

---

**All TSOs' proposal for the Key Organisational Requirements, Roles and Responsibilities (KORRR) relating to Data Exchange in accordance with Article 40(6) of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a Guideline on Electricity Transmission System Operation**

*20/09/2018*

---

Whereas .....	3
TITLE 1 General Provisions .....	5
Article 1 Subject matter and scope .....	5
Article 2 Definitions .....	6
Article 3 General responsibilities.....	7
Article 4 Confidentiality .....	7
Article 5 Access to information .....	8
TITLE 2 Key Organisational Requirements, Roles and Responsibilities .....	8
Chapter 1 Responsibilities of TSOs .....	8
Article 6 General Responsibilities.....	8
Article 7 Structural data used by TSOs .....	9
Article 8 Notification of changes .....	9
Article 9 Responsibilities of TSOs .....	10
Article 10 Format of Real Time Information.....	10
Chapter 2 Responsibilities of DSOs .....	11
Article 11 Notification of changes .....	11
Article 12 Rights and responsibilities of DSOs.....	12
Article 13 Real Time Data provided by DSOs.....	12
Chapter 3 Responsibilities of SGUs .....	12
Article 14 Structural Data provided by SGUs.....	13
Article 15 Notification of changes .....	13
Article 16 Scheduled Data provided by SGUs.....	13
Article 17 Real Time Data provided by SGUs.....	13
TITLE 3 Final provisions .....	14
Article 18 Implementation date of the KORRR.....	14
Article 19 Language .....	14

All TSOs, taking into account the following,

### Whereas

- (1) This document regarding the key organisational requirements, roles and responsibilities relating to data exchange (hereinafter referred to as “KORRR”) takes into account the general principles and goals set in Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereinafter referred to as “SO GL”), Commission Regulation (EU) 2015/1222 establishing a guideline on capacity allocation and congestion management, (hereinafter referred to as “CACM”), as well as, Commission Regulation (EU) 2017/2195 establishing a guideline on electricity balancing (hereinafter referred to as “EB GL” ). The purpose of the SO GL is to safeguard operational security, frequency quality and the efficient use of the interconnected system and resources. To achieve these goals, it is necessary that each party of the electric system has the necessary observability of the network elements and services that impact their activities. Especially relevant is the global demand-generation balance through the procurement of balancing services and activation of balancing energy bids, where EB GL assigns the responsibility to the transmission system operators (hereinafter referred to as “TSOs”). The KORRR addresses in particular the key roles, requirements and responsibilities of the TSOs, the distribution system operators (hereinafter referred to as “DSOs”), the closed distribution system operators (hereinafter referred to as “CDSOs”) and the significant grid users (hereinafter referred to as “SGUs”) in relation to the data exchange necessary to ensure that observability.
- (2) The KORRR takes into account and complements where necessary the operational conditions and requirements set out in the generation and load data provision methodology (hereinafter referred to as “GLDPM”) developed in accordance with Article 16 of CACM. While the GLDPM establishes which data has to be provided by whom and when to prepare the common grid model, the KORRR addresses who must exchange data as well as, how and when to perform the tasks defined in the SO GL. Furthermore, the GLDPM only refers to data exchange up to the day ahead, while KORRR also includes data exchange up to real time.
- (3) Article 40(5) of the SO GL specifies that TSOs shall determine, in coordination with DSOs and SGUs, data exchange applicability and scope based on the a) to d) categories in Article 40(5) referring to specific articles in Title II of the SO GL. Applicability is therefore to be determined at a national level and is subject to approval by the competent authority (National Regulatory Authority or another entity designated by the Member State).
- (4) The content of the KORRR document has been created based on the scope for the methodology specified in Article 40(6) of SO GL. Data exchange, following SO GL, shall be necessary to perform security analysis and to guarantee operational security in the Electric system. A certain level of harmonization shall be achieved, but to allow national or regional specificities, the KORRR shall not define the detailed information to be exchange between TSOs and significant stakeholders, the KORRR shall stablish the responsibilities at a national level of who shall define and approve the detailed information to be exchanged.
- (5) Article 40(7) of the SO GL specifies the TSOs’ obligation to agree with relevant DSOs on the process for exchanging information between them, including the format of data exchanges.
- (6) The KORRR shall ensure the provision of data necessary to perform the security analysis in accordance with Article 75 of the SO GL which specifies the obligation of TSOs to develop a methodology for coordinating operational security analysis.

- (7) Articles 40(8), 40(9) and 40(10) of the SO GL consider and regulate the exchange of information from TSOs to DSOs and/or SGUs. In this sense, the KORRR needs to consider bidirectional flows of information between all affected parties and takes into account the articles related to confidentiality and accessibility of data.
- (8) Article 6(6) of the SO GL requires a proposed implementation time scale and a description of the expected impact of the KORRR on the objectives of the SO GL. The KORRR has a fundamental impact on many of the objectives of SO GL and it has been written taking into account the principles of proportionality and non-discrimination. The KORRR sets out the obligations of all the involved participants and in doing so removes barriers to the data exchange. The KORRR sets a pan EU framework which delivers an efficient process at the lowest total cost for all involved parties. By specifying minimum requirements on data exchange methods, planning, formats and content the KORRR helps achieve a more coordinated and secure system.
- (9) The main added value of the KORRR is to define a common framework for data exchange between the different parties involved in the security of the electricity system. This common framework furthers the SO GL aim of determining common operational security requirements and principles in accordance with Article 4(1) (a) of the SO GL. The KORRR will address the organisation of the data exchange so each party can get the necessary data to have observability of the part of the network that impacts their operational security. This data will underpin many of the operational security processes set out in SO GL, and is therefore required for each party to comply with the SO GL requirements.
- (10) With the aim of determining common operational planning principles as required in Article 4(1) (b) of the SO GL, the KORRR allows for the receipt of data required to prepare scenarios to perform operational security analysis in the planning stage, as it is compulsory a combination of the structural and the real time information to perform those operational security analysis.
- (11) The KORRR includes the organisation to exchange, among other, real time data, and the provision of services to determine common load-frequency control processes and control structures as required in Article 4(1) (c) of the SO GL.
- (12) To ensure the conditions for maintaining operational security throughout the Union as specified in Article 4(1) (d) of the SO GL, TSOs need to have good observability of the system in order to perform reliable security analysis. The KORRR aims to set the framework for the TSOs to access necessary data for their respective observability area and prepare accurate scenarios.
- (13) Data exchanges on capabilities and active power production are necessary for TSOs to follow processes to maintain a frequency quality level for all synchronous areas throughout the Union as defined in Article 4(1) (e) of the SO GL.
- (14) The KORRR takes into account the exchange of structural and scheduled data between TSOs and DSOs to perform security analysis before and in real time to promote the coordination of system operation and operational planning as defined in Article 4(1) (f) of the SO GL.
- (15) Article 4(1) (g) of the SO GL aims at ensuring and enhancing the transparency and reliability of information about transmission system operation. The KORRR establishes the framework to regulate necessary information among different parties in the electric system to ensure operational security.
- (16) The KORRR will contribute to the efficient operation and development of the electricity transmission system and the electricity sector in the Union while having good observability of the system to perform reliable security analysis which help to identify improvements in the transmission system.

(17)The KORRR contributes to the general objectives of the SO GL to the benefit of all TSOs, DSOs, SGUs, consumers, market participants, the Agency and regulatory authorities.

SUBMIT THE FOLLOWING KEY ORGANISATIONAL REQUIREMENTS, ROLES AND RESPONSIBILITIES RELATING TO DATA EXCHANGE TO ALL REGULATORY AUTHORITIES:

## **TITLE 1**

### **General Provisions**

#### *Article 1*

#### *Subject matter and scope*

1. The KORRR as defined in the present document shall be considered the common proposal developed by all TSOs of the European Union in accordance with Article 40(6) of the SO GL and shall include organisational requirements, roles and responsibilities for data exchange according to Title II of this regulation.
2. The KORRR shall apply to all transmission systems, distribution systems and interconnections in the Union, in the area referred to in Article 2(2) of the SO GL.
3. The KORRR shall apply to SGUs as referred to in Article 2(1) of the SO GL. SGUs that provide services to the system individually or through an aggregator shall comply with prequalification rules defined at a national level. The roles and responsibilities of an aggregator shall be defined in the respective service provision agreements in observance of national prequalification rules.
4. The KORRR shall apply to:
  - a. CDSOs in their roles as relevant system operators. For the purposes of KORRR, CDSOs shall be considered as DSOs, as stated in Article 3(1) of the Commission Regulation (EC) 1388/2016 establishing a Network Code on Demand Connection (hereinafter referred to as "NC DCC"), and the requirements and responsibilities described shall apply accordingly.
  - b. Transmission-connected CDSOs in their roles as SGUs in accordance with Article 2(1) of the SO GL and, if determined at a national level within the applicability and scope of data exchanges subject to KORRR.
5. When applying the KORRR, system operators shall:
  - a. apply the principles of proportionality and non-discrimination;
  - b. ensure transparency;
  - c. apply the principle of optimisation between the highest overall efficiency and lowest total costs for all parties involved;
  - d. respect the responsibility assigned to the relevant TSO to ensure system security, as required by national legislation;
  - e. consult with relevant DSOs and take account of potential impacts on their system; and
  - f. follow agreed European standards and technical specifications.
6. TSOs from jurisdictions outside the area referred to in Article 2(2) of the SO GL may adopt the KORRR on a voluntary basis, provided that:
  - a. For them to do so is technically feasible and compatible with the requirements of SO GL.
  - b. They agree that they shall have the same rights and responsibilities with respect to the data exchange process as the TSOs referred to in paragraph 2, in particular, they shall accept that the KORRR applies to the relevant parties in their control area as well.

- c. They accept any other legally feasible conditions related to the voluntary nature of their participation in the data exchange process that the TSOs may set.
  - d. The TSOs referred to in paragraph 1 have concluded an agreement governing the terms of the voluntary participation with the TSOs referred to in this paragraph.
  - e. Once TSOs participating in the data exchange process on a voluntary basis have demonstrated objective compliance with the requirements set out in (a), (b), (c) and (d), of this paragraph, the TSOs referred to in paragraph 1, after checking that the criteria in (a), (b), (c) and (d) are met, have approved an application from the TSO wishing to join the KORRR process in accordance with the procedure set out in Article 5(3) of the SO GL.
7. The TSOs referred to in paragraph 2 shall monitor whether those TSOs participating in the data exchange process on a voluntary basis pursuant to paragraph 6 respect their obligations. If a TSO participating in the data exchange process pursuant to paragraph 6 neglects its essential obligations in a way that significantly endangers the implementation and operation of the SO GL, the TSOs referred to in paragraph 2 shall terminate that TSO's voluntary participation in the data exchange process in accordance with the procedure set out in Article 5(3) of the SO GL.

## *Article 2* *Definitions*

1. For the purposes of the KORRR, terms used in this document shall have the meaning of the definitions included in Article 3 of the SO GL, Article 2 of CACM, Article 2 of Regulation (EC) 714/2009 on conditions for access to the network for cross-border exchanges in electricity, Article 2 of Commission Regulation (EU) 543/2013 on submission and publication of data in electricity markets, Article 2 of Commission Regulation (EC) 631/2016 establishing a network code on requirements for grid connection of generators (hereinafter referred to as "NC RfG"), Article 2 of NC DCC, Article 2 of the Commission Regulation (EC) 1447/2016 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules (hereinafter referred to as "NC HVDC"), as well as Article 2 of the Directive 2009/72/EC of the European Parliament and of the Council concerning common rules for the internal market in electricity and the other items of legislation referenced therein.
2. The KORRR shall be binding upon all TSOs, their permitted successors and assigns- and irrespective of any change in the TSOs' names- as well as upon any other entities covered by the SO GL including DSOs and SGUs.
3. In the KORRR, unless the context requires otherwise:
  - a. The singular indicates the plural and vice versa.
  - b. The table of contents, headings and examples are inserted for convenience only and do not affect the interpretation of the KORRR.
  - c. Any reference to legislation, regulations, directive, order, instrument, network code or any other enactment shall include any modification, extension or re-enactment of it then in force.
4. A modification in a network element, power generating module or demand facility is considered significant for the purpose of the KORRR when it is also considered significant in the NC RfG, the NC DCC or the NC HVDC. In this context, national specificities in the implementation process concerning the definition of the term "significant" need to be taken into account.

5. For the purpose of the KORRR, real time data means a representation of the actual state of the power generating modules, demand facilities or network elements when the data is measured.

### *Article 3 General responsibilities*

1. Each TSO, DSO or SGU shall be responsible for the quality of the information they provide regarding their power generating modules, demand facilities or services to other parties.
2. On the basis of Articles 48 to 50 and 53 of the SO GL, the KORRR renders the provision of data both to TSOs and DSOs as the default option. This approach can be revised at a national level in order to allow SGUs the provision of data only to the TSO or to the DSO to which they are connected unless otherwise required to provide services to the system. In those cases where an SGU only provides data to a TSO or to a DSO to which they are connected, the TSO and the DSO shall exchange between them the data related to that SGU.
3. Subject to approval by the competent regulatory authority or by the entity designated by the Member State and according to Article 40 of the SO GL, it shall be determined at a national level whether distribution connected SGUs in its control area shall provide the structural, scheduled and real-time data to the TSO directly or through its connecting DSO. The decision on the data exchange model may be independent for each type of information and SGU, if required. When the data is provided to the DSO, the DSO shall provide the required data to the TSO with a data granularity required to comply with SO GL TSO's obligations.
4. When the TSO or the DSO receives the data directly from the SGU, the TSO or DSO shall check and endeavour to ensure that the data complies with the quality requirements specified by the TSO or, where applicable, by the DSOs before sharing it with another entity. The scope and the possible consequences of the quality check shall be defined at a national level.
5. Adjacent DSOs and/or the downstream DSO and upstream DSO shall inform each other on the processes and formats of any change in the data and information to be exchanged between them according to Article 40(6) of the SO GL."
6. The responsibilities regarding the installation, configuration, security and maintenance of communication links for data exchange up to the communication interface point shall be defined at a national level.
7. Subject to the agreement of the TSO or the DSO in case of SGUs providing directly data to a DSO, parties required to provide data under the KORRR shall be allowed to delegate all tasks or parts hereof assigned to it under the SO GL to one or more third parties, in case the third party can carry out the respective function at least as effectively as the delegating entity. The delegating entity shall remain responsible for ensuring compliance with the obligations under the SO GL, including ensuring access to information necessary for monitoring by the regulatory authority.

### *Article 4 Confidentiality*

1. Unless otherwise explicitly stated, all data affected by the KORRR shall be confidential. In accordance with Article 12 of the SO GL, each party receiving data according to the KORRR shall implement appropriate technical and organizational measures to ensure that data is not disclosed

to any other person or authority, without prejudice to cases covered by national law, other provisions of the SO GL or other relevant Union legislation.

2. Subject to the confidentiality obligations set out in Article 12 of the SO GL, TSOs may share the data obtained with all other involved TSOs that have fully implemented the requirements set out in the KORRR if necessary to carry out the operational security analyses or for maintaining operational security of their observability areas.

#### *Article 5* *Access to information*

1. Each power generating module, demand facility or CDSO considered as a SGU according to Article 2(1) of the SO GL shall have access to the structural information referring to its facilities stored by the TSO or DSO.
2. Each DSO shall have access to the structural, scheduled and real-time information of the SGUs connected to its distribution network.
3. Unless otherwise provided by the EU or national legislation, the TSOs shall provide DSOs access to the structural, scheduled and real-time information of the commissioned network elements of the transmission network, in accordance with Article 40(10) of the SO GL if necessary to carry out the operational security analyses or for maintaining operational security analyses of their grids. When the request of information comes from a CDSO, it may not include the connection point of other CDSOs or SGUs.
4. SGUs shall have access to the structural, scheduled and real-time information of the commissioned facilities of the transmission system or distribution system in their connection point. It shall not include the connection point of other SGUs.
5. Competent national regulatory authorities shall have access to all information exchanged subject to the KORRR upon request.
6. The TSOs may share structural information of DSOs or SGU with a third party to comply with the responsibilities defined in the SO GL, subject to the formalization of confidentiality and a limitation of use agreement.

## **TITLE 2**

### **Key Organisational Requirements, Roles and Responsibilities**

#### **Chapter 1** **Responsibilities of TSOs**

#### *Article 6* *General Responsibilities*

1. Each TSO shall communicate to the relevant TSOs, the elements of their transmission system identified as part of its observability area according to the methodology of Article 75 of the SO GL.



2. Each TSO shall communicate to the relevant DSOs of its control area, the elements of their distribution network identified as part of its observability area according to the methodology of Article 75 of the SO GL.
3. Each TSO shall provide updated information of the network elements in its transmission system that is part of the observability area of other TSO to those TSOs in accordance with Article 41 and 42(2) of the SO GL.
4. Each TSO shall exchange real-time data with the other TSOs of the same synchronous area in accordance with Article 42(1) of the SO GL.
5. Subject to approval of the competent regulatory authority or approval of the entity designated by the Member State in accordance with Article 40(5) of the SO GL, each TSO, in coordination with the DSOs and SGUs, shall define which SGUs in its control area shall provide real time data.
6. Each TSO shall provide updated information of DSO networks of its control area that is part of the observability area of other TSOs to those TSOs.
7. Each TSO shall provide updated information of the neighbouring TSO networks which have an impact on the distribution networks of its own control area to the DSOs operating those distribution networks.
8. All transmission and distribution data to be exchanged between TSO control areas shall be exchanged only through TSOs unless otherwise required by national legislation or specific agreements.
9. TSOs shall use the operational planning data environment platform for the exchange of structural and scheduled information with other TSOs for data required in accordance with Articles 114, 115, 116 and 117 of the SO GL. All TSOs shall use the harmonized data format for data exchange among them in accordance with Article 114(2) of the SO GL.
10. Each TSO shall electronically store the information needed for its processes for the duration defined by national legislation.

### **Structural data**

#### *Article 7*

#### *Structural data used by TSOs*

1. In agreement with relevant DSOs, according Article 40(7) of the SO GL, each TSO shall specify the format and may publish templates for the structural data that DSOs shall provide. The format or template has to include the detailed content of the structural data that have to be provided.
2. Each TSO shall specify the format and may publish templates for the structural data that transmission connected SGUs and distribution connected SGUs that exchanges data directly with the TSO shall provide according to the Article 40(7) of the SO GL respectively, whereas agreement between TSO and DSO shall be limited to the involved DSO. The format or template has to include the detailed content of the structural data that have to be provided.

#### *Article 8*

#### *Notification of changes*

1. Each TSO shall review the structural information it shares with other TSOs at least every 6 months. Each TSO shall provide updated information of the observability area to the neighbouring TSO as defined in

an agreement between involved TSOs, or if it's not defined in an agreement in the following situations, however in both cases not less than 3 months before:

- a. the planned commissioning of a new network element or SGU;
- b. the planned final removal from service of the network element or SGU; and
- c. the planned significant modifications in the network element or SGU.

Moreover each TSO shall provide an updated information as soon as possible in case there is a change in the observability area and as soon as an error in the data set transmitted earlier is detected.

2. According to Articles 5(3) and 5(4), DSOs and SGUs may request an update of the structural data from its TSO.

## **Scheduled data**

### *Article 9 Responsibilities of TSOs*

1. Each TSO shall be capable of exchanging scheduled data with TSOs and with SGUs, DSOs or third parties within its control area to whom the exchange of scheduled information may have been delegated. Scheduled data shall at least include generation and consumption schedules between two days ahead and close to real time, unavailability or limitations to active power production or consumption of SGUs and unavailability of network elements in the TSO's observability area.
2. In agreement with DSOs within the TSOs' control area, each TSO shall specify the format and may publish templates to exchange the scheduled data between them.
3. In coordination with SGUs or third parties within TSOs' control area, each TSO shall define and publish the format of the information for the exchange of scheduled data.
4. Each TSO shall define and publish the technical requirements, including time stamping, for the exchange of scheduled data with SGUs, DSOs or third parties within its control area. The technical requirements should where possible, be in accordance with an international standard recommended by all TSOs and with current technologies to guarantee the security, confidentiality and redundancy of the communications.
5. Each TSO shall communicate to the DSOs connected to the transmission system their planned and unplanned unavailability of network elements in their connection point. For planned unavailability, they shall agree on the necessary level of coordination and communication between them. For unplanned unavailability, the TSO shall communicate to them as soon as possible.
6. Each TSO shall communicate to the SGUs connected to the transmission system their planned and unplanned unavailability of network elements in their connection point.

## **Real Time data**

### *Article 10 Provisions of Real Time Information*

1. Each TSO, in agreement with the DSOs in its control area, shall specify and publish the list of detailed content for real time data exchange and the format for real-time data exchange between them related to the distribution network observability area within its control area.

2. Each TSO, in coordination with SGUs and DSOs, shall specify and publish the list of detailed content for real time data exchange and the format for real time data exchange related to SGUs within its control area.
3. Each TSO shall specify the technical requirements, including time stamping, for real time data exchange related to the distribution network observability area and to the SGUs within its control area. The technical requirements should where possible, be in accordance with an international standard recommended by all TSOs and with current technologies to guarantee security, confidentiality and redundancy of the communications.
4. Each TSO, when exchanging real time information with other TSOs, shall follow and fulfil all the rules and obligations according to the current all TSOs practices in terms of:
  - a. logical connections between parties and protocols used;
  - b. network architecture including redundancy;
  - c. network security rules;
  - d. identification code (ID) and/or naming convention and data quality;
  - e. data transmission parameters and performance; and
  - f. rules of conduct in the case of planned outages and disturbances of communication equipment.
5. Each TSO shall define the refresh rate for the real-time data exchanges in its control area. It shall not be longer than 1 minute.

## **Chapter 2** **Responsibilities of DSOs**

### **Structural data**

#### *Article 11* *Notification of changes*

1. Each DSO shall review the structural information of its network elements that form the observability area of its TSO and of the SGUs connected to those network elements at least every 6 months. Each DSO shall provide updated information to the TSO as defined at a national level or, if it's not defined at a national level, in the following situations, however in both cases not less than 3 months before:
  - a. the planned commissioning of a new network element or SGU;
  - b. the planned final removal from service of the network element or SGU; and
  - c. the planned significant modifications in the network element or SGU.

Moreover DSO shall provide an updated information as soon as possible in case there is a change in the observability area and as soon as an error in the data set transmitted earlier is detected.

2. Each DSO, in coordination with TSOs and SGUs, shall specify the format and may publish templates for the structural data that distribution connected SGUs that exchanges directly data with the DSO shall provide. The format or template has to include the detailed content of the structural data to be provided. In addition, in the case SGUs send data to TSO and DSO for efficiency and consistency reasons, the specified format should be, to the extent possible, the same as the one specified by TSOs according to Article 7(2) of KORRR.
3. According to Article 5(4), SGUs connected at the distribution level may request the update of the structural data from its DSO.

## **Scheduled data**

### *Article 12*

#### *Rights and responsibilities of DSOs*

1. According to Article 72 of SO GL, TSOs shall perform security analysis at several timeframes using its compulsory observability area calculated in Article 75 of SO GL. Therefore, all DSOs within the observability area of the relevant TSO shall provide to the TSO their planned unavailability of network elements for the timeframes defined in Article 72(1) of SO GL and their unplanned unavailability as soon as possible. For planned unavailability, they shall agree on the necessary level of coordination and communication between them. Transmission connected DSOs shall provide data directly to the TSO. Non-transmission connected DSOs may provide data directly to the TSO or through its connecting DSO or to both, as defined in Article 3(3) of KORRR. The frequency of delivery of scheduled data shall be defined at a national level.
2. Each DSO shall have access to the scheduled data of SGUs connected to its network. DSOs shall comply with the requirements defined by the relevant TSO to exchange scheduled data.

## **Real Time data**

### *Article 13*

#### *Real Time Data provided by DSOs*

1. Each DSO shall provide to its TSO real time data from the observability area defined by the TSO according to Article 44 of SO GL.
2. Each DSO shall fulfil the requirements defined by the TSO in terms of:
  - a. logical connections between parties and protocols used;
  - b. network Architecture including redundancy;
  - c. network security rules;
  - d. identification code (ID) and/or naming convention and data quality;
  - e. data transmission parameters and performance; and
  - f. rules of conduct in the case of planned outages and disturbances of communication equipment.

## **Chapter 3 Responsibilities of SGUs**

### **Structural data**

*Article 14*  
*Structural Data provided by SGUs*

1. Each SGU connected to the transmission system shall provide to its TSO the structural data according to Articles 45 and 52(1) of SO GL in the format specified by its TSO.
2. Each SGU connected to the distribution system shall provide directly to the TSO or through its connecting DSO or to both, as defined in Article 3(3), the structural data according to Articles 48 and 53 of the SO GL in the format specified by its TSO or DSO.

*Article 15*  
*Notification of changes*

1. Each SGU shall review the structural information it shares with the DSOs or TSOs of the control area the SGU belongs to, at least every 6 months. Each SGU shall provide updated information to the TSO and DSO as defined at a national level or, if it's not defined at a national level, in the following situations, however in both cases not less than 3 months before:
  - a. the planned commissioning of a new network element or SGU;
  - b. the planned final removal from service of the network element or SGU; and
  - c. the planned significant modifications in the network element or SGU.

Moreover SGU shall provide an updated as soon as an error in the data set transmitted earlier is detected and in case of an unforeseeable modification, the SGU shall inform the TSO without delay.

**Scheduled data**

*Article 16*  
*Scheduled Data provided by SGUs*

1. All SGUs within the control area of the TSO shall provide scheduled data to the TSO. Transmission connected SGUs shall provide data directly to the TSO. Distribution connected SGUs shall provide data directly to the TSO or through its connecting DSO or to both, as defined in Article 3(3).
2. SGUs shall comply with the requirements defined by the relevant TSO, or by the DSO according to KORRR, to exchange scheduled data. The frequency of delivery of scheduled data shall be defined at a national level.

**Real Time data**

*Article 17*  
*Real Time Data provided by SGUs*

1. Subject to Article 6(5) of KORRR, all concerned SGUs connected to the transmission system shall provide the real-time data directly to the TSO. Subject to Article 6(5) of KORRR, all concerned distribution connected SGUs shall provide the real-time data to the TSO directly or through its connecting DSO or to

both, as defined in Article 3(3). All SGUs which are power generating modules not subject to the NC RfG, or which are HVDC systems not subject to the NC HVDC, or which are demand facilities not subject to the NC DCC, shall inform to the TSO about their technical capabilities for real time data provision. The evaluation process to exempt particular SGUs, in case of non-compliance with the requirement to provide real time data, shall be defined at a national level.

2. Each SGU providing data directly to the TSO or the DSO when the data is directly provided to the DSO shall fulfil the requirements defined by the TSO in terms of:
  - a. logical connections between parties and protocols used;
  - b. network architecture including redundancy;
  - c. network security rules;
  - d. identification code (ID) and/or naming convention and data quality;
  - e. data transmission parameters and performance;
  - f. rules of conduct in the case of planned outages and disturbances of communication equipment.

### **TITLE 3** **Final provisions**

#### *Article 18* *Implementation date of the KORRR*

1. Upon approval of the KORRR each TSO shall publish it on the internet in accordance with Article 8(1) of the SO GL.
2. By 18 months after entry into force of the SO GL, and in accordance with Article 192 of the SO GL, TSOs shall apply the KORRR as described in Title 2 as soon as all regulatory authorities have approved the KORRR or a decision has been taken by the Agency in accordance with Article 6(8) and 7(3) of the SO GL.

#### *Article 19* *Language*

The reference language for the KORRR shall be English. For the avoidance of doubt, where TSOs need to translate the KORRR into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 8 (1) of the SO GL and any version in another language, the relevant TSOs shall, in accordance with national legislation, provide the relevant national regulatory authorities with an updated translation of the KORRR.