# Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a Network Code on Demand Connection (Text with EEA relevance)

# TITLE IV

# COMPLIANCE

# CHAPTER 1

# General provisions

# Article 34

# Responsibility of the demand facility owner, the distribution system operator and the closed distribution system operator

1 Transmission-connected demand facility owners and DSOs shall ensure that their transmission-connected demand facilities, transmission-connected distribution facilities, or distribution systems comply with the requirements provided for in this Regulation. A demand facility owner or a CDSO providing demand response services to relevant system operators and relevant TSOs shall ensure that the demand unit complies with the requirements provided for in this Regulation.

2 Where the requirements of this Regulation are applicable to demand units used by a demand facility or a closed distribution system to provide demand response services to relevant system operators and relevant TSOs, the demand facility owner or the CDSO may totally or partially delegate to third parties tasks such as communicating with the relevant system operator or relevant TSO and gathering the documentation from the demand facility owner, the DSO or the CDSO evidencing compliance.

Third parties shall be treated as single users with the right to compile relevant documentation and demonstrate compliance of their aggregated demand facilities or aggregated closed distribution systems with the provisions of this Regulation. Demand facilities and closed distribution systems providing demand response services to relevant system operators and relevant TSOs may act collectively through third parties.

3 Where obligations are fulfilled through third parties, third parties shall only be required to inform the relevant system operator of changes to the total services being offered, taking account of location specific services.

4 Where the requirements are specified by the relevant TSO, or are for the purpose of the operation of the relevant TSO's system, alternative tests or requirements for test result acceptance for these requirements may be agreed with the relevant TSO.

5 Any intention to modify the technical capabilities of the transmission-connected demand facility, the transmission-connected distribution facility, the distribution system, or the demand unit, which has impact on compliance with the requirements provided for in Chapters 2 to 4 of Title IV, shall be notified to the relevant system operator, directly or indirectly through a third party, prior to pursuing such modification, within the time frame provided by the relevant system operator.

6 Any operational incidents or failures of the transmission-connected demand facility, the transmission-connected distribution facility, the distribution system or the demand unit, which have an impact on compliance with the requirements provided for in Chapters 2 to 4 of Title IV, shall be notified to the relevant system operator, directly or indirectly through a third party, as soon as possible after the occurrence of such an incident.

7 Any planned test schedules and procedures to verify compliance of the transmissionconnected demand facility, the transmission-connected distribution facility, the distribution system, or the demand unit, with the requirements of this Regulation, shall be notified to the relevant system operator within the time frame specified by the relevant system operator and approved by the relevant system operator prior to their commencement.

8 The relevant system operator may participate in such tests and may record the performance of the transmission-connected demand facility, the transmission-connected distribution facility, the distribution system, and the demand unit.

# Article 35

# Tasks of the relevant system operator

1 The relevant system operator shall assess the compliance of a transmission-connected demand facility, a transmission-connected distribution facility, a distribution system, or a demand unit, with the requirements of this Regulation throughout the lifetime of the transmission-connected demand facility, the transmission-connected distribution facility, the distribution system, or the demand unit. The demand facility owner, the DSO or the CDSO shall be informed of the outcome of this assessment.

The compliance of a demand unit used by a demand facility or a closed distribution system to provide demand response services to relevant TSOs, shall be jointly assessed by the relevant TSO and the relevant system operator, and if applicable in coordination with the third party involved in demand aggregation.

2 The relevant system operator shall have the right to request that the demand facility owner, the DSO or the CDSO carries out compliance tests and simulations according to a repeat plan or general scheme or after any failure, modification or replacement of any equipment that may have an impact on the compliance of the transmission-connected demand facility, the transmission-connected distribution facility, the distribution system, or the demand unit with the requirements of this Regulation.

The demand facility owner, the DSO or the CDSO shall be informed of the outcome of those compliance tests and simulations.

3 The relevant system operator shall make publicly available the list of information and documents to be provided as well as the requirements to be fulfilled by the demand facility owner, the DSO or the CDSO in the frame of the compliance process. The list shall cover at least the following information, documents and requirements:

- a all documentation and certificates to be provided by the demand facility owner, the DSO or the CDSO;
- b details of the technical data required from the transmission-connected demand facility, the transmission-connected distribution facility, the distribution system, or the demand unit, with relevance to the grid connection or operation;
- c requirements for models for steady-state and dynamic system studies;
- d timeline for the provision of system data required to perform the studies;

- e studies by the demand facility owner, the DSO or the CDSO for demonstrating expected steady-state and dynamic performance referring to the requirements set forth in Articles 43, 44 and 45;
- f conditions and procedures including scope for registering equipment certificates;
- g conditions and procedures for the use of relevant equipment certificates issued by an authorised certifier by the demand facility owner, the DSO or the CDSO.

4 The relevant system operator shall make public the allocation of responsibilities to the demand facility owner, the DSO or the CDSO and to the system operator for compliance testing, simulation and monitoring.

5 The relevant system operator may totally or partially delegate the performance of its compliance monitoring to third parties. In such cases, the relevant system operator shall continue ensuring compliance with Article 11, including entering into confidentiality commitments with the assignee.

6 If compliance tests or simulations cannot be carried out as agreed between the relevant system operator and the demand facility owner, the DSO or the CDSO due to reasons attributable to the relevant system operator, then the relevant system operator shall not unreasonably withhold the operational notification referred to in Title II and Title III.

# CHAPTER 2

# Compliance testing

# Article 36

# **Common provisions for compliance testing**

1 Testing of the performance of a transmission-connected demand facility, a transmission-connected distribution facility, or a demand unit with demand response active power control, demand response reactive power control or demand response transmission constraint management, shall aim at demonstrating that the requirements of this Regulation have been complied with.

2 Notwithstanding the minimum requirements for compliance testing set out in this Regulation, the relevant system operator is entitled to:

- a allow the demand facility owner, the DSO or the CDSO to carry out an alternative set of tests, provided that those tests are efficient and suffice to demonstrate that a demand facility or a distribution system complies with the requirements of this Regulation; and
- b require the demand facility owner, the DSO or the CDSO to carry out additional or alternative sets of tests in those cases where the information supplied to the relevant system operator in relation to compliance testing under the provisions of Articles 37 to 41, is not sufficient to demonstrate compliance with the requirements of this Regulation.

3 The demand facility owner, the DSO or the CDSO is responsible for carrying out the tests in accordance with the conditions laid down in Chapter 2 of Title IV. The relevant system operator shall cooperate and not unduly delay the performance of the tests.

4 The relevant system operator may participate in the compliance testing either on site or remotely from the system operator's control room. For that purpose, the demand facility owner, the DSO or the CDSO shall provide the monitoring equipment necessary to record all relevant test signals and measurements as well as ensure that the necessary representatives of the demand

facility owner, the DSO or the CDSO are available on site for the entire testing period. Signals specified by the relevant system operator shall be provided if, for selected tests, the system operator wishes to use its own equipment to record performance. The relevant system operator has sole discretion to decide about its participation.

# Article 37

### Compliance testing for disconnection and reconnection of transmission-connected distribution facilities

1 The transmission-connected distribution facilities shall comply with the requirements for disconnection and reconnection referred in Article 19 and shall be subject to the following compliance tests.

2 With regard to testing of the capability of reconnection after an incidental disconnection due to a network disturbance, reconnection shall be achieved through a reconnection procedure, preferably by automation, authorised by the relevant TSO.

3 With regard to the synchronisation test, the technical synchronisation capabilities of the transmission-connected distribution facility shall be demonstrated. This test shall verify the settings of the synchronisation devices. This test shall cover the following matters: voltage, frequency, phase angle range, deviation of voltage and frequency.

4 With regard to the remote disconnection test, the transmission-connected distribution facility's technical capability for remote disconnection at the connection point or points from the transmission system when required by the relevant TSO and within the time specified by the relevant TSO shall be demonstrated.

5 With regard to the low frequency demand disconnection test, the transmissionconnected distribution facility's technical capability of low frequency demand disconnection of a percentage of demand to be specified by the relevant TSO, in coordination with adjacent TSOs, where equipped as provided for in Article 19, shall be demonstrated.

6 With regard to the low frequency demand disconnection relays test, the transmissionconnected distribution facility's technical capability to operate from a nominal AC supply input shall be demonstrated in accordance with Article 19(1) and (2). This AC supply input shall be specified by the relevant TSO.

7 With regard to the low voltage demand disconnection test, the transmission-connected distribution facility's technical capability to operate in a single action with on load tap changer blocking in Article 19(3) shall be demonstrated in accordance with Article 19(2).

8 An equipment certificate may be used instead of part of the tests provided for in paragraph 1, on the condition that it is provided to the relevant TSO.

# Article 38

# Compliance testing for information exchange of transmission-connected distribution facilities

1 With regard to information exchange between the relevant TSO and the transmissionconnected distribution system operator in real time or periodically, the transmission-connected distribution facility's technical capability to comply with the information exchange standard established pursuant to Article 18(3) shall be demonstrated.

2 An equipment certificate may be used instead of part of the tests provided for in paragraph 1, on the condition that it is provided to the relevant TSO.

### Article 39

# Compliance testing for disconnection and reconnection of transmission-connected demand facilities

1 The transmission-connected demand facilities shall comply with the requirements for disconnection and reconnection referred to in Article 19 and shall be subject to the following compliance tests.

2 With regard to testing of the capability of reconnection after an incidental disconnection due to a network disturbance, reconnection shall be achieved through a reconnection procedure, preferably by automation, authorised by the relevant TSO.

3 With regard to the synchronisation test, the technical synchronisation capabilities of the transmission-connected demand facility shall be demonstrated. This test shall verify the settings of the synchronisation devices. This test shall cover the following matters: voltage, frequency, phase angle range, deviation of voltage and frequency.

4 With regard to the remote disconnection test, the transmission-connected demand facility's technical capability for remote disconnection at the connection point or points from the transmission system when required by the relevant TSO and within the time specified by the relevant TSO shall be demonstrated.

5 With regard to the low frequency demand disconnection relays test, the transmissionconnected demand facility's technical capability to operate from a nominal AC input shall be demonstrated in accordance with Article 19(1) and (2). This AC supply input shall be specified by the relevant TSO.

6 With regard to the low voltage demand disconnection test, the transmission-connected demand facility's technical capability to operate in a single action with on load tap changer blocking in Article 19(3) shall be demonstrated in accordance with Article 19(2).

7 An equipment certificate may be used instead of part of the tests provided for in paragraph 1, on the condition that it is provided to the relevant TSO.

### Article 40

# Compliance testing for information exchange of transmission-connected demand facilities

1 With regard to information exchange between the relevant TSO and the transmissionconnected demand facility owner in real time or periodically, the transmission-connected demand facility's technical capability to comply with the information exchange standard established pursuant to Article 18(3) shall be demonstrated.

2 An equipment certificate may be used instead of part of the tests provided for in paragraph 1, on the condition that it is provided to the relevant TSO.

### Article 41

#### Compliance testing for demand units with demand response active power control, reactive power control and transmission constraint management

With regard to the demand modification test:

- a the technical capability of the demand unit used by a demand facility or a closed distribution system to provide demand response active power control, demand response reactive power control or demand response transmission constraint management to modify its power consumption, after receiving an instruction from the relevant system operator or relevant TSO, within the range, duration and time frame previously agreed and established in accordance with Article 28, shall be demonstrated, either individually or collectively as part of demand aggregation through a third party;
- b the test shall be carried out either by an instruction or alternatively by simulating the receipt of an instruction from the relevant system operator or relevant TSO and adjusting the power demand of the demand facility or the closed distribution system;
- c the test shall be deemed passed, provided that the conditions specified by the relevant system operator or relevant TSO pursuant to Article 28(2)(d)(f)(g)(h)(k) and (l) are fulfilled;
- d an equipment certificate may be used instead of part of the tests provided for in paragraph 1(b), on the condition that it is provided to the relevant system operator or relevant TSO.
- With regard to the disconnection or reconnection of static compensation facilities test:
- a the technical capability of the demand unit used by a demand facility owner or closed distribution system operator to provide demand response active power control, demand response reactive power control or demand response transmission constraint management to disconnect or reconnect, or both, its static compensation facility when receiving an instruction from the relevant system operator or relevant TSO, in the time frame expected in accordance with Article 28, shall be demonstrated, either individually or collectively as part of demand aggregation through a third party;
- b the test shall be carried out by simulating the receipt of an instruction from the relevant system operator or relevant TSO and subsequently disconnecting the static compensation facility, and by simulating the receipt of an instruction from the relevant system operator or relevant TSO and subsequently reconnecting the facility;
- c the test shall be deemed passed, provided that the conditions specified by the relevant system operator or relevant TSO pursuant to Article 28(2)(d)(f)(g)(h)(k) and (l) are fulfilled.

# CHAPTER 3

#### Compliance simulation

### Article 42

# Common provisions on compliance simulations

1 Simulation of the performance of a transmission-connected demand facility, a transmission-connected distribution facility, or a demand unit with demand response very fast

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active power control within a demand facility or a closed distribution system shall result in demonstrating whether the requirements of this Regulation have been fulfilled or not.

Simulations shall be run in the following circumstances:

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- a a new connection to the transmission system is required;
- b a new demand unit used by a demand facility or a closed distribution system to provide demand response very fast active power control to a relevant TSO has been contracted in accordance with Article 30;
- c a further development, replacement or modernisation of equipment takes place;
- d alleged incompliance by the relevant system operator with the requirements of this Regulation.

3 Notwithstanding the minimum requirements for compliance simulation set out in this Regulation, the relevant system operator is entitled to:

- a allow the demand facility owner, the DSO or the CDSO to carry out an alternative set of simulations, provided that those simulations are efficient and suffice to demonstrate that a demand facility or a distribution system complies with the requirements of this Regulation or with national legislation; and
- b require the demand facility owner, the DSO or the CDSO to carry out additional or alternative sets of simulations in those cases where the information supplied to the relevant system operator in relation to compliance simulation under the provisions of Articles 43, 44 and 45, is not sufficient to demonstrate compliance with the requirements of this Regulation.

4 The transmission-connected demand facility owner or the transmission-connected distribution system operator shall provide a report with the simulation results for each individual transmission-connected demand facility or transmission-connected distribution facility. The transmission-connected demand facility owner or the transmission-connected distribution system operator shall produce and provide a validated simulation model for a given transmission-connected demand facility or transmission-connected distribution facility. The scope of the simulation models is set out in Article 21(1) and (2).

5 The relevant system operator shall have the right to check that a demand facility or a distribution system complies with the requirements of this Regulation by carrying out its own compliance simulations based on the provided simulation reports, simulation models and compliance test measurements.

6 The relevant system operator shall provide the demand facility owner, the DSO or the CDSO with technical data and a simulation model of the network, to the extent necessary to carry out the requested simulations in accordance with Articles 43, 44 and 45.

### Article 43

#### Compliance simulations for transmission-connected distribution facilities

1 With regard to the reactive power capability simulation of a transmission-connected distribution facility:

- a a steady-state load flow simulation model of the network of the transmission-connected distribution system shall be used in order to calculate the reactive power exchange under different load and generation conditions;
- b a combination of steady-state minimum and maximum load and generation conditions resulting in the lowest and highest reactive power exchange shall be part of the simulations;

c calculating the reactive power export at an active power flow of less than 25 % of the maximum import capability at the connection point shall be part of the simulations in accordance with Article 15.

2 The relevant TSO may specify the method for compliance simulation of the active control of reactive power set out in Article 15(3).

3 The simulation shall be deemed passed if the results demonstrate compliance with the requirements set out in Article 15.

# Article 44

## Compliance simulations for transmission-connected demand facilities

1 With regard to the reactive power capability simulation of a transmission-connected demand facility without onsite generation:

- a the transmission-connected demand facility without onsite generation's reactive power capability at the connection point shall be demonstrated;
- b a load flow simulation model of the transmission-connected demand facility shall be used to calculate the reactive power exchange under different load conditions. Minimum and maximum load conditions resulting in the lowest and highest reactive power exchange at the connection point shall be part of the simulations;
- c the simulation shall be deemed passed if the results demonstrate compliance with the requirements set out in Article 15(1) and (2).

2 With regard to the reactive power capability simulation of a transmission-connected demand facility with onsite generation:

- a a load flow simulation model of the transmission-connected demand facility shall be used to calculate the reactive power exchange under different load conditions and under different generation conditions;
- b a combination of minimum and maximum load and generation conditions resulting in the lowest and highest reactive power capability at the connection point shall be part of the simulations;
- c the simulation shall be deemed passed if the results demonstrate compliance with the requirements set out in Article 15(1) and (2).

### Article 45

# Compliance simulations for demand units with demand response very fast active power control

1 The model of the demand unit used by a demand facility owner or a closed distribution system operator to provide demand response very fast active power control shall demonstrate the technical capability of the demand unit to provide very fast active power control to a low frequency event in the conditions set out in Article 30.

2 The simulation shall be deemed passed provided that the model demonstrates compliance with the conditions set out in Article 30.

### CHAPTER 4

### *Compliance monitoring*

### Article 46

### **Compliance monitoring for transmission-connected distribution facilities**

With regard to compliance monitoring of the reactive power requirements applicable to transmission-connected distribution facilities:

- (a) the transmission-connected distribution facility shall be equipped with necessary equipment to measure the active and reactive power, in accordance with Article 15; and
- (b) the relevant system operator shall specify the time frame for compliance monitoring.

#### Article 47

### **Compliance monitoring for transmission-connected demand facilities**

With regard to compliance monitoring of the reactive power requirements applicable to transmission-connected demand facilities:

- (a) the transmission-connected demand facility shall be equipped with necessary equipment to measure the active and reactive power, in accordance with Article 15; and
- (b) the relevant system operator shall specify the time frame for compliance monitoring.

#### **Changes to legislation:**

There are outstanding changes not yet made to Commission Regulation (EU) 2016/1388. Any changes that have already been made to the legislation appear in the content and are referenced with annotations.

View outstanding changes

#### Changes and effects yet to be applied to :

Regulation revoked by S.I. 2019/533 reg. 5(b) (This amendment not applied to legislation.gov.uk. Reg. 5 revoked on the day before IP completion day by S.I. 2019/1104, regs. 1(2), 2)

# Changes and effects yet to be applied to the whole legislation item and associated provisions

- Title 6 omitted by S.I. 2020/1006 Sch. 2 para. 22
- Signature words omitted by S.I. 2020/1006 Sch. 2 para. 24
- Annex 1 word substituted by S.I. 2020/1006 Sch. 2 para. 25(c)(i)
- Annex 1 word substituted by S.I. 2020/1006 Sch. 2 para. 25(c)(ii)
- Annex 1 word substituted by S.I. 2020/1006 Sch. 2 para. 25(c)(iii)
- Annex 1 word substituted by S.I. 2020/1006 Sch. 2 para. 25(c)(iv)
- Annex 1 word substituted by S.I. 2020/1006 Sch. 2 para. 25(c)(v)
- Annex 1 word substituted by S.I. 2020/1006 Sch. 2 para. 25(c)(vi)
- Annex 1 word substituted by S.I. 2020/1006 Sch. 2 para. 25(c)(vii)
- Annex 1 words omitted by S.I. 2020/1006 Sch. 2 para. 25(a)
- Annex 1 words omitted by S.I. 2020/1006 Sch. 2 para. 25(b)
- Annex 1 words omitted by S.I. 2020/1006 Sch. 2 para. 25(d)
- Annex 1 words omitted by S.I. 2020/1006 Sch. 2 para. 25(e)
- Annex 2 word substituted by S.I. 2020/1006 Sch. 2 para. 26(a)(iii)(aa)
- Annex 2 word substituted by S.I. 2020/1006 Sch. 2 para. 26(a)(iii)(bb)
- Annex 2 word substituted by S.I. 2020/1006 Sch. 2 para. 26(b)(iii)(aa)
- Annex 2 word substituted by S.I. 2020/1006 Sch. 2 para. 26(b)(iii)(bb)
  Annex 2 word a batieted by S.I. 2020/1006 Sch. 2 para. 26(b)(iii)(cb)
- Annex 2 word substituted by S.I. 2020/1006 Sch. 2 para. 26(b)(iii)(cc)
  Annex 2 words omitted by S.I. 2020/1006 Sch. 2 para. 26(a)(i)
- Annex 2 words omitted by S.I. 2020/1000 Sch. 2 para. 20(a)(i)
  Annex 2 words omitted by S.I. 2020/1006 Sch. 2 para. 26(a)(ii)
- Annex 2 words omitted by S.I. 2020/1000 Sch. 2 para. 26(a)(iv)
  Annex 2 words omitted by S.I. 2020/1006 Sch. 2 para. 26(a)(iv)
- Annex 2 words omitted by S.I. 2020/1006 Sch. 2 para. 26(a)(v)
- Annex 2 words omitted by S.I. 2020/1006 Sch. 2 para. 26(b)(i)
  Annex 2 words omitted by S.I. 2020/1006 Sch. 2 para. 26(b)(i)
- Annex 2 words omitted by S.I. 2020/1000 Sch. 2 para. 20(0)(1)
  Annex 2 words omitted by S.I. 2020/1006 Sch. 2 para. 26(b)(ii)
- Annex 2 words omitted by S.I. 2020/1006 Sch. 2 para. 26(b)(iv)
- Annex 2 words omitted by S.I. 2020/1000 Sch. 2 para. 20(0)(v)
- Art. 2(5) words substituted by S.I. 2020/1006 Sch. 2 para. 1(4)(b)(i)
- Art. 2(5) words substituted by S.I. 2020/1006 Sch. 2 para. 1(4)(0)(1)
- Art. 2(3) words substituted by S.I. 2020/1000 Sch. 2 para. 1(4)(0)(11)- Art. 3(2)(a) words substituted by S.I. 2020/1000 Sch. 2 para. 2(3)
- Art. 4(1)(a)(iii) word omitted by S.I. 2020/1000 Sch. 2 para. 2(3)
- Art. 4(1)(a)(iii) words omitted by S.I. 2020/1006 Sch. 2 para. 3(2)(b)(ii)
  - Art. 4(1)(a)(ii) word omitted by S.I. 2020/1006 Sch. 2 para. 3(2)(a)(i)
- Art. 4(1)(a)(ii) words omitted by S.I. 2020/1006 Sch. 2 para. 3(2)(a)(ii)
- Art. 4(1)(b) words substituted by S.I. 2020/1006 Sch. 2 para. 3(2)(c)
- Art. 4(2)(b) words substituted by S.I. 2020/1006 Sch. 2 para. 3(3)(a)(i)
- Art. 4(2)(b) words substituted by S.I. 2020/1006 Sch. 2 para. 3(3)(a)(ii)
- Art. 4(2)(b) words substituted by S.I. 2020/1006 Sch. 2 para. 3(3)(a)(iii)
- Art. 4(4)(b) word omitted by S.I. 2020/1006 Sch. 2 para. 3(5)(a)
- Art. 4(4)(b) words omitted by S.I. 2020/1006 Sch. 2 para. 3(5)(b)
- Art. 6(3)(d) words omitted by S.I. 2020/1006 Sch. 2 para. 4(4)(b)
- Art. 6(3)(f) word substituted by S.I. 2020/1006 Sch. 2 para. 4(4)(c)
  Art. 19(1)(c)(i) word substituted by S.I. 2020/1006 Sch. 2 para. 11

- Ar - Ar	t. 29(2)(g) word substituted by S.I. 2020/1006 Sch. 2 para. 12(c)(i) t. 29(2)(g) word substituted by S.I. 2020/1006 Sch. 2 para. 12(c)(ii) t. 42(3)(a) words substituted by S.I. 2020/1006 Sch. 2 para. 13
– Ar	
	t. 42(3)(a) words substituted by S.I. 2020/1006 Sch. 2 para. 13
– Ar	t. 48(3)(b) words omitted by S.I. 2020/1006 Sch. 2 para. 14(2)
– Ar	t. 49(2)(c) words substituted by S.I. 2020/1006 Sch. 2 para. 15