are connected at **High Voltage** including **Embedded Generators** and **Other Authorised Distributors**.

It includes data that is necessary in order for the **DNO's Distribution System** to be developed in an efficient, co-ordinated and economic manner, and to enable the **DNO** to comply with the conditions contained in its **Distribution Licence.**

DPC8.2 **Planning Information to be Provided by Users**

DPC8.2.1 Prospective and existing **Users** of the **DNO's Distribution System** must provide sufficient planning data/information as can reasonably be made available, when requested by the **DNO** from time to time to enable the **DNO** to comply with the requirements under its **Distribution Licence**. For those **Users** from whom **Demand** forecasts are required under **DOC1**, there will be a requirement to prepare an annual submission to the **DNO**. This submission, which is to be in accordance with **DOC1**, should include a development plan covering at least the subsequent 3 years and, where the **User** holds planning data or information relating to subsequent years up to 7 years ahead that data or information, including changes either increasing or decreasing in **Demand**, transfer requirements or generating capacity as appropriate.

DPC8.2.2 In addition to periodic updates of planning information a **User** should give adequate notice of any significant changes to the **User's System** or operating regime to enable the **DNO** to prepare its development plan, budget for, and implement any necessary **System** modifications. Such information should include any changes either increasing or decreasing in **Demand**, transfer requirements or generating capacity as appropriate. In the event of unplanned changes in a **User's System** or operating regime a **User** shall notify the **DNO** as soon as is practically possible to ensure any contingency measures, as necessary, can be implemented by the **DNO**.

DPC8.2.3 The **DNO** has an obligation under the **CUSC** to submit certain planning data/information relating to **Existing Offshore Generators** to **NGC**. Any **Existing Offshore Generators** will be required to cooperate with the **DNO** to contribute to the full and timely completion of the **Offshore Transmission Implementation Plan.**

DPC8.3 **Information to be Provided to Users**

DPC8.3.1 Where the **DNO** has received from a **User** any information or data under DPC8.3 or where the **DNO** proposes to make modifications to the **DNO's Distribution System** which, in either case, in the reasonable opinion of the **DNO**, may have an impact upon the **System** of any other **User,** the **DNO** will notify that **User** of the proposals subject to any constraints relating to the timing of release of information or confidentiality provisions.

DPC8.3.2 On request from a **User**, the **DNO** will notify the **User** of all the data submitted by that **User** that the **DNO** is holding and using for **Distribution Code** purposes.

Annex 6 EREC G83 Legal Text

Appendix 3 SSEG Installation Commissioning Confirmation

G83/2-1 SSEG INSTALLATION COMMISSIONING CONFIRMATION In accordance with ESQCR and HSE Certificate of Exemption (2008) (see Appendix 6) the Installer is required to advise the DNO of the intention to use the SSEG in parallel with the network no later than 28 days (inclusive of the day of commissioning), after commissioning the SSEG					
To ABC electricity distribution 99 West St, Imaginary Town, ZZ99 9AA				DNO or IDNO abced@wxyz.com	
SSEG installation address details					
Name of Customer at Site					
Customer contact telephone					
Site address					
Post Code					
MPAN					
SSEG owner if different from above					
Name and Contact Address Including Post Code					
Contact telephone number					
SSEG Details					
Note only technologies with Type Tested equipment can be installed under G83/2-1.					
Capacities	phase 1 in kW	phase 2 in kW	phase 3 in kW	Type test ref only for new installations	Primary energy source. ~~Eg Wind, Solar PV, Hydro, Gas CHP.~~ Please enter code from table below
New/Existing					
New/Existing					
New/Existing					
New/Existing					
The Maximum aggregate capacity of SSEGs installed in a single customer's installation under G83/2-1 is 3.68kW per phase at 230V AC. Identify above new SSEG installations and existing installations at the site which have not been de-commissioned as of the date of this declaration. Use a separate line for new and existing installations and for different Primary Energy sources above. For installations above 3.68kW per phase the separate G59 process applies and the DNO needs to be consulted before any installation is undertaken. Use ph 1 column for single phase supply					
I confirm that the new SSEGs noted above has/have been installed and commissioned to comply with the requirements of G83/2-1 as required by The Distribution Code. I enclose a copy of the circuit diagram which has been left on site at the customers incoming meter location.					
Name		Signed		Date	
On behalf of Installer					
Accreditation / Qualification					
Installer address					
Post code					
Contact person					
Telephone number					
E:mail address					

Primary Energy Source	Code	Primary Energy Source	Code
Solar PV	1	Wind	2
Hydro (run of river)	3	Hydro (reservoir)	4
Biomass	5	Other Renewable	6
Fossil gas	7	Waste	8
Fossil coal gas	9	Fossil oil	10
Fossil oil shale	11	Fossil peat	12
Geothermal	13	Fossil brown coal/lignite	14
Fossil hard coal	15	Hydro pumped storage	16
Marine	17	Nuclear	18
Offshore wind	19	Other	20

Annex 7 EREC G98 Legal Text

Form B: Installation Document for connection under G98

Please complete and provide this document for each premises, once **Micro-generator** installation is complete.

To ABC electricity distribution **DNO**

99 West St, Imaginary Town, ZZ99 9AA abced@wxyz.com

Customer Details:	
Customer (name)	
Address	
Post Code	
Contact person (if different from **Customer**)	
Telephone number	
E-mail address	
Customer signature	

Installer Details:	
Installer	
Accreditation / Qualification	
Address	
Post Code	
Contact person	
Telephone Number	
E-mail address	
Installer signature	

Installation details	
Address	
Post Code	
MPAN(s)	
Location within **Customer's Installation**	

Location of Lockable Isolation Switch			
Details of Micro-generator			
Manufacturer / Reference			
Date of Installation			
Primary Energy source please enter code from table below			
Power Factor			
Manufacturer's reference number			
Emerging technology classification (if applicable)			
Micro-generator Registered Capacity in kW	3-Phase Units		
	Single Phase Units	PH1	
		PH2	
		PH3	
Declaration – to be completed by Installer for Micro-generators Tested to EREC G98			
I declare that the relevant **Micro-generators** and the installation which together form a **Micro-generating Plant** within the scope of EREC G98 at the above address, conform to the requirements of EREC G98. This declaration of compliance is confined to **Micro-generating Plant** tested to EREC G98 or EREC G83 as applicable at the time of commissioning.			
Signature:		Date:	

Summary details of Micro-generators - where multiple **Micro-generators** will exist within one premises.

Manufacturer	Date of Installation	Technology Type	**Manufacturer's** Ref No (this number should be registered on the ENA **Type Test Verification Report** Register as Product ID)	**Micro-generator Registered Capacity** in kW				
				3-Phase Units	Single Phase Units			Power Factor
					PH1	PH2	PH3	

Use a separate line for new and existing installations and for different Primary Energy sources above. Use PH 1 column for single phase supply.

Primary Energy Source	Code	Primary Energy Source	Code
Solar PV	1	Wind	2
Hydro (run of river)	3	Hydro (reservoir)	4
Biomass	5	Other Renewable	6
Fossil gas	7	Waste	8
Fossil coal gas	9	Fossil oil	10
Fossil oil shale	11	Fossil peat	12
Geothermal	13	Fossil brown coal/lignite	14
Fossil hard coal	15	Hydro pumped storage	16
Marine	17	Nuclear	18
Offshore wind	19	Other	20

Annex 8 SOGL and KORRR Code Mapping

This can be found separately uploaded to our website under Annex 8.