

# ACER draft amendments to the Network Code on Requirements for Generators

Fields marked with \* are mandatory.

## Introduction

This consultation aims to present ACER's draft amendments to the Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a **Network Code on Requirements for Grid Connection of Generators ('NC RfG')**.

For draft amendments concerning Network Code on Demand Connection ('NC DC'), please go to the respective form: [NC DC](#).

**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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ACER is highly committed in processing personal data in a lawful way.

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

\* Name of the stakeholder:

Verband der Automobilindustrie VDA

\* Contact person:

[REDACTED]

\* Contact person's email address:

[REDACTED]

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

Germany

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\* 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 RfG articles amended by ACER in three mandatory steps:

1. by downloading the ACER draft amendments in the Word file provided below. The file can 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 RfG** 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 can also be accessed on the right panel of the consultation form under the Background Documents.

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


Step 2

Kindly note that this consultation form follows the structure of the NC RfG 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	

Please upload figures or tables if necessary

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Select file to upload

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 RfG, as you provided in the Word file.
  4. Upload figures or tables if necessary; text inputs should be provided directly in the consultation form.
- 

### ***Step 3***

Where the stakeholder would like to propose an alternative amendment to the **entire NC RfG**, 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\_RfG\_stakeholder\_name"). You can also upload your justification documents, where applicable.

**In case the file size exceeds the 1MB limit**, which is a consultation tool limit, kindly send the document to the functional mailbox shown on the right panel of the consultation form. Please rename the file with your stakeholder's name as indicated above and send it with the subject "ACER draft RfG legal text [stakeholder name]". Note that only submissions sent within the consultation deadline will be considered.

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

**Kindly note that in case the file size exceeds 1MB, the file can be sent to the functional mailbox shown on the right panel of the consultation form under Contact. Please ensure that the file name and email subject are consistent with the instructions in Step 3.**

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

Please upload your file

The maximum file size is 1 MB

**9dc69dd8-5e87-45f7-ba6e-51dd7bfb95d3/comments\_RfG.xlsx**

Please upload your file

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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 RfG Whereas section, including new recitals

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
(1)		
(2)		
(3)		
(s1)		
(s2)		
(4)		
(5)		
(6)		
(7)		
(8)		
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(30)		
(31)		
(32)		



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

	Text amendment proposal (if applicable)
New recital	

## 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)		
Article 2(4)		
Article 2(5)		
Article 2(6)		
Article 2(7)		
Article 2(8)		
Article 2(9)		
Article 2(10)		
Article 2(10a)		
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)		
Article 2(23)		
Article 2(24)		

Article 2(25)		
Article 2(26)		
Article 2(27)		
Article 2(28)		
Article 2(29)		
Article 2(30)		
Article 2(31)		
Article 2(32)		
Article 2(33)		
Article 2(34)		
Article 2(35)		
Article 2(36)		
Article 2(37)		
Article 2(38)		
Article 2(39)		
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Article 2(42)		
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Article 2(46)		
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Article 2(49)		
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Article 2(51)		
Article 2(52)		
Article 2(53)		

Article 2(54)		
Article 2(55)		
Article 2(56)		
Article 2(57)		
Article 2(58)		
Article 2(59)		
Article 2(60)		
Article 2(61)		
Article 2(62)		
Article 2(63)		
Article 2(64)		
Article 2(65)		
Article 2(66)		
Article 2(67)		
Article 2(68)		
Article 2(69)	Clarification needed that an V1G electric vehicle always requires an associated V1G electric vehicle supply equipment.	"V1G electric vehicle' means the vehicle that is powered, fully or in part, with electricity and can only withdraw electricity from the grid over a V1G electric vehicle supply equipment.
Article 2(70)		
Article 2(71)		
Article 2(72)		
Article 2(73)		
Article 2(74)		
Article 2(75)		

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

	Text amendment proposal (if applicable)
New definition	

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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

Clarification needed that an V2G electric vehicle always requires an associated V2G electric vehicle supply equipment.

No distinction is made between AC and DC V2G, which means that cars and charging points are often mixed up. It would be helpful if the two variants were described once, and if it was clearly stated that both are meant.

Since Mode 2 is an IC-CPD, which is plugable and movable, it should not be scope of NC RfG. Added "stationary and permanently connected"

No distinction is made between AC and DC V2G, which means that cars and charging points are often mixed up. It would be helpful if the two variants were described once, and if it was clearly stated that both are meant.

To make clear that V2G EVs and EVSE don't have to fulfill all requirements for ESMs.

'V2G electric vehicle' means the vehicle that is powered, fully or in part, with electricity and is equipped with technology enabling the vehicle to provide electricity to the grid over a V2G electric vehicle supply equipment. This definition takes into account all solutions, no matter whether the V2G electric vehicle inverter (AC V2G) is used or by-passed (DC V2G).

'V2G electric vehicle supply equipment' means the stationary and permanently connected infrastructure necessary to conduct electrical energy safely from the electricity supply grid to the electric vehicle and from the electric vehicle to the electricity supply grid with both generation and demand behaviour. Electrical wirings are not deemed part of an electric vehicle supply equipment. This definition takes into account all solutions, no matter whether the V2G electric vehicle supply equipment contains the inverter (DC V2G) or not (AC V2G).

'electricity storage module' or 'ESM' means a synchronous power-generating module or a power park module which can inject and consume active power to and from the network for electricity storage, excluding pump-storage power-generating modules. A V2G electric vehicle and connected V2G electric vehicle supply equipment with a bidirectional functionality is regarded as an electricity storage module, but is faced with separate requirements and connection procedures if maximum capacity is less than 1 MW (type EV3);

Article 3	<p>This definition is not further used neither in NC RfG nor in NC DC, so our proposal is to delete this definition.</p> <p>According to the regulation, a multi-family house with three charging points would already be a charging park. However, in such cases, there would not be one single power park operator. In general, it should be avoided to impose additional bureaucratic hurdles on private individuals for the use of EVs.</p>	<p>&lt; Delete or adapt it to the following &gt; 'V1G electrical charging park' means the installation that has a single connection point to the relevant network and where three or more V1G electric vehicles can be simultaneously connected. It shall be differentiated between commercial and non-commercial charging parks.</p>
Article 4		
Article 4a [new]		
Article 5	<p>Align with CharIN BiDi Power Classes - type EV2 includes CharINs FC class (50 kW)</p>	<p>V2G electric vehicles and associated V2G electric vehicle supply equipment, within the following categories shall be considered as significant:</p> <ul style="list-style-type: none"> <li>(a) maximum feed-in capacity larger than or equal to 0,8 kW and less than 2,4 kW (type EV1);</li> <li>(b) maximum feed-in capacity larger than or equal to 2,4 kW and less than or equal to 50 kW (type EV2);</li> <li>(c) maximum feed-in capacity larger than 50 kW and less than 1 MW (type EV3).</li> </ul>
	<p>It shall be open how the V2G electric vehicles and connected V2G electric vehicle supply equipment prove that the total system of EV and EVSE complies with the requirements of this regulation. Certification should be possible for different technical solutions. The target would be to have the V2G electric vehicle part as part of</p>	



Article 6

the homologation. An interim solution until it is included in homologation is necessary!

The requirements set in this regulation are not covered by the relevant product standards for V2G electric vehicles (ISO 17409/ISO 5474-series) and associated V2G electric vehicle supply equipment (IEC 61851-1/-23) and therefore are not taken into consideration in V2G electric vehicle homologation/certification and the conformity assessment of the V2G electric vehicle supply equipment.

We would like to propose a workshop with European system operators to discuss how this can be done.

Technology openness shall be ensured.  
European-wide solutions must be ensured.

V2G electric vehicles and associated V2G electric vehicle supply equipment: What if the EVSE has two charging points, both are capable of 40kW active power output to the grid. What is the maximum capacity? 40kW or 80kW? Please clarify.

How is "maximum capacity" defined? The logic must be that the EVSE maximum active power output capacity is relevant here. EVs change, if minimum between EV and EVSE is taken, this value would always change. So please confirm whether it is the EVSE maximum capacity.

Regarding the rules for EV1 and EV2 with

'Distinction between "AC V2G" and "DC V2G" is needed.

	<p>reference to Article 13a, a distinction between AC charging (AC vehicle to grid) and DC charging (DC vehicle to grid) shall be added. In any case, the EV supply equipment shall be the master or the charging / generation operation.</p> <p>In the case of AC power generation by the EV, the vehicle can implement requirements through the on-board charger itself. In the case of DC power provisioning by the EV, the off-board charger external to the vehicle is the implementing instance (as EV supply equipment). Therefore, a pure power definition is not sufficient to assign functions in the charging system.</p>	
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	

Please upload figures or tables if necessary

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## TITLE II CHAPTER 1 - General Requirements

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**General requirements for type A power-generating modules**

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

Includes new paragraphs

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 13(1)	It should be made clear that an EV is first and foremost a vehicle and is intended to ensure customer mobility. The rules mentioned here should not prevent the customer from being able to use the EV at any time according to his or her needs.	add: "The specifications mentioned here are not an obstacle for the driver/customer to be able to use the vehicle at any time according to his own needs."
Article 13(2)		
Article 13(3)		
Article 13(4)		
	<p>according 5.(b) droop setting is 5%</p> <p><math>\Delta f_1</math> is not a threshold value but a delta frequency. See Article 15 2. (c) (ii) as reference: the frequency threshold shall be <math>50\text{Hz} + \Delta f_1</math>, where <math>\Delta f_1</math> is defined in Table X,</p> <p>The customer will not provide grid support services for free. How is this grid support function monetized? Making this function a rule, business models will not be possible anymore.</p> <p>The main purpose of an electric vehicle is driving – not power generation.</p> <p>Electric vehicles are no power plants.</p>	

<p>Article 13(5)</p>	<p>The “vehicle to grid” function might just cover a low percentage rate of the vehicle operating time. In this requirement, 100 % availability is assumed.</p> <p>The charging strategy of the customer is not considered.</p> <p>Reaction times of 500ms are not realistic, because digital communication between the EVSE (“Master of the grid code”) and the vehicle is needed in order to negotiate the operating point.</p> <p>What happens if the specified reaction for limited frequency sensitive mode – underfrequency (LFSM-U-EV) according to the grid code differs from the operational limits communicated by the EVSE ( e.g. current limit below vs. P_Max requirement)? Which device clarifies the conflict?</p> <p>It should be made clear that an EV is first and foremost a vehicle and is intended to ensure customer mobility. The rules mentioned here should not prevent the customer from being able to use the EV at any time according to his or her needs.</p>	<p>s[%]=5</p> <p>The frequency threshold shall be 49,8 Hz inclusive, except for synchronous area IE where the frequency threshold shall be 49,5 Hz inclusive;</p> <p>add: "The specifications mentioned here are not an obstacle for the driver/customer to be able to use the vehicle at any time according to his own needs."</p>
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Article 13(6)	<p><math>\Delta f_1</math> is not a threshold value but a delta frequency.</p> <p>See Article 15 2. (c) (ii) as reference: the frequency threshold shall be <math>50\text{Hz} + \Delta f_1</math>, where <math>\Delta f_1</math> is defined in Table X,</p> <p>Shall be deleted, because consumption should not be considered in NC RfG. In general, we reject the forced charging of the vehicle, because this will have negative effect on the lifetime of the electrical components in the EV and EVSE.</p> <p>--&gt; Different limits of mains, EVSE and vehicle are realistic</p> <p>What happens, if the specified reaction according to grid code differs from the EVSE? Which device is master?</p> <p>It should be made clear that an EV is first and foremost a vehicle and is intended to ensure customer mobility. The rules mentioned here should not prevent the customer from being able to use the EV at any time according to his or her needs.</p>	<p>A Type EV1 and EV2 V2G electric vehicle and associated V2G electric vehicle supply equipment, which is injecting active power during an overfrequency event, shall activate the provision of active power frequency response according to Figure 1X at the frequency threshold equal to 50,2 Hz (inclusive), except for synchronous area IE where frequency threshold shall be 50,5 Hz (inclusive);</p> <p>add: "The specifications mentioned here are not an obstacle for the driver/customer to be able to use the vehicle at any time according to his own needs."</p>
Article 13(7)		
Article 13(8)		
Article 13(9)		
Article 13(10)		
Article 13(11)		
Article 13(12)		
Article 13(13)		

Article 13(14)

Reason is that especially EVs might rely on Dedicated Metering Devices (DMDs) as they can be deployed much faster and might even be embedded in the EVSE itself.

Clarification that 14a is not relevant for type EV1 and EV2 electric vehicles and associated V2G electric vehicle supply equipment, even if they are within an V2G electrical charging park.

The title says: Requirements for type EV3 electric vehicles and associated V2G electric vehicle supply equipment and V2G electrical charging parks

V2G electrical charging park is defined as follows: (74) 'V2G electrical charging park' means the installation that has a single connection point to the relevant network and where one or more V2G electric vehicles can be simultaneously connected.

So also a single EV2 electric vehicle and associated V2G electric vehicle supply equipment is also meant and requirements for V2G electrical charging park have to be fulfilled as well?

Article 5 says:

Requirements applicable to types EV1 and EV2 V2G electric vehicles and associated V2G electric vehicle supply equipment are set out exhaustively in Article 13a. Type EV1 V2G electric vehicles and associated V2G electric

V2G electrical charging parks shall be capable of exchanging real time data for metering with the relevant system operator or the relevant TSO. The usage of sub-metering or dedicated metering devices (DMD) as described in the Network Code on Demand Response is allowed;

Requirements for type EV3 electric vehicles and connected V2G electric vehicle supply equipment and V2G electrical charging parks with EV3 V2G electric vehicle supply equipment only

	<p>vehicle supply equipment shall possess equipment certificates, proving compliance with this regulation. Type EV2 V2G electric vehicles and associated V2G electric vehicle supply equipment follow compliance provisions of Article 30a only, whereas requirements applicable to type EV3 V2G electric vehicles and associated V2G electric vehicle supply equipment are set out exhaustively in Article 14a and follow compliance provisions of Article 30b only.</p>	
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Please write your amendment proposals, if any, in the table below

	Text amendment proposal (if applicable)
New provision	

Please upload figures or tables if necessary

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**[NEW]** General requirements for type EV1 and EV2 V2G electric vehicles and associated V2G electric vehicle supply equipment

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 13a(1)		
Article 13a(2)		
Article 13a(3)		
Article 13a(4)		
Article 13a(5)		
Article 13a(6)		
Article 13a(7)		
Article 13a(8)		
Article 13a(9)		
Article 13a(10)		
Article 13a(11)		

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

	Text amendment proposal (if applicable)
New provision	

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**General requirements for type B power-generating modules**

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 14(1)		
Article 14(2)[deleted]		
Article 14(2)		
Article 14(3)		
Article 14(4)		
Article 14(5)		

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

	Text amendment proposal (if applicable)
New provision	

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**[NEW] Requirements for type EV3 electric vehicles and associated V2G electric vehicle supply equipment and V2G electrical charging parks**

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 14a(1)		
Article 14a(2)		
Article 14a(3)		
Article 14a(4)		
Article 14a(5)		
Article 14a(6)		
Article 14a(7)		
Article 14a(8)		

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

	Text amendment proposal (if applicable)
New provision	

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**General requirements for type C power-generating modules**



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 15(1)		
Article 15(2)		
Article 15(3)[deleted]		
Article 15(3)		
Article 15(4)		
Article 15(5)		

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

	Text amendment proposal (if applicable)
New provision	

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**General requirements for type D power-generating modules**

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 16(1)		
Article 16(2)		
Article 16(3)		
Article 16(4)		

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

	Text amendment proposal (if applicable)
New provision	

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## TITLE II CHAPTER 2 - Requirements for synchronous power-generating modules

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**[NEW] Requirements for type A synchronous power-generating modules**

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 X		

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

	Text amendment proposal (if applicable)
New provision	

Please upload figures or tables if necessary

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**Requirements for type B synchronous power-generating modules**

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 17(1)		
Article 17(2)		
Article 17(3)		

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

	Text amendment proposal (if applicable)
New provision	

Please upload figures or tables if necessary

The maximum file size is 1 MB

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**Requirements for type C synchronous power-generating modules**



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 18(1)		
Article 18(2)		

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

	Text amendment proposal (if applicable)
New provision	

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

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**Requirements for type D synchronous power-generating modules**

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

Includes new paragraphs

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 19(1)		
Article 19(2)		
Article 19(3)		
Article 19(4)		

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

	Text amendment proposal (if applicable)
New provision	

Please upload figures or tables if necessary

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## TITLE II CHAPTER 3 - Requirements for power park modules

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**[NEW]** Requirements for type A power park modules

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 Y(1)		
Article Y(2)		
Article Y(3)		
Article Y(4)		
Article Y(5)		
Article Y(6)		
Article Y(7)		
Article Y(8)		

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

	Text amendment proposal (if applicable)
New provision	

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**Requirements for type B power park modules**

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

Includes new paragraphs

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 20(1)		
Article 20(2)		
Article 20(3)		
Article 20(4)		

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

	Text amendment proposal (if applicable)
New provision	

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**Requirements for type C power park modules**



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

Includes new paragraphs

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 21(1)		
Article 21(2) [deleted]		
Article 21(2)		
Article 21(3)		
Article 21(4)		

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

	Text amendment proposal (if applicable)
New provision	

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**Requirements for type D power park modules**

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

Includes new paragraphs

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 22(1)		
Article 22(2)		

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

	Text amendment proposal (if applicable)
New provision	

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## TITLE II CHAPTER 4 - Requirements for offshore power park modules

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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 23		
Article 24		
Article 25		
Article 26		
Article 27		
Article 28		

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

	Text amendment proposal (if applicable)
New article	

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## TITLE III - Operational notification procedure for connection

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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 29		
Article 30		
Article 30a [new]		
Article 30b [new]		
Article 31		
Article 32		
Article 33		
Article 34		
Article 35		
Article 36		
Article 37		
Article 38		
Article 39		

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 40		
Article 41		
Article 42	<p>Questions/remarks to different terms and definitions:</p> <p>"Type-test certificates": Are these similar to equipment certificates?</p> <p>"Regulation (EC) No 765/2008": Does this mean that the EV will also have to have a CE mark?</p> <p>"V2G electric vehicle homologated platform": Here, an in-vehicle charging system, which can be used in different electric vehicle platforms, is meant.</p> <p>"Data exchange protocol": The communication protocol between EVSE and EV like ISO 15118 is meant, and not the communication protocol between EVSE and system operator.</p> <p>"System performance criteria": Please define this term more closely in NC RfG.</p> <p>"Associating the V2G electric vehicle supply equipment and the V2G electric vehicle homologated platform": Interoperability between different EVSE and EVs must be still given!</p>	
Article 43		
Article 44		
Article 45		
Article 46		
Article 47		
Article 48		

Article 49		
Article 50		
Article 51		
Article 52		
Article 53		
Article 54		
Article 55		
Article 56		
Article 57		
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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## TITLE V - 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 60		
Article 61		
Article 62		
Article 63		
Article 64		
Article 65		

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

	Text amendment proposal (if applicable)
New article	

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**[DELETED] TITLE VI - Transitional arrangements for emerging technologies**

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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)
Title VI [deleted]		



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 70a [new]		



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

Includes new articles

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 71		
Article 71a [new]		
Article 72		

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

	Text amendment proposal (if applicable)
New article	

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## Other additional provisions

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

	Text amendment proposal (if applicable)
Other new provisions	<p>For the controlled reaction of the EV and the EVSE, four cases can basically be distinguished. Taking into account the communication times and the physical limits of the components involved, the following expert estimates for achievable reaction times result. The reaction time is defined from the moment when the EVSE registers an undesired grid condition until the moment when the changed charging behavior appears on the grid.</p> <ol style="list-style-type: none"><li>1. EV is connected to the EVSE, but no current is flowing (sleep mode). Achievable reaction time less than 60 seconds for AC &amp; DC BiDi.</li><li>2. EV is being charged or discharged and the power shall be changed by approx. <math>\pm 30\%</math>. Reaction time for AC and DC less than 10 seconds.</li><li>3. EV is being charged or discharged and the current flow direction shall be reversed. Achievable reaction time for AC and DC less than 20 seconds.</li></ol>

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## Background Documents

NC\_RfG\_ACER\_draft\_amendments\_for\_PC\_2023\_E\_07.docx

## Contact

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