

# ACER draft amendments to the Network Code on Demand Connection

Fields marked with \* are mandatory.

## Introduction

This consultation aims at presenting ACER's draft amendments to the **Commission Regulation (EU) 2016 /1388 of 17 August 2016 establishing a Network Code on Demand Connection ('NC DC')**.

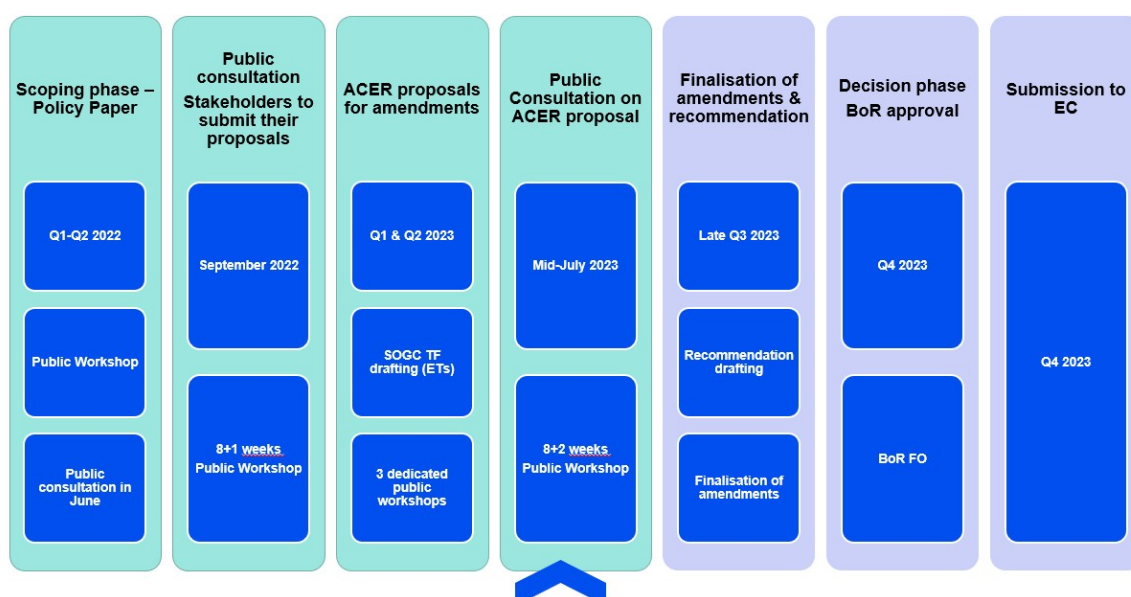
For draft amendments concerning Network Code on Requirements for Generators ('NC RfG'), please go to the respective form: [NC RfG](#).

**Responses to this consultation should be submitted by 25 September 2023.**

## Background

Important developments in the policies of decarbonisation of the European Union (EU) energy and transport sectors have taken place since the inception of the development of the first European Grid Connection Network Codes (GC NCs) in 2012.

In the framework of the Grid Connection European Stakeholder Committee (GC ESC), the European Commission proposed for ACER to initiate the process towards the amendment of the existing GC NCs in September 2022. The amendment process, as presented to the GC ESC is outlined in the Figure below:



Following the scoping phase, ACER published the Policy Paper on the revision of the network code on requirements for grid connection of generators and the network code on demand connection in September 2022. The Policy Paper aimed to transparently indicate to stakeholders the key policy areas in which amendments were to be expected.

[Access the ACER Policy Paper on the revision of the NC RfG and NC DC.](#)

As a next step, ACER launched the Public Consultation to gather stakeholders' views and concrete amendment proposals regarding the GC NCs. The stakeholders could submit their inputs by 21 November 2022.

[Access the results of the Public Consultation on the amendments to the grid connection network codes.](#)

Additionally, in the preparation of the draft amendment proposals, ACER organised three dedicated public workshops, namely:

- [electromobility, power-to-gas demand units and heat-pumps](#) (held on 17 April 2023);
- [rate of change of frequency and grid forming capabilities](#) (held on 10 May 2023); and
- [electricity storage](#) (held on 11 May 2023).

After the evaluation of stakeholders' inputs, ACER has formulated its own proposal for the amendments of the GC NCs which is subject to this public consultation.

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## Stakeholder's details

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Find out more how we process your data: <https://www.acer.europa.eu/the-agency/about-acer/data-protection>

\* Name of the stakeholder:

The European Association for Electromobility (AVERE)

\* Contact person:

[REDACTED]

\* Contact person's email address:

[REDACTED]

\* Country of the stakeholder's headquarters or main country of operation:

Belgium

\* Type of the stakeholder:

- ☒ Generator (including association)
- ☐ Consumer (including association)
- ☐ Transmission system operator (including association)
- ☐ Distribution system operator (including association)
- ☐ Manufacturers (including association)
- ☐ Academia/research institution
- ☐ Regulatory authority
- ☐ Other (please, elaborate)

Please, elaborate on your answer above, if necessary:

\* Do you consent to the publication of the stakeholder's name?

- ☒ Yes
- ☐ No

\* Do you consent to the publication of provided answers?

- ☒ Yes
- ☐ No (please, note that your answer, without your name and organization, may be shared with the EU institutions and national authorities)

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## Instructions

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Stakeholders are invited to submit their comments to the NC DC articles amended by ACER in three mandatory steps:

1. by downloading the ACER draft amendments in the Word file provided below. The file could also be accessed on the right panel of the consultation form under the Background Documents;
2. by commenting on the ACER's draft amendments through this online consultation form and adding their alternative text proposals to the table, if any; and
3. by uploading the alternative amendment proposals to the **entire NC DC** using the Track Changes mode in the ACER draft amendments file downloaded from Step 1.

Where the stakeholder does not have any comments regarding the amendments, the relevant cells in the consultation form can be left blank.

The mandatory steps for submitting the comments are listed below.

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Step 1

Please see ACER's draft amendments in the Word file provided below. The file could also be accessed on the right panel of the consultation form under the Background Documents.

[Download ACER draft amendments to the NC DC here](#)

Step 2

Kindly note that this consultation form follows the structure of the NC DC amended legal text provided by ACER in Step 1.

The paragraph numbering in the form reflects paragraph numbers in the amended legal text. Nevertheless, stakeholders can comment on the deleted paragraphs/articles/titles, which are marked as [deleted]. New articles and titles are marked as [new].

Please use this form to comment on ACER draft amendments and/or to provide an alternative text proposal. The instructions are the following:

Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below.

Includes new articles

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 1	1	2
Article 3		
Article 4		
Article 4a [new]		
Article 5		
Article 6		
Article 7		
Article 8		
Article 9		
Article 10		
Article 11		
Article 12		

Please write your amendment proposals, if any, in the table below.

	Text amendment proposal (if applicable)
New article	3

Please upload figures or tables if necessary

The maximum file size is 1 MB

Select file to upload4

1. Leave comments on the ACER draft amendment proposals.
  2. Propose (if any) alternative wording of the relevant provision, as you provided in the Word file.
  3. Provide (if any) your proposals for adding new provisions to the relevant section of the NC DC, as you provided in the Word file.
  4. Upload figures or tables if necessary; text inputs should be provided directly in the consultation form.
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### ***Step 3***

Where the stakeholder would like to propose an alternative amendment to the **entire NC DC**, please upload the Word file (**downloaded from Step 1**) containing all your alternative amendment proposals in the Track Changes mode to the next **FILE UPLOAD** section and rename it with your stakeholder's name ("ACER\_draft\_DC\_stakeholder\_name"). You can also upload your justification documents, where applicable.

To facilitate the process, please, make sure that the **alternative text proposals provided in this consultation form are consistent**, to the extent possible, **with those in the Word file** you are uploading, taking into account the character limitations of each cell (max 5000 characters).

## **FILE UPLOAD**

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Please upload your file here

The maximum file size is 1 MB

Only files of the type pdf,doc,docx,odt,txt,rtf are allowed

Please also upload any other document (i.e. **justifications**) below, if relevant.

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Due to the significant length of this survey:

- you have the possibility to edit your answer after submission. When clicking on "Submit" button, you will be given a Contribution ID which you can then use to access your answers and edit them, if necessary.
- we kindly suggest that you download the entire survey as .pdf (link on the right), prepare your answers and then upload them at once in the EU Survey Tool, to avoid a session timeout on submission.

The maximum length of each cell is 5000 characters. This is the maximum technical limit set by the EUsurvey tool, which cannot be increased.

## Whereas Section

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

Numbers in the first column correspond to the recitals of the amended version of NC DC Whereas section, including new recitals

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
(1)		
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		
(**)	Amendment proposal aims to capture autonomous energy communities.	Transmission-connected demand facilities, transmission-connected distribution facilities, new distribution systems, demand units used by a demand facility or a closed distribution system to provide demand response services to relevant system operators and relevant TSO, V1G electric vehicles and associated V1G electric vehicle supply equipment, heat-pumps, and power-to-gas demand units are subject to the requirements of this Regulation regardless of whether they are part of an energy community as defined in Regulation (EU) 2019/943, another entity, or a form of system users aggregation, unless such energy community, another entity, or a form of system users aggregation constitutes a fully autonomous energy island.
(8)		
(9)		
(10)		

(11)		
(12)		
(13)		
(14)		
(15)		<p>Frequency-related requirements should support the stable operation of the energy system which is being transformed to accommodate the green transition. In the future, the effectiveness of existing low frequency demand disconnection (LFDD) schemes is expected to be reduced due to the increased penetration of distributed generation. Therefore, a new limited frequency sensitive mode for various demand units (LFSM-UC) is being introduced to account for these changes. Furthermore, charging units for electro mobility, such as V1G, power-to-gas demand units and heat-pumps are usually technically capable to fulfil such a requirement without negative consequences for the grid user.</p> <p>LFSM-UC should support the frequency in exceptional cases so that LFDD schemes in the best case are not even triggered and no critical demand would be disconnected.</p>
(16)		
(17)		
(18)		
(19)		
(20)		
(21)		
(22)		

(23)		
(24)		

Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New recital	<p>Transmission-connected demand facilities, transmission-connected distribution facilities, new distribution systems, demand units used by a demand facility or a closed distribution system to provide demand response services to relevant system operators and relevant TSO, V1G electric vehicles and associated V1G electric vehicle supply equipment, heat-pumps, and power-to-gas demand units are subject to the requirements of this Regulation regardless of whether they are part of an energy community as defined in Regulation (EU) 2019/943, another entity, or a form of system users aggregation, unless such energy community, another entity, or a form of system users aggregation constitutes a fully autonomous energy island.</p>

## Definitions (Article 2)

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

Includes new definitions

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 2(1)		
Article 2(2)		
Article 2(3)	<p>TSOs believe not only the equipment at the connection point but also the equipment needed for the connection should be included.</p> <p>For this reason, clarification that facility is a part of a distribution system and clarification that it covers installation and equipments used at the site of the connection point is recommended.</p>	<p>'transmission-connected distribution facility' means a part of a distribution system and equipment used at the site of the connection point to the transmission system;</p>
Article 2(4)		<p>'demand unit' means an indivisible set of installations containing equipment which can be actively controlled by a demand facility owner or by a CDSO, either individually or commonly as part of demand aggregation through a third party or is a V1G electric vehicle and associated V1G electric vehicle supply equipment, power-to-gas demand unit or heat-pump.</p>
Article 2(5)		<p>'closed distribution system' means a distribution system classified pursuant to Article 38 of Directive (EU) 2019/944 as a closed distribution system by national regulatory authorities or by other competent authorities, where so provided by the Member State, which distributes electricity within a geographically confined industrial, commercial or shared services site</p>

		and does not supply household customers, without prejudice to incidental use by a small number of households located within the area served by the system and with employment or similar associations with the owner of the system;
Article 2(6)		
Article 2(7)		
Article 2(8)		
Article 2(9)		
Article 2(10)		
Article 2(11)		
Article 2(12)		
Article 2(13)		
Article 2(14)		
Article 2(15)		
Article 2(16)		
Article 2(17)		
Article 2(18)		
Article 2(19)		
Article 2(20)		
Article 2(21)		
Article 2(22)	New system needs, in connection with the Limited Frequency Sensitive Mode – Underfrequency Consumption (LFSM-UC).	'demand unit document' (DUD) means a document, issued either by the demand facility owner or the CDSO to the relevant system operator for demand units with demand response, demand units which are V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units or heat-pumps and connected at a voltage level

		above 1 000 V, which confirms the compliance of the demand unit with the technical requirements set out in this Regulation and provides the necessary data and statements, including a statement of compliance.
Article 2(*)		'power-to-gas demand unit' means a demand unit that converts electricity to gases (such as hydrogen or, with subsequent methanation, synthetic methane or other gases).
Article 2(**)		'heat pump' means a heat pump as defined in point (18) of Article 2 of Directive 2010/31/EU;
Article 2(***)		'minimum technical operating level' is the operation level of active power where the demand unit can operate without negative influence on the inherent process of its work, such as charging or electrolysis;
Article 2(****)	New system needs, in connection with the Limited Frequency Sensitive Mode – Underfrequency Consumption (LFSM-UC).	'limited frequency sensitive mode — underfrequency consumption' (LFSM-UC) means an operating mode which will result in active power consumption decrease in response to a change in system frequency below a certain value.

Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New definition	For the purposes of this Regulation, the definitions in Article 2 of Directive 2012/27/EU of the European Parliament and of the Council, Article 2 of Regulation (EU) 2019/943, Article 2 of Commission Regulation (EU) 2015/1222, Article 2 of Commission Regulation (EU) 2016/631, Article 2 of Commission Regulation (EU) No 543/2013 and Article 2 of Directive (EU) 2019/944 shall apply.

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## TITLE I - General provisions

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

Includes new articles

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 1	1.e is added to Article 1 with the following reasoning: new system needs, in connection with the Limited Frequency Sensitive Mode – Underfrequency Consumption (LFSM-UC).	<p>1. This Regulation establishes a network code which lays down the requirements for grid connection of:</p> <p>(a) transmission-connected demand facilities;</p> <p>(b) transmission-connected distribution facilities;</p> <p>(c) distribution systems, including closed distribution systems;</p> <p>(d) demand units, used by a demand facility or a closed distribution system to provide demand response services to relevant system operators and relevant TSOs;</p> <p>(e) V1G electric vehicles and associated V1G electric vehicle supply equipment, heat-pumps and power-to-gas demand units.</p>
		<p>1. The connection requirements set out in this Regulation shall apply to:</p> <p>(a) new transmission-connected demand facilities;</p> <p>(b) new transmission-connected distribution facilities;</p> <p>(c) new distribution systems, including new closed distribution systems;</p>

Article 3

1.e is added to Article 3 with the following reasoning: New system needs, in connection with the Limited Frequency Sensitive Mode – Underfrequency Consumption (LFSM-UC).

The reasoning for adding '... a new V1G electric vehicles and associated V1G electric vehicle supply equipment, a new power-to-gas demand unit, or a new heat-pump...' as follows: New system needs, in connection with the Limited Frequency Sensitive Mode – Underfrequency Consumption (LFSM-UC).

Reasoning for the change of wording in 2.b of Article 3 is: Pumped-hydro applications are covered by the NC RfG. The amendment to DCC reflects the outcomes of the GC ESC Expert

(d) new demand units used by a demand facility or a closed distribution system to provide demand response services to relevant system operators and relevant TSOs;

(e) new V1G electric vehicles that do not meet the definition of electricity storage and associated V1G electric vehicle supply equipment, heat-pumps and power-to-gas demand units, with maximum consumption capacity larger than 800W at any voltage level.

The relevant system operator shall refuse to allow the connection of a new transmission-connected demand facility, a new transmission-connected distribution facility, or a new distribution system, a new V1G electric vehicle and associated V1G electric vehicle supply equipment, a new power-to-gas demand unit, or a new heat-pump, which does not comply with the requirements set out in this Regulation and which is not covered by a derogation granted by the regulatory authority, or other authority where applicable in a Member State pursuant to Article 50. The relevant system operator shall communicate such refusal, by means of a reasoned statement in writing, to the demand facility owner, DSO, or CDSO and, unless specified otherwise by the regulatory authority, to the regulatory authority.

Based on compliance monitoring in accordance with Title III, the relevant TSO shall refuse

Group “Pump Storage Hydro (PSH)”. If the amendment is not implemented, it could lead to legal ambiguity as two potentially conflicting sets of requirements could apply for when in pump-mode (RfG & DCC).

Reasoning for adding 2.c to Article 3 is: 16.7 Hz power supply system does not operate synchronously with the synchronous area.

2.d is added to Article 3 in order to capture fully autonomous energy islands.

demand response services subject to Articles 27 to 30 from new demand units not fulfilling the requirements set out in this Regulation.

2. This Regulation shall not apply to:

(a) demand facilities and distribution systems connected to the transmission system and distribution systems, or to parts of the transmission system or distribution systems, of islands of Member States of which the systems are not operated synchronously with either the Continental Europe, Nordic, Ireland and Northern Ireland or Baltic synchronous area;

(b) electricity storage modules and pump-storage power generating modules that have both generation and charging/pumping mode;

(c) demand facilities that part of other frequencies than 50 Hz and DC-current (e. g. 16.7 Hz power supply systems) that not connected on the synchronous area (e. g. static converter stations;

(d) demand facilities that are part of a fully autonomous energy island and operate in parallel with the system for less than five minutes per calendar month while the system is in normal system state. Parallel operation during maintenance or commissioning tests of that demand facility shall not count towards the five-minute limit.

		<p>3. In case of demand facilities or closed distribution systems with more than one demand unit, these demand units shall together be considered as one demand unit if they cannot be operated independently from each other or can reasonably be considered in a combined manner.</p>
Article 4	<p>Reasoning for wording change in 1.a of Article 4 is explained below in two-step approach:</p> <p>(1) Firstly, The amendment proposal includes the recommendations from EG CSM.</p> <p>Alignment with RfG amendment proposal.</p> <p>Compared to proposal from the expert group, this amendment proposes:</p> <p>to use the wording “substantially” instead of “materially” to be more coherent with current version of RfG and to have a non-ambiguous translation to the different EU national languages.</p> <p>Implications may be that many stakeholders argue that no modernization took place because the characteristics have not been altered.</p> <p>The new articles 4.8 and 4.9 to further clarify the application of the above provisions.</p> <p>(2) Secondly, Article 4.1 to be extended to provide further definition as to what modernization or replacement is critical in</p>	<p>Proposed text amendment for 1.a:</p> <p>an existing transmission-connected demand facility, an existing transmission-connected distribution facility, an existing distribution system, or an existing demand unit within a demand facility at a voltage level above 1 000 V or a closed distribution system connected at a</p>

	<p>triggering the retrospective application of the DCC to existing transmission connected demand facilities, DSOs' systems and demand units.</p> <p>Reasoning for deleting (ii) in 1.a of Article 4 is:</p> <p>The amendment proposal includes the recommendations from EG CSM.</p> <p>Alignment with RfG amendment proposal.</p> <p>Compared to proposal from the expert group, this amendment proposes:</p> <p>to use the wording "substantially" instead of "materially" to be more coherent with current version of RfG and to have a non-ambiguous translation to the different EU national languages.</p> <p>Implications may be that many stakeholders argue that no modernization took place because the characteristics have not been altered.</p>	<p>voltage level above 1 000 V, has been subject to a significant modernisation in accordance with the proposal developed according to Article 4a.</p>
		<p>Significant modernisation</p> <p>1. Proposals for defining significant modernisation of transmission-connected demand facilities, transmission-connected distribution facilities, distribution systems and demand units that are or can be used by a demand facility or a closed distribution system to provide demand response services to a relevant system operator or relevant TSO and the requirements applicable in those cases shall be</p>

Article 4a [new]

Reasoning for the change in the title and the wording are explained below in a two-step approach:

(1) Firstly, the amendment proposal includes the recommendations from EG CSM.

Alignment with RfG amendment proposal.

Compared to proposal from the expert group, this amendment proposes:

to use the wording “substantially” instead of “materially” to be more coherent with current version of RfG and to have a non-ambiguous translation to the different EU national languages.

Implications may be that many stakeholders argue that no modernization took place because the characteristics have not been altered.

The new articles 4.8 and 4.9 to further clarify the application of the above provisions.

(2) Secondly, Article 4.1 to be extended to provide further definition as to what modernization or replacement is critical in

subject to approval by the relevant regulatory authority or, where applicable, the Member State.

In developing the proposals, the TSO shall coordinate with relevant DSOs and conduct a public consultation in accordance with Article 9.

2. The definition of significant modernisation shall take into account at least the following criteria:

1) In the case of a transmission-connected demand facility and a transmission-connected distribution facility:

a) a percentage increase above the existing maximum import or export capability;

b) a percentage increase in the short-circuit current contribution;

c) an increase in the range of reactive power exchange; or

d) a change of components/assets apart from maintenance and repair activities and spare parts.

(2) In the case of a distribution system (including closed distribution systems), the replacement of a percentage of the equipment comprising that distribution system.

(3) In the case of a demand unit that can be used

	<p>triggering the retrospective application of the DCC to existing transmission connected demand facilities, DSOs' systems and demand units.</p>	<p>by a demand facility or closed distribution system to provide demand response services:</p> <ul style="list-style-type: none"> <li>a) any change in the range of frequencies or voltages over which the demand unit can operate;</li> <li>b) a percentage deviation from the demand response capacity notified to the relevant system operator; or</li> <li>c) a change of components/assets apart from maintenance and repair activities and spare parts,</li> </ul> <p>In the proposal, the TSO can propose additional criteria defining a significant modernisation.</p> <p>3. For each criterion listed in paragraph 2 above, the TSO's proposal shall specify the requirements of this Regulation that shall apply to the entire modernised facility, unit or distribution system or only to the modernised part of the facility, unit or distribution system.</p>
Article 5	<p>The title and the wording is proposed to be changed upon the following reasoning:</p> <p>In connection with Article 3.2(b), pumped-hydro applications are covered by the NC RfG. The amendment to DCC reflects the outcomes of the GC ESC Expert Group "Pump Storage Hydro (PSH)".</p>	<p>Application to industrial sites</p> <p>In the case of industrial sites with an embedded power generating module, the system operator of an industrial site, the demand facility owner, the power generating facility owner and the relevant system operator to whose system the industrial site is connected, may agree, in coordination with the relevant TSO, on conditions for disconnection</p>

	<p>If the amendment is not implemented, it could lead to legal ambiguity as two potentially conflicting sets of requirements could apply for when in pump-mode (RfG &amp; DCC).</p>	<p>of critical loads from the relevant system. The objective of the agreement shall be to secure production processes of the industrial site in case of disturbed conditions in the relevant system.</p>
Article 6	<p>The editorial change for Article 6(4) serves to align the wording with Article 6(1) NC DC (“designated entity”) as well as Serves to allow a more rapid implementation of the non-exhaustive requirements on national level and serves to provide coherence with the respective amendment proposal on Article 7(4) RfG 2.0.</p> <p>The reasoning behind the change in Article 6(7) is:</p> <p>It should be clear, that if the NRA finds that something is not in accordance with the Regulation or the principles, it can also deem an amendment is needed.</p>	<p>... 4. The relevant system operator or TSO shall submit a proposal for requirements of general application, or the methodology used to calculate or establish them, for approval by the designated entity within two years of entry into force of this Regulation. The Member State may provide for a shorter time period for all or parts of the requirements or the methodologies. In this case, the Member State shall communicate the shorter time period to the European Union Agency for the Cooperation of Energy Regulators (ACER).</p> <p>... 7. If the relevant system operator, TSO or relevant regulatory authority or designated entity deems an amendment to requirements or methodologies as provided for and approved under paragraph 1 and 2 to be necessary, the requirements provided for in paragraphs 3 to 8 shall apply to the proposed amendment. System operators, TSOs or relevant regulatory authority or designated entity proposing an amendment shall take into account the legitimate expectations, if any, of demand facility owners, DSOs, CDSOs, equipment manufacturers and other stakeholders based on the initially specified or agreed requirements or methodologies.</p>
Article 7		

Article 8		
Article 9		
Article 10	'The Agency for the Cooperation of Energy Regulators (the Agency)' can be changed with 'ACER'.	
Article 11		

Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

The maximum file size is 1 MB

## TITLE II - Connection of transmission-connected demand facilities, transmission-connected distribution facilities and distribution systems

Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 12		
Article 13		
Article 14	<p>The wording of 'relevant' is added to the following sentence in Article 14(1): Based on the rated short-circuit withstand capability of its relevant transmission network elements... The reasoning is that not all transmission network elements should be considered by the TSO to specify the maximum short-circuit current at the connection point, but only the relevant ones.</p> <p>The justification for the change in Article 14(2): The wording “short-circuit currents” should be replaced by “short-circuit currents contribution” for accuracy of the requirement. The same change proposal applies to the following requirement of this article.</p> <p>For these reasons, the following is recommended.</p> <p>A new text is proposed for Article 14(3) because both sides of the interface between the TSO and the transmission-connected demand facility or the transmission-connected distribution system are influencing the respective other side in terms of short circuits. This is because of physics and cannot be avoided. Therefore, both sides need the information in terms of short circuit of the</p>	<ol style="list-style-type: none"> <li>1. Based on the rated short-circuit withstand capability of its relevant transmission network elements, the relevant TSO shall specify the maximum short-circuit current at the connection point that the transmission-connected demand facility or the transmission-connected distribution system shall be capable of withstanding.</li> <li>2. The relevant TSO shall deliver to the transmission-connected demand facility owner or the transmission-connected distribution system operator an estimate of the minimum and maximum short-circuit currents contribution to be expected at the connection point as an equivalent of the network.</li> <li>3. The relevant transmission-connected demand facility owner or the transmission-connected distribution system operator shall deliver to the relevant TSO an estimate of the minimum and maximum short-circuit current contribution to be</li> </ol>

	<p>respective other side.</p> <p>Parts from (4) to (9) are deleted because the deleted items are not related to connection capabilities but to operational planning and therefore are subject of and covered by SO-GL.</p>	<p>expected at the connection point as an equivalent of the network.</p>
	<p>The justification for the change in 1(a) in Article 15 is: The NC requirements are defined as shares of the maximum capacity which means that the capability to stay within a rectangular area in the P-Q plane is requested.</p> <p>One point of the P-Q plane can also be described by a P and power factor coordinated but defining the requirement in terms of power factor could lead to the understanding that the capability to stay within a triangular area in the P-Q plane is requested, which is not the case. For</p>	<p>(a) for transmission-connected demand facilities, the actual reactive power range specified by the relevant TSO for absorption and supply of reactive power shall not be wider than 48 percent of the larger of the maximum consumption capability or maximum infeed capability, except in situations where either technical or financial system benefits are demonstrated, for transmission-connected demand facilities, by the transmission-connected demand facility owner and accepted by the relevant TSO;</p> <p>(b) for transmission-connected distribution systems, the actual reactive power range specified by the relevant TSO for importing and exporting reactive power shall not be wider than:</p> <p>(i) 48 percent of the larger of the maximum consumption capability or maximum infeed capability during reactive power absorption; and</p> <p>(ii) 48 percent of the larger of the maximum consumption capability or maximum infeed capability during reactive power supply;</p>

## Article 15

clarity reasons the expression of the power factor in the brackets should then be deleted as this objective of clarification is misleading.

Additionally, the wording import/export has led to confusion during several national implementation where import or export could depend on the point of view; an import from the distribution grid is an export from the transmission grid. It is therefore proposed to use, throughout the NC text the wording consumption/infeed to better clarify the requirement.

The reasoning for the change in Article 15(2) is: Reactive power requirements lack clarity and hence, limit legal certainty. Appropriate changes were proposed for relevant provisions of Article 15 to avoid misinterpretation.

except in situations where either technical or financial system benefits are proved by the relevant TSO and the transmission-connected distribution system operator through joint analysis;

...

(d) the relevant TSO may establish the use of metrics other than a percentage of the maximum consumption capability or maximum infeed capability in order to set out equivalent reactive power capability ranges;

...

2. The relevant TSO may require that transmission-connected distribution systems have the capability at the connection point or over a set of connection points defined by the relevant TSO, not to supply reactive power to the transmission system when the magnitude of the active power exchange between the transmission-connected distribution system and the transmission system is lower than a threshold defined by the relevant TSO.

Where applicable, Member States may require the relevant TSO to justify the defined set of connection points through a joint analysis with transmission-connected distribution system operators.

Article 16		
Article 17		
Article 18		
	Article 19(1)(c) is reworded to improve legal certainty and clarify the terms used.	<p>1(c) the low frequency demand disconnection functional capabilities shall allow for operation from an electrical input signal to be specified by the relevant system operator, in coordination with the relevant TSO, and shall meet the following requirements:</p> <p>(i) frequency range: at least between 47-50 Hz, adjustable in steps of 0,05 Hz;</p> <p>(ii) relay tripping time including measurement and calculation time of the relay tripping time: no more than 150 ms in the case that rate of change of frequency trigger is used. If the low frequency demand disconnection does not include any rate of change of frequency trigger function, then the relay tripping time including measurement and calculation time of the relay tripping time shall be no more than 100 ms;</p> <p>(iii) maximum total tripping action time including relay tripping time, tripping action of auxiliary circuits and circuit breaker opening time: no more than 200 ms;</p> <p>(iv) relay accuracy: lower than 30 mHz;</p> <p>(v) voltage lock-out: blocking of the functional capability shall be possible when the voltage is within a range of 30 to 90 % of reference 1 pu</p>

## Article 19

The text in Article 19(1)(d) is reworded to improve legal certainty; terms used in this provisions could be ambiguous leading to diverging interpretations.

Article 19(4)(c) is reworded to improve legal certainty as it is unclear what 'TSO request' refers to.

voltage;

(vi) provide the direction of active power flow at the point of disconnection;

(d) the electrical input signal used in providing low frequency demand disconnection functional capabilities, shall be provided from the network at the frequency signal measuring point, as used in providing functional capabilities in accordance with paragraph 1(c), so that the frequency of the low frequency demand disconnection functional capabilities input signal is the same as the one of the network and may be specified by the relevant system operator. Input signals shall consist of at least two phases of the measured network.

...

(4)(c) if required by the relevant system operator, a transmission-connected demand facility or a transmission-connected distribution facility shall be equipped with a logic interface (input port) in order to be disconnected, eventually in block loading, from the transmission system. If the relevant system operator requires a transmission-connected demand facility or a transmission-connected distribution facility to be equipped with such logic interface, it shall have the right to specify requirements for the equipment to make this facility operable remotely. The relevant TSO shall specify the time required for remote

		disconnection.
Article 20		
Article 21	<p>In Article (21)(3)(b) and (c), more precise descriptions are provided for the model requirements as a result of the work of the Expert Group EG ISSM.</p> <p>Justification for the change in Article 21(4)(b) is: Simulation models should consider frequency regulation despite the capability of demand response system frequency control - based on the EG ISSM input.</p> <p>Article 21(5) is proposed to change because TSO should prepare such specifications for transmission-connected system users in coordination with relevant system operators.</p>	<p>...</p> <p>3. Each TSO shall specify the content and format of those simulation models or equivalent information. The content and format shall include:</p> <p>(a) steady and dynamic states, including 50 Hz component;</p> <p>(b) electromagnetic transient simulations in time domain at the connection point;</p> <p>(c) frequency domain simulations including the frequency dependent grid impedance at the connection point;</p> <p>(d) structure and block diagrams.</p> <p>4. For the purpose of dynamic simulations, the simulation model or equivalent information referred to in paragraph 3(a) shall contain the following sub-models or equivalent information:</p> <p>(a) power control;</p> <p>(b) voltage and frequency control;</p> <p>(c) transmission-connected demand facility and transmission-connected distribution system protection models;</p> <p>(d) the different types of demand, that is to say electro technical characteristics of the demand; and</p> <p>(e) converter models.</p>

		<p>5. Each relevant TSO in coordination with the relevant system operators shall specify the requirements of the performance of the recordings of transmission-connected demand facilities or transmission-connected distribution facilities, or both, in order to compare the response of the model with these recordings.</p>
Article 22		
Article 23		
Article 24	<p>The amended text in Article 24(b) clarifies the minimum subpart of the transmission connected demand facilities for which the technical data should be provided.</p> <p>There is a wrong reference in Article 24(3)(e). Articles 46 and 47 refer to the compliance monitoring, not to simulation studies.</p>	<p>...</p> <p>(3)(b) detailed technical data of the transmission-connected demand facility including any V1G electric vehicle supply equipment, power-to-gas demand units, heat pumps of the facility, the transmission-connected distribution facility or the transmission-connected distribution system relevant to the grid connection as specified by the relevant TSO;</p> <p>(c) equipment certificates issued by an authorised certifier in respect of transmission-connected demand facilities including any V1G electric vehicle supply equipment, power-to-gas demand units, heat pumps of the facility, transmission-connected distribution facilities and transmission-connected distribution systems, where these are relied upon as part of the evidence of compliance;</p> <p>...</p> <p>(3)(e) studies demonstrating expected steady-</p>

		state and dynamic performance as required in Articles 43, 44 and 45.
Article 25		<p>3)(b) an update of the applicable technical data, simulation models and studies as referred to in points (b), (d) and (e) of Article 24(3), including the use of actual measured values during testing; and</p> <p>c) an update of the applicable technical data, simulation models and studies proving compliance of electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps.</p>
Article 26		

Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

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### TITLE III - Connection of demand units used by a demand facility or a closed distribution system to provide demand response services to system operators

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 27		
Article 28		
Article 29		
Article 30		
Article 31	This addition is needed to make sure that this article applies to demand units providing demand response and not all demand units.	<p>1. The operational notification procedure for demand units used by a demand facility or a closed distribution system to provide demand response to system operators shall be distinguished between:</p> <p>(a) demand units providing demand response services within a demand facility or a closed distribution system connected at a voltage level of or below 1 000 V;</p> <p>(b) demand units providing demand response services within a demand facility or a closed distribution system connected at a voltage level above 1 000 V.</p>
Article 32	This addition is needed to make sure that this article applies to demand units providing demand response and not all demand units.	<p>Procedures for demand units providing demand response within a demand facility or a closed distribution system connected at a voltage level of or below 1 000 V</p> <p>1. The operational notification procedure for a demand unit providing demand response services within a demand facility or a closed distribution system connected at a voltage level</p>

		of or below 1 000 V shall comprise an installation document.
Article 33	This addition is needed to make sure that this article applies to demand units providing demand response and not all demand units.	<p>Procedures for demand units providing demand response within a demand facility or a closed distribution system connected at a voltage level above 1 000 V</p> <p>1. The operational notification procedure for a demand unit providing demand response services within a demand facility or a closed distribution system connected at a voltage level above 1 000 V shall comprise a DUD. The relevant system operator, in coordination with the relevant TSO, shall specify the content required for the DUD. The content of the DUD shall require a statement of compliance which contains the information in Articles 36 to 47 for demand facilities and closed distribution systems, but the compliance requirements in Articles 36 to 47 for demand facilities and closed distribution systems can be simplified to a single operational notification stage as well as be reduced. The demand facility owner or CDSO shall provide the information required and submit it to the relevant system operator. Subsequent demand units with demand response shall provide separate DUDs.</p> <p>2. Based on the DUD, the relevant system operator shall issue a FON to the demand facility owner or CDSO.</p>

Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New article	

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**[NEW] TITLE XXX - Connection of V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps**

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
		<p>Specific provisions for V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps</p> <p>1. With regard to frequency and voltage ranges, V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps shall comply with the following requirements:</p> <p>(a) be capable of operating across the frequency ranges specified in Table XY;</p> <p>(b) be capable of staying connected to the network and operate continuously within the range of 0,85 pu - 1,1 pu at the connection point. Beyond these voltage range values, the under voltage ride through immunity limits.</p> <p>(c) Table XY on minimum time periods for which a V1G electric vehicle and an associated V1G electric vehicle supply equipment shall be capable of operating on different frequencies, deviating from a nominal value, without disconnecting from the network.</p> <p>2. With regard to the rate of change of frequency withstand capability,</p> <p>(a) a V1G electric vehicle and associated V1G</p>

electric vehicle supply equipment, power-to-gas demand unit and heat-pump shall be capable of staying connected to the network and operating at rates-of-change-of-frequency up to the following values:

- (i)  $\pm 4,0$  Hz/s over a period of 0,25 s
- (ii)  $\pm 2,0$  Hz/s over a period of 0,5 s
- (iii)  $\pm 1,5$  Hz/s over a period of 1 s
- (iv)  $\pm 1,25$  Hz/s over a period of 2 s

(b) Without prejudice to point 2 (a) from this Article, a V1G electric vehicle and associated V1G electric vehicle supply equipment, power-to-gas demand unit and heat-pump shall be capable of staying connected to the network and operating at the sequence of rates of change of frequencies which are defined considering the overfrequency against time profiles given in figure XX.a and the underfrequency against time profiles given in figure XX.b.

(c) With regard to the rate of change of frequency withstand capability defined in points (a) and (b) of this article, a V1G electric vehicle and associated V1G electric vehicle supply equipment, power-to-gas demand unit and heat-pump shall be capable of staying connected to the network, unless disconnection was triggered by the low frequency demand disconnection of the demand facility.

(d) The V1G electric vehicle and associated V1G electric vehicle supply equipment, power-to-

gas demand unit and heat-pump shall be capable of remaining connected to the network and continuing to operate stably when the system frequency remains within the frequency range specified in Table 2. The V1G electric vehicle and associated V1G electric vehicle supply equipment, power-to-gas demand unit and heat-pump protection schemes shall not jeopardise frequency-ride-through performance specified in point 2.b from this Article.

3. With regard to LFSM-UC on V1G electric vehicles and associated V1G electric vehicle supply equipment and power-to-gas demand units:

(a) The V1G electric vehicle and associated V1G electric vehicle supply equipment and the power-to-gas demand unit shall be capable of reducing the consumption from the current active power input automatically down to the minimum technical operational level according to the indicative Figure XX at a frequency threshold and with a droop setting:

(b) The droop shall be 5%.

(c) The frequency threshold shall be 49,8 Hz (inclusive), except for synchronous area IE where the frequency threshold shall be 49,5 Hz (inclusive).

(d) The V1G electric vehicle and associated V1G electric vehicle supply equipment and the

As for the V2G requirements, we consider that the frequency and voltage ranges should be harmonized for V1G on the European level and should not be dependent on the national regulations.

Moreover, the V1G requirements should not be more restricted than the V2G ones.

For these reasons, we proposed to copy paste here the relative paragraphs of the Article 13a from the RfG code.

Justification for Article XX(3) is: Firstly, it should be noted that the V1G electric vehicle supply equipment are not capable to measure the frequency and adapt their consumption. Such

power-to-gas demand unit shall stay in this specific mode as long as the frequency is below the frequency threshold. If the frequency recovers, the electrical charging demand unit shall follow the same power-frequency characteristic until it is back to its prior state of active power input.

(e) If the minimum technical operating level is larger than 20% of  $P_{ref}$ , the DC electric charging demand unit or the power-to-gas demand unit should disconnect when reaching its minimum technical operating level;

(f) If disconnection was performed according to point (e) of this article, on return of frequency above the frequency threshold, a random time delay of up to 5 minutes shall be initiated before normal operation resumes.

(g) Requirements for frequency measurement:

(i) Maximum measuring time window: 100 ms

(ii) Accuracy:  $\pm 30$  mHz

(h) Stable operation of the V1G electric vehicle and associated V1G electric vehicle supply equipment and the power-to-gas demand unit during LFSM-UC operation shall be ensured;

(i) The response time for LFSM-UC shall be less or equal to 0,5 seconds. The relevant system operator has the right to request the demonstration of technical evidence of the

Article XX

requirements risk apply additional costs to EVSE and could create barriers to the development to e-mobility.

Moreover, we are not convinced about the net social welfare of these types of services.

Therefore, we suggest to eliminate this part and we remain open to any initiative on this field in order to elaborate more detailed and more consensual measures.

The reasoning for Article XX(3)(e): AVERE believes that frequency measurement provisions could economically impact AC charging systems while providing minor effect on the frequency regulation. We therefore suggest the obligation to be applied only to DC recharging points.

Comment on Article XX(5): The requirement should be harmonised due to the mobile nature of the Electric Vehicles, implying that they must be designed to comply with one single set of parameters, regardless of the country where they are charging.

Comment on Article XX(6): The aim of the FRT (Fault Ride Through) capability is to prevent an unintentional disconnection and shutdown of electrolysis facilities and thus a threat to system stability in the event of short-term voltage dips or increases. In addition, a lack of requirements for the PFAPR (post-fault active power recovery) would lead to restart times of electrolyzers in

response time.

4. With regard to LFSM-UC on heat-pumps:

(a) The control system of the LFSM-UC shall have no influence on the target temperature, above a frequency threshold specified in Article XX.3.c.

(b) The built-in hysteresis of the heat-pump between its controllers on and off temperature range settings shall be designed to be utilised by the LFSM-UC.

(c) The heat-pumps on and off temperature range settings shall not be exceeded by the LFSM-UC when responding to frequency deviations from 50Hz.

(d) The LFSM-UC shall provide a response to deviations in system frequency across a frequency range by corresponding changes to the target temperature in proportion of its maximum temperature range. The change in target temperature shall be at the minimum when the system frequency reaches the frequency threshold specified in Article XX.3.c. The change in target temperature shall be at the widest when the system frequency reaches 49 Hz.

(e) The temperature controller of the device shall measure and update the actual system frequency measurement at least every 0.2

minutes, while the generation plants and the HVDC systems feed in their full active power again after seconds. This gap of active power of several GWs could lead to frequency issues.

seconds.

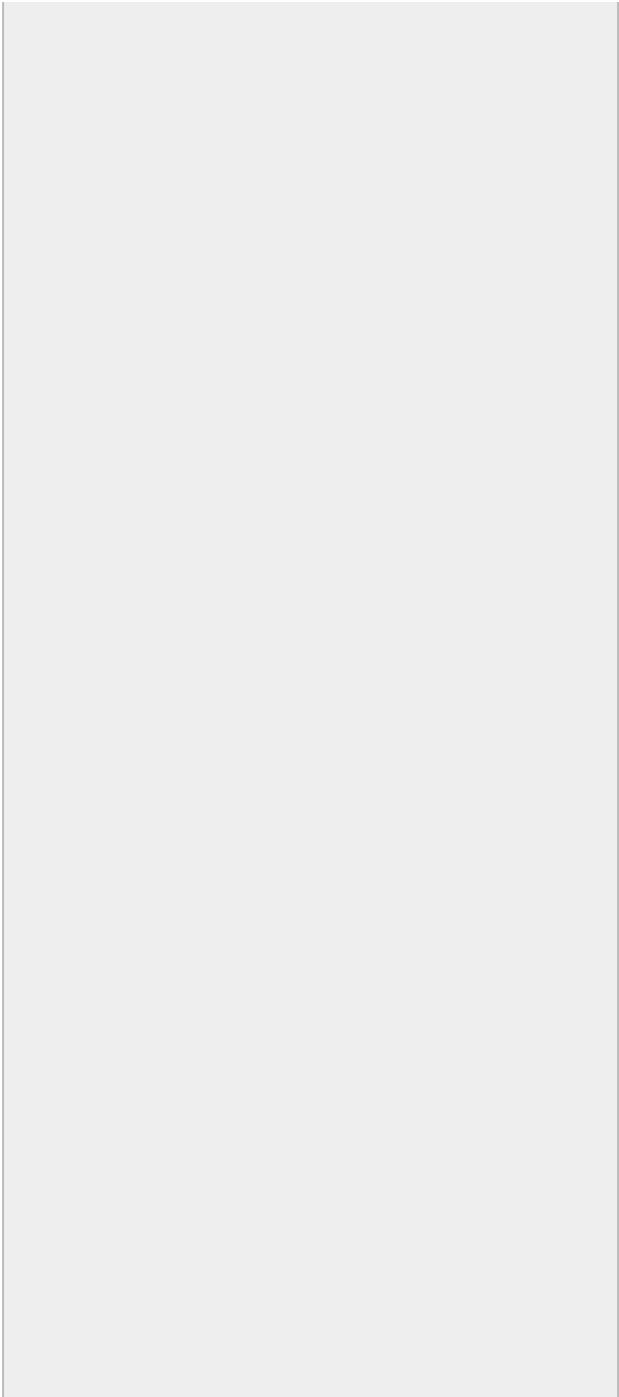
(f) For system frequency below the frequency threshold around the nominal value of 50 Hz, the target temperature of a heat pump shall be lowered or raised accordingly.

(g) On return of above the frequency threshold, a random time delay of up to 5 minutes shall be initiated before normal operation resumes.

(h) With regard to the LFSM-UC's sensitivity and accuracy of the frequency measurement and the consequent movement of the temperature target, the system shall be able to detect a change in system frequency of 0,01 Hz, in order to give overall linear proportional system response. The system shall be capable of a rapid detection and response to changes in system frequency. The total reaction time including frequency measurement shall be as fast as technically feasible but not higher than 300ms. An offset in the steady state measurement of frequency shall be acceptable up to 0,05 Hz.

5. With regard to fault-ride-through capability on V1G electric vehicles and associated V1G electric vehicle supply equipment:

a. The V1G electric vehicle and associated V1G electric vehicle supply equipment, when operating above the minimum stable operating level, shall be capable of staying connected to the network and continuing to operate stably



after the power system has been disturbed by faults in the transmission network according to a voltage-against-time-profile in line with Figure XX.c at the connection point and with the set points in Tables X.1.1 and X.1.2.

Figure XX.c is about Fault-ride-through profile of a V1G electric vehicle and associated V1G electric vehicle supply equipment. The diagram represents the lower limit of a voltage-against-time profile of the voltage at the connection point, expressed as the ratio of its actual value and its reference 1 pu value before, during and after a fault.  $U_{ret}$  is the retained voltage at the connection point during a fault,  $t_{clear}$  is the instant when the fault has been cleared.  $U_{rec1}$ ,  $U_{rec2}$ ,  $t_{rec1}$ ,  $t_{rec2}$  and  $t_{rec3}$  specify certain points of lower limits of voltage recovery after fault clearance.

Table X.1.1

Table X1.1 is about voltage parameters for Figure XX.c for fault-ride-through capability of type V1G electric vehicle and associated V1G electric vehicle supply equipment.

Table X.1.2

Table X.1.2 is about time parameters for Figure XX.c for fault-ride-through capability of type V1G electric vehicle and associated V1G electric vehicle supply equipment.

(5)b. The voltage-against-time-profile expresses a lower limit of the profile of the phase-to-phase

voltages on the network voltage level during a symmetrical fault, as a function of time before, during and after the fault.

c. When the network voltage resumes, after the fault has been cleared, to a value within the voltage range of 0,85 pu – 1,1 pu, a V1G electric vehicle and associated V1G electric vehicle supply equipment shall recover its active power output level to its pre-fault value. The recovery time shall not exceed a maximum of 1s.

6. With regard to fault-ride-through capability of power-to-gas demand units:

a. The power-to-gas demand unit, when operating above the minimum stable operating level, shall be capable of staying connected to the network and continuing to operate stably after the power system has been disturbed by faults in the transmission network according to a voltage-against-time-profile in line with Figure XX.c at the connection point and with the set points in Tables X.1.3 and X.1.4.

(6)b. The voltage-against-time-profile expresses a lower limit of the profile of the phase-to-phase voltages on the network voltage level during a symmetrical fault, as a function of time before, during and after the fault.

c. When the network voltage resumes, after the fault has been cleared, to a value within the voltage range of 0,85 pu – 1,1 pu, a power-to-

		<p>gas demand unit shall recover its active power output level at the connection point to:</p> <p>80% of its pre-fault value with a recovery time that shall not exceed a maximum of 5 s.</p> <p>90% of its pre-fault value with a recovery time that shall not exceed a maximum of 20 s.</p> <p>95% of its pre-fault value with a recovery time that shall not exceed a maximum of 30 s.</p> <p>d. Fault-ride-through capabilities in case of asymmetrical faults shall be specified by the relevant system operator.</p>
Article XX+1		<p>1. The operational notification procedure for V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps shall be distinguished between:</p> <p>(a) V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps within a demand facility or a closed distribution system connected at a voltage level of or below 1000 V;</p> <p>(b) V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps within a demand facility or a closed distribution system connected at a voltage level above 1000 V.</p>

		<p>2. The relevant system operator shall specify and make publicly available further details concerning the operational notification procedure.</p>
Article XX+2		<p>Procedures for V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps within a demand facility or a closed distribution system connected at a voltage level of or below 1000 V</p> <p>V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps shall possess equipment certificates, proving compliance with this regulation.</p>
		<p>Procedures for V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps within a demand facility or a closed distribution system connected at a voltage level above 1000V</p> <p>1. V1G electric vehicles and associated V1G electric vehicle supply equipment, and heat-pumps connected at a voltage level above 1000 V shall possess equipment certificates, proving compliance with this regulation.</p> <p>2. The operational notification procedure for a power-to-gas demand unit within a demand</p>

Article XX+3

It is appropriate to force EVs and heat pumps connected in installations connected at HV to be treated similarly as those connected at LV.

facility or a closed distribution system connected at a voltage level above 1000 V shall comprise a DUD. The relevant system operator, in coordination with the relevant TSO, shall specify the content required for the DUD. The content of the DUD shall require a statement of compliance which contains the information in Articles 36 to 47 for demand facilities and closed distribution systems, but the compliance requirements in Articles 36 to 47 for demand facilities and closed distribution systems can be simplified to a single operational notification stage as well as be reduced. The demand facility owner or CDSO shall provide the information required and submit it to the relevant system operator. For any subsequent demand units, separate DUDs shall be provided.

3. Based on the DUD, the relevant system operator shall issue a FON to the demand facility owner or CDSO.

Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New article	

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## TITLE IV - Compliance

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 34	The changes are proposed to make sure these units need to comply with the requirements of the regulation.	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 having a demand unit providing demand response services to relevant system operators and relevant TSOs, a V1G electric vehicle and associated V1G electric vehicle supply equipment, power-to-gas demand unit or heat-pump shall ensure that the demand unit providing demand response services, the V1G electric vehicle and associated V1G electric vehicle supply equipment, power-to-gas demand unit or heat-pump complies with the requirements provided for in this Regulation.
Article 35		
Article 36		
Article 37		
Article 38		
Article 39		
Article 40		
Article 41		
Article 42		

Article 43	<p>Reactive power requirements lack clarity and hence, limit legal certainty. Appropriate changes were proposed for relevant provisions of Article 15. Compliance verification rules follow these amendments.</p> <p>(1)(c) is proposed to be deleted.</p>	<p>Article 43 on Compliance simulations for transmission-connected distribution systems</p> <p>1. With regard to the reactive power capability simulation of a transmission-connected distribution system:</p> <p>(a) a steady-state load flow simulation model of the network of the transmission-connected distribution system in future system conditions shall be used in order to calculate the reactive power exchange under different load and generation conditions;</p> <p>(b) the simulations shall include a combination of steady-state minimum and maximum load and generation conditions resulting in the lowest and highest reactive power exchange as well as low and high ratio between the instantaneous active power produced by power generating modules and the instantaneous consumption in the transmission-connected distribution system;</p>
Article 44		
Article 45		
Article 46		
Article 47		

Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New article	

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## TITLE V - Applications and derogations

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 48		
Article 49		
Article 50		
Article 51		
Article 52		10. A regulatory authority may revoke a decision granting a derogation if the circumstances and underlying reasons no longer apply or upon a reasoned recommendation of the Commission or reasoned recommendation by the ACER pursuant to Article 55(2).
Article 53		9. The regulatory authority shall notify its decision to the relevant system operator requesting the derogation, the relevant TSO and ACER.  ...  11. A regulatory authority may revoke a decision granting a derogation if the circumstances and underlying reasons no longer apply or upon a reasoned recommendation of the Commission or reasoned recommendation by the ACER pursuant to Article 55(2).
Article 54		1. Regulatory authorities shall maintain a register of all derogations they have granted or refused and shall provide ACER with an updated and consolidated register at least once

		<p>every six months, a copy of which shall be given to ENTSO for Electricity.</p> <p>...</p>
Article 55		<p>1. ACER shall monitor the procedure of granting derogations with the cooperation of the regulatory authorities or relevant authorities of the Member State. Those authorities or relevant authorities of the Member State shall provide ACER with all the information necessary for that purpose.</p> <p>2. ACER may issue a reasoned recommendation to a regulatory authority to revoke a derogation due to a lack of justification. The Commission may issue a reasoned recommendation to a regulatory authority or relevant authority of the Member State to revoke a derogation due to a lack of justification.</p> <p>3. The Commission may request ACER to report on the application of paragraphs 1 and 2 and to provide reasons for requesting or not requesting derogations to be revoked.</p>

Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

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## TITLE VI - Non-binding guidance and monitoring of implementation

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 56		
		<p>1. ACER shall monitor the implementation of this Regulation in accordance with Article 32 of Regulation (EC) No 2019/943 Monitoring shall cover in particular the following matters:</p> <p>(a)</p> <p>identification of any divergences in the national implementation of this Regulation;</p> <p>(b)</p> <p>assessment of whether the choice of values and ranges in the requirements applicable to transmission-connected demand facilities, transmission-connected distribution facilities, distribution systems and demand units under this Regulation continues to be valid.</p> <p>ACER shall involve the European Stakeholder Committee in the monitoring, where relevant.</p> <p>2. ACER, in cooperation with ENTSO for Electricity, shall maintain a list of the relevant information to be communicated by ENTSO for Electricity to ACER in accordance with Article 30 (5) and 32(1) of Regulation (EC) No 2019/943.</p>

Article 57

Changes identical to those proposed for NC RfG.

The list of relevant information may be subject to updates and shall be in line with the information contained in the implementation monitoring files to be published in accordance with paragraph 3. ENTSO for Electricity shall maintain a comprehensive, standardised format, digital data archive of the information required by ACER.

3. Relevant TSOs shall submit to ENTSO for Electricity the information required for ACER to perform the tasks referred to in paragraphs 1 and 2.

TSOs shall ensure that the information is provided without undue delay and is up to date.

The EU DSO entity shall cooperate with ENTSO for Electricity on the monitoring of implementation of this Regulation in accordance with Article 55(2)(a) of Regulation (EU) 2019 /943, among other activities, on the provision of information necessary for monitoring the implementation of this Regulation.

Based on a request of the regulatory authority, DSOs shall provide TSOs with information under paragraph 2 unless the information has already been obtained by the regulatory authorities, ACER or the ENTSO for Electricity in relation to their respective implementation monitoring tasks, with the objective of avoiding duplication of information. DSOs shall ensure that the information is provided without undue delay and

is up to date.

ACER, in cooperation with ENTSO for Electricity, shall maintain a public online repository where relevant national information regarding the progress of implementation of this Regulation shall be made available. The information to be made available shall at least include legal texts, implementation monitoring files, summaries of all the proposals for non-exhaustive requirements, TSO and DSO requirements and compliance tests and process to be performed and links to the national implementation websites.

4. Where ENTSO for Electricity or ACER identify areas in which, based on market developments or experience gathered in the application of this Regulation, further harmonisation of the requirements under this Regulation is advisable to promote market integration, they shall propose draft amendments to this Regulation pursuant to Article 60(2) of Regulation (EU) 2019/943.

Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New article	

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## TITLE VII - Final provisions

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 58		
Article 59		

Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New article	

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## ANNEX I

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Annex I	<p>When a system split is occurring, frequency in the overfrequency island can transiently overshoot before it is stabilized to a lower value (a simulation plot is attached below). If, during that transient, all load is tripped due to transient over-frequency, the island will black out, even if it would have been possible to stabilize the frequency below 51.5 Hz. This system behaviour will be aggravated with decreasing system inertia.</p> <p>The proposed modification delays the tripping of load during the transient and therefore prevents the island from blacking out. By this, it is increasing system resilience.</p>	

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## ANNEX II

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Please write your comments on the ACER draft amendments and your alternative text proposals, if any, in the table below

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Annex II	<p>ACER acknowledges the need to amend the voltage ranges, while maintaining sufficient levels of system robustness. Particularly it is deemed necessary to amend the upper limit of the voltage range as this corresponds to too onerous requirement for 400kV connected system users. Moreover ACER recognises a broad agreement for basic voltage stability requirements for system users connected below 110kV level. For higher voltage levels specifying voltage ranges according to the rated voltage can be deemed proportional.</p>	

Please upload figures or tables if necessary

The maximum file size is 1 MB

## Other additional provisions

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Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
Other new provisions	

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### Background Documents

[NC DC ACER draft amendments for PC 2023 E 07.docx](#)

### Contact

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