

Proposals for amendments to the Requirements for Generators

Fields marked with * are mandatory.

Introduction

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 aims to transparently indicate to stakeholders the key policy areas in which amendments are to be expected. Moreover, the Paper draws on the alternative policy options and provides recommendations and proposed actions for the amendment process.

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

This consultation aims at gathering, from all interested stakeholders, concrete proposals for 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 amendment proposals concerning Network Code on Demand Connection, please go to the form: [NC DC](#).

Responses to this consultation should be submitted by 28 November 2022 23:59 CET.

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* Name of the stakeholder:

EFAC

* Contact person:

[REDACTED]

* Contact person's email address:

[REDACTED]

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

Germany

* 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:

Accredited Certification Bodies

* 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, drafting team members, and other persons or entities involved in the European Grid Connection Network Codes amendment process)

Instructions

Stakeholders are invited to submit their amendment proposals to the RfG articles that they consider should be revised in a two-step process:

1. by inserting the proposed amendments in the provided Word file
2. by motivating/reasoning the proposed amendments through this online consultation form.

Both steps are mandatory for all amendment proposals.

(Where no amendment is proposed, the article text in the word file can be left unaltered and the cells in the consultation form can be left blank.)

The mandatory steps for submitting amendment proposals are detailed below. At the end of this section, you can find an example showing how to submit your proposals.

Step 1

Please include all your amendment proposals in the **Word file provided below using the Track Changes mode**. Once you edit the file and rename it with your stakeholder's name ("NC_RfG_stakeholder_name"), please upload it in the last section of this form (FILE UPLOAD)

[Download the Word file \(NC RfG\)](#)

Step 2

In addition, please use this form to motivate/reason your proposals, following the instructions:

General requirements for type B power-generating modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 14(1)	1	2	3
Article 14(2)			
Article 14(3)			
Article 14(4)			
Article 14(5)			

Please write your amendment proposal and the reasoning in the table below.

4		Proposal for new provisions in this section	Reasoning	Relation to other provisions
	New provisions			

Please upload your file if necessary

The maximum file size is 1 MB

5 Select file to upload

1. Propose an amended wording of the relevant provision, as you provided in the Word file.
2. Provide the motivation/reasoning behind your proposal.
3. Indicate (if any) which other provisions of the NC RfG are impacted and may need to be amended following your proposal.
4. Provide (if any) your proposals for adding new provisions to the relevant section of the Regulation, as you provided in the Word file.
5. Upload figures or tables if necessary; text inputs should be provided directly in the consultation form.

Example

Stakeholder XYZ would like to propose an amendment to Article 27 of NC RfG. In their view, the meaning of the word "respectively" in this article is not clear. Following a two-step process, the stakeholder downloads the Word file from the **Instruction** section, turns on the Track Changes mode and edits the text (first step).



Article 27

System restoration requirements applicable to AC-connected offshore power park modules

The system restoration requirements laid down respectively in Article 14(4) and Article 15(5) shall apply to AC-connected offshore power park modules types B and C, respectively.

Article 28

General system management requirements applicable to AC-connected offshore power park modules

The general system management requirements laid down in Article 14(5), Article 15(6) and Article 16(4) shall apply to AC-connected offshore power park modules.

After saving the edited file on their device under the name "*NC_RfG_Stakeholder_XYZ*", the stakeholder uploads it in the **FILE UPLOAD** section.

Pages

Introduction	Instruction	Whereas	Definitions	TITLE I	TITLE II CH. 1	TITLE II
TITLE III	TITLE IV	TITLE V	TITLE VI	TITLE VII	Other	FILE UPLOAD

FILE UPLOAD

Please upload the Word file (downloaded from the *Instruction* section) containing all your amendments

The maximum file size is 1 MB

NC_RfG_Stakeholder_XYZ.docx

Select file to upload

Previous

Submit

The stakeholder proceeds to motivate/reason their proposal. As they would like to propose an amendment to Article 27 of NC RfG, they enter **TITLE II CHAPTER 4** Section and insert the proposed amended wording and the reasoning (second step). As the proposed amendment of Article 27 does not affect other provisions, they leave the last column blank.

Pages

[Introduction](#)[Instruction](#)[Whereas](#)[Definitions](#)[TITLE I](#)[TITLE II CH. 1](#)[TITLE II CH. 2](#)[TITLE II CH. 3](#)[TITLE II CH. 4](#)[TITLE III](#)[TITLE IV](#)[TITLE V](#)[TITLE VI](#)[TITLE VII](#)[Other](#)[FILE UPLOAD](#)

TITLE II CHAPTER 4 - Requirements for offshore power park modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 23	//	//	//
Article 24	//	//	//
Article 25	//	//	//
Article 26	//	//	//
Article 27	The system restoration requirements laid down in Article 14(4) and Article 15(5) shall apply to AC-connected offshore power park modules types B and C, respectively.	The current wording of Article 27 refers to the provisions of Articles 14(4) and 15(5). However, it is unclear from the legal text how the respective application should be understood. Indicating that the requirements of Article 14(4) shall apply to offshore PPMs type B and requirements of Article 15(5) shall apply to offshore PPMs type C follows the internal logic of the NC RfG and corresponds with the capabilities of the units in question.	- //
Article 28	//	//	//

As the survey is long,

1. you have the possibility to edit your answer after submission. When clicking on "submit", you will be given a contribution ID, which you can then use to access your contribution here. This allows you to proceed in steps.
2. 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

Please write your amendment proposal and the reasoning in the table below.

Numbers in the first column correspond with the recitals of the NC RfG Whereas section

	Amendment proposal	Reasoning	Relation to other provisions
(1)			
(2)			
(3)			
(4)			
(5)			
(6)			
(7)			
(8)			
(9)			
(10)			
(11)			
(12)			
(13)			
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(16)			
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(25)			

(26)			
(27)			
(28)			
(29)			
(30)			
(31)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new recitals	Reasoning	Relation to other provisions
New recitals			

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
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(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)			
Article 2(40)			
Article 2(41)			
Article 2(42)			
Article 2(43)			
Article 2(44)			
Article 2(45)			

Article 2(46)	<p>'authorised certifier' means an entity that issues equipment certificates and power-generating module documents and whose accreditation according to ISO/IEC 17065 is given by the national affiliate of the European cooperation for Accreditation ('EA'), established in accordance with Regulation (EC) No 765/2008 of the European Parliament and of the Council</p>	<p>To clarify that any authorised certifier issuing an equipment certificate shall hold a valid accreditation according to the accreditation standard on product certification, i.e. ISO/IEC 17065</p>	<p>All articles where equipment certificates are referred to</p>
Article 2(47)	<p>'equipment certificate' means a document issued by an authorised certifier based on a certification scheme according to ISO/IEC 17067 for equipment used by a power-generating module, demand unit, distribution system, demand facility or HVDC system. The equipment certificate provides a statement of conformity demonstrating that specified requirements as defined on national or other level are fulfilled by the equipment. For the purpose of replacing specific parts of the compliance process, the equipment certificate may include models that have been validated against actual test results;</p>	<p>to clarify that any equipment certificate issued under the regime of this Regulation is</p> <p>a) based on certification scheme (as required by ISO/IEC 17065) according to ISO/IEC 17067.</p> <p>b) issued based on a conformity assessment with respect to specified requirements. The term "specified requirements" is taken from ISO/IEC 17000 (conformity assessment) and further elaborated in the new article 41. The "scope of validity" is, hence, shifted to article 40 (1) (a) (i) The standard term is "validation" instead of verification of models</p>	<p>All articles where equipment certificates are referred to.</p> <p>Note, if the new articles 40ff in title IV might be not accepted, an even more detailed definition on equipment certificate is highly recommended.</p>
Article 2(48)			

Article 2(49)			
Article 2(50)			
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)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new definitions	Reasoning	Relation to other provisions
New definitions	<p>'power generation unit' or 'PGU' means an aggregation of components converting a primary source of energy into electricity at the terminals of the PGU.</p> <p>'component' means any hardware element or software application having an impact on the electrical characteristics and /or operation of a power-generating facility, a power-generating module or a power-generating unit. As examples, components can be a protection relay, an automatic voltage regulator, a power plant controller, a static synchronous compensator, a synchronous condenser, etc..</p>	<p>definition according to IGD on Compliance Verification (2021); however, the definition of component has been adopted to typical appliances within PGMs. HVDC appliances have been removed.</p>	<p>new article 40</p>

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TITLE I - General provisions

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 1			
Article 3			
Article 4			
Article 5			
Article 6			
Article 7			
Article 8			
Article 9			
Article 10			
Article 11			
Article 12			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new articles in this section	Reasoning	Relation to other provisions
New articles			

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TITLE II CHAPTER 1 - General Requirements

General requirements for type A power-generating modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 13(1)			
Article 13(2)			
Article 13(3)			
Article 13(4)			
Article 13(5)			
Article 13(6)			
Article 13(7)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions in this section	Reasoning	Relation to other provisions
New provisions			

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General requirements for type B power-generating modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 14(1)			
Article 14(2)			
Article 14(3)			
Article 14(4)			
Article 14(5)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions in this section	Reasoning	Relation to other provisions
New provisions			

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General requirements for type C power-generating modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 15(1)			
Article 15(2)			
Article 15(3)			
Article 15(4)			
Article 15(5)			
Article 15(6)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions in this section	Reasoning	Relation to other provisions
New provisions			

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General requirements for type D power-generating modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 16(1)			
Article 16(2)			
Article 16(3)			
Article 16(4)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions in this section	Reasoning	Relation to other provisions
New provisions			

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

Requirements for type B synchronous power-generating modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 17(1)			
Article 17(2)			
Article 17(3)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions in this section	Reasoning	Relation to other provisions
New provisions			

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Requirements for type C synchronous power-generating modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 18(1)			
Article 18(2)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions in this section	Reasoning	Relation to other provisions
New provisions			

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Requirements for type D synchronous power-generating modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 19(1)			
Article 19(2)			
Article 19(3)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions in this section	Reasoning	Relation to other provisions
New provisions			

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TITLE II CHAPTER 3 - Requirements for power park modules

Requirements for type B power park modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 20(1)			
Article 20(2)			
Article 20(3)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions in this section	Reasoning	Relation to other provisions
New provisions			

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Requirements for type C power park modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 21(1)			
Article 21(2)			
Article 21(3)			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions in this section	Reasoning	Relation to other provisions
New provisions			

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Requirements for type D power park modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 22			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions in this section	Reasoning	Relation to other provisions
New provisions			

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TITLE II CHAPTER 4 - Requirements for offshore power park modules

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 23			
Article 24			
Article 25			
Article 26			
Article 27			
Article 28			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new articles in this section	Reasoning	Relation to other provisions
New articles			

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TITLE III - Operational notification procedure for connection

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 29			
	<p>1. The operational notification procedure for connection of each new type A power-generating module shall consist of submitting an installation document. The power-generating facility owner shall ensure that the required information is filled in on an installation document obtained from the relevant system operator and is submitted to the system operator. Separate installation documents shall be provided for each power-generating module within the power-generating facility. The relevant system operator shall ensure that the required information can be submitted by third parties on behalf of the power-generating facility owner.</p> <p>2. The relevant system operator shall specify the content of the installation document, which shall have at least the following information:</p> <ul style="list-style-type: none"> (a) the location at which the connection is made; (b) the date of the connection; (c) the maximum capacity of the installation in kW; 		

Article 30

(d) the type of primary energy source;

(e) the classification of the power-generating module as an emerging technology according to Title VI of this Regulation;

(f) reference to equipment certificates issued by an authorised certifier used for equipment that is in the site installation;

(g) as regards equipment used, for which an equipment certificate has not been received, information shall be provided as directed by the relevant system operator; and

(h) the contact details of the power-generating facility owner and the installer and their signatures.

3. The relevant system operator

(a) should specify the certification scheme(s) according to Article 40 (1) based on which equipment certificates are accepted;

(b) shall specify which specified requirements according to Article 41 are accepted.

4. The power-generating facility owner shall ensure that the relevant system operator or the competent authority of the Member

new paragraph 3 to ensure, that an acceptance of equipment certificates is facilitated by a clear specification by the RSO on

a) respectively accepted certification schemes and
b) respectively accepted specified requirements, e.g. grid codes, from other member states, on which the conformity assessment is performed

new articles 40 and 41 providing details on certification schemes and specified requirements.

	<p>State is notified about the permanent decommissioning of a power-generating module in accordance with national legislation.</p> <p>The relevant system operator shall ensure that such notification can be made by third parties, including aggregators.</p>		
Article 31	<p>The operational notification procedure for connection of each new type B, C and D power-generating module shall allow the use of equipment certificates issued by an authorised certifier.</p> <p>The relevant system operator</p> <p>(a) should specify the certification scheme(s) according to Article 40 (1) based on which equipment certificates are accepted;</p> <p>(b) shall specify which specified requirements according to Article 41 are accepted.</p>	<p>amendment to ensure, that an acceptance of equipment certificates is facilitated by a clear specification by the RSO on</p> <p>a) respectively accepted certification schemes and</p> <p>b) respectively accepted specified requirements, e.g. grid codes, from other member states, on which the conformity assessment is performed</p>	<p>new articles 40 and 41 providing details on certification schemes and specified requirements.</p>
	<p>1. For the purpose of operational notification for connection of each new type B and C power-generating module, a power-generating module document ('PGMD') shall be provided by the power-generating facility owner to the relevant system operator and</p>		

shall include a statement of compliance.

For each power-generating module within the power-generating facility, separate independent PGMDs shall be provided.

2. The format of the PGMD and the information to be given therein shall be specified by the relevant system operator. The relevant system operator shall have the right to request that the power-generating facility owner include the following in the PGMD:

- (a) evidence of an agreement on the protection and control settings relevant to the connection point between the relevant system operator and the power-generating facility owner;
- (b) itemised statement of compliance;
- (c) detailed technical data of the power-generating module with relevance to the grid connection as specified by the relevant system operator;
- (d) equipment certificates issued by an authorised certifier, where these are relied upon as part of the evidence of compliance;
- (e) for Type C power-generating modules, simulation models pursuant to point (c) of

Article 15(6);

- (f) compliance test reports demonstrating steady-state and dynamic performance as required by Chapters 2, 3 and 4 of Title IV, including use of actual measured values during testing, to the level of detail required by the relevant system operator; and
- (g) studies demonstrating steady-state and dynamic performance as required by Chapters 5, 6 or 7 of Title IV, to the level of detail required by the relevant system operator.

3. The relevant system operator, on acceptance of a complete and adequate PGMD, shall issue a final operational notification to the power-generating facility owner.

4. The power-generating facility owner shall notify the relevant system operator or the competent authority of the Member State about the permanent decommissioning of a power-generating module in accordance with national legislation.

5. Where applicable, the relevant system operator shall ensure that the commissioning and decommissioning of Type B and Type C power-generating modules can be notified electronically.

Removal in (2) (d) as equipment certificates, in general, may not be issued in respect of a PGM, as for PGUs and component the final project characteristic are not defined.

New paragraph 7 to enable that the consecutive scheme of EON, ION and FON may be also applied for type B and C PGMs, as this is the practise e.g. in Germany (Einzelnachweisverfahren according to VDE AR N 4110).

	<p>6. Member States may provide that the PGMD shall be issued by an authorised certifier.</p> <p>7, Member States may provide that the consecutive verification procedure pursuant to Articles 33-37 may also apply to type B and C power-generating modules.</p>		
Article 33	<p>1. The operational notification procedure for connection of each new type D power-generating module shall comprise:</p> <p>(a) energisation operational notification ('EON');</p> <p>(b) interim operational notification ('ION'); and</p> <p>(c) final operational notification ('FON').</p> <p>2. Member States may provide that the documents to be submitted according to (1) shall be verified by an authorised certifier.</p>	<p>New paragraph 2 to enable that – equivalent to article 32 (6) the documentation may be checked by authorised certifiers (as in practise in Germany according to NELEV and VDE AR N 4120).</p>	
Article 34			
	<p>1. An ION shall entitle the power-generating facility owner to operate the power-generating module and generate power by using the grid connection for a limited period of time.</p> <p>2. An ION shall be issued by the relevant system operator, subject to completion of the data and study</p>		

Article 35

review process as required by this Article.

3. With regard to the data and study review, the relevant system operator shall have the right to request that the power-generating facility owner provide the following:

- (a) itemised statement of compliance;
 - (b) detailed technical data on the power-generating module of relevance to the grid connection as specified by the relevant system operator;
 - (c) equipment certificates issued by an authorised certifier in respect of power-generating modules, where they are relied upon as part of the evidence of compliance;
 - (d) simulation models, as specified by point (c) of Article 15 (6) and required by the relevant system operator;
 - (e) studies demonstrating the expected steady-state and dynamic performance as required by Chapter 5, 6 or 7 of Title IV; and
 - (f) details of intended compliance tests in accordance with Chapters 2, 3 and 4 of Title IV.
4. The relevant system operator
- (a) should specify the certification scheme(s) according

new paragraph 4 to ensure, that an acceptance of equipment certificates is facilitated by a clear specification by the RSO on

- a) respectively accepted certification schemes and
- b) respectively accepted specified requirements, e.g. grid codes, from other member states, on which the conformity assessment is performed

new articles 40 and 41 providing details on certification schemes and specified requirements.

	<p>to Article 40 (1) based on which equipment certificates are accepted;</p> <p>(b) shall specify which additional specified requirements according to Article 41 (2) are accepted.</p> <p>5. The maximum period during which the power-generating facility owner may maintain ION status shall be 24 months. The relevant system operator is entitled to specify a shorter ION validity period. An extension of the ION shall be granted only if the power-generating facility owner has made substantial progress towards full compliance. Outstanding issues shall be clearly identified at the time of requesting extension.</p> <p>6. An extension of the period during which the power-generating facility owner may maintain ION status, beyond the period established in paragraph 4, may be granted if a request for a derogation is made to the relevant system operator before the expiry of that period in accordance with the derogation procedure laid down in Article 60.</p>		
Article 36			
Article 37			

Article 38			
Article 39			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new articles in this section	Reasoning	Relation to other provisions
New articles			

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TITLE IV - Compliance

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 40	<p>1. The power-generating facility owner shall ensure that each power-generating module complies with the requirements applicable under this Regulation throughout the lifetime of the facility. For type A power-generating modules, the power-generating facility owner may rely upon equipment certificates.</p> <p>2. The power-generating facility owner shall notify to the relevant system operator any planned modification of the technical capabilities of a power-generating module which may affect its compliance with the requirements applicable under this Regulation, before initiating that modification.</p> <p>3. The power-generating facility owner shall notify the relevant system operator of any operational incidents or failures of a power-generating module that affect its compliance with the requirements of this Regulation, without undue delay, after the occurrence of those incidents.</p> <p>4. The power-generating facility owner shall notify the relevant system operator of the planned</p>	<p>delete the phrase "issued as per Regulation (EC) No. 765/2008" as</p> <p>a) that regulation only defines the accreditation of certification bodies but not the issuing of certificates;</p> <p>b) the issuing of certificates is now sufficiently addressed by the amended definitions (46) and (47) and the new article 40</p>	

	<p>test schedules and procedures to be followed for verifying the compliance of a power-generating module with the requirements of this Regulation, in due time and prior to their launch. The relevant system operator shall approve in advance the planned test schedules and procedures. Such approval by the relevant system operator shall be provided in a timely manner and shall not be unreasonably withheld.</p> <p>5. The relevant system operator may participate in such tests and record the performance of the power-generating modules.</p>		
Article 41			
Article 42			
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 proposal and the reasoning in the table below.

	Proposal for new articles in this section	Reasoning	Relation to other provisions
	<p>CHAPTER 1</p> <p>Equipment Certificates and Prototype Declarations</p> <p>Article 40</p> <p>Formal Requirements on and Classification of Equipment Certificates</p> <p>1. Any equipment certificate issued under the regime of this regulation and applied in the context of Title III or Title IV shall fulfil the following requirements:</p> <p>(a) The equipment certificate shall be based on a certification scheme in accordance with ISO /IEC 17067. The certification scheme shall define:</p> <p>(i) the scope of the certification;</p> <p>(ii) the specified requirement which the conformity assessment is based on according to Article 41;</p> <p>(iii) The evaluation and assessment methodology and criteria. Evaluation schemes may be subject to separate standards, guidelines and regulations outside the certification scheme, but must be clearly referenced to;</p> <p>(iv) The monitoring system with respect to the validity of the</p>		

certificate.

- (b) If not otherwise specified by the certification scheme based on which the equipment certificate is issued according to (a), the equipment certificate shall provide the following information as a minimum in a clear, structural manner on its cover page:
- (i) Unambiguous Type designation of the equipment to be certified;
 - (ii) Type of the equipment;
 - (iii) Designation of the issuing authorised certifier, including a reference to its accreditation certificate, i.e. the national accreditation authority's seal granted to the authorised certifier;
 - (iv) A reference to the standard ISO/IEC 17065;
 - (v) Certificate's unambiguous identifier;
 - (vi) Name and address of the certificate holder;
 - (vii) Designation of the specified requirement the conformity assessment is based on;
 - (viii) Designation of certification scheme(s) that has been applied and of further evaluation scheme(s) (if any);

- (ix) Brief, but complete conformity statement, designating any limitations of the equipment's conformity with respect to specified requirements which the conformity assessment is based on;
 - (x) Indication of whether the equipment requires additional components to maintain conformity and whether these components must also be certified separately;
 - (xi) Designation of any limitations of the applicability of the certificate;
 - (xii) Date of issue and definition of the validity period of the certificate.
- (c) In addition, if not otherwise specified by the certification scheme based on which the equipment certificate is issued according to (a) the equipment certificate shall provide the following information as a minimum:
- (i) Full overview on the results of the conformity assessment (detailed conformity statement), indicating any limitations or additional remarks;
 - (ii) Overview on the relevant technical data and software versions. Characteristic documents, i.e. manufacturers' declarations shall be indicated that

describe that equipment or components in more detail;

- (iii) Schematic illustration of the main components, if applicable, illustration of communication interfaces between hardware components;
- (iv) If applicable, clear designation of the components taken into account via a component certificates, stating the component certificate identifier;
- (v) Name and identification number of the validated equipment model (if any). File name(s) and checksum(s) of the model file(s) as a 128-bit hash value generated according to Message-Digest Algorithm 5 (MD5);
- (vi) Designation of the software environment and its version number in which the equipment's simulation model was validated (if model exists);
- (vii) A reference to the manufacturer's quality management system (ISO 9001 certificate);
- (viii) The excerpts to the test reports (if available; may be attached as an annex to the certificate);
- (ix) The detailed evaluation report (may be attached as an

annex to the certificate).

(d) The equipment certificate's validity shall be restricted to a maximum of five years.

2. Equipment certificates issued under the regime of this regulation and applied in the context of Title III or Title IV are classified as:

(a) Power-generating unit (PGU) certificates: the PGU certificate shall demonstrate the conformity of the PGU with the specified requirements according to Article 41 at the PGU's terminals. The conformity assessment shall be based on the following evaluation schemes, if not otherwise stated in the certification scheme the PGU certificate is based on:

- (i) Type testing results based on testing standards, guidelines and regulations and performed and published by an accredited testing laboratory according to ISO/IEC 17025 accreditation standard with the PGU as the device under test;
- (ii) Component certificates according to (b) if available;
- (iii) Manufacturers declaration on the PGU's capability as a comprehensible presentation of the

functional design of the PGU with regards to the specified requirements to be assessed.

If type testing has not been performed on the PGU under certification an application of other type testing results according to Article 42 is eligible.

A PGU certificate should unambiguously refer to one or more PGU simulation model(s) that have been validated according to a validation guideline that is defined in the certification scheme. The simulation model shall be capable to the requirements of Article 15 (6) (c) and Chapter 5, 6 and 7 of Title IV, where applicable with respect to the type of PGU.

A PGU certificate may be applied to facilitate a statement of conformity at the connection point of a power-generating module where the PGU is installed by

- (iv) steady-state and dynamic simulations executed with the validated PGU simulation model;
- (v) straight forward application of the PGU's type testing results;
- (vi) calculations applying the PGU's type testing results.

(b) Component certificates: the component certificate shall demonstrate the conformity of the

New articles 40-43 (combined in a dedicated chapter) to provide a detailed scheme on equipment certificates and to introduce the concept of prototype declarations. Article 40 (1) provides formal requirements, extending the definitions of Article 2 (47) with respect to the certification scheme (Article 40 (1) (a)), the content and

component with, in general, selected specified requirements according to Article 41 which the component has an impact on. The conformity assessment shall be based on the following evaluation schemes, if not otherwise stated in the certification scheme the component certificate is based on:

(i) Type testing results based on testing standards, guidelines and regulations and performed and published by an accredited testing laboratory according to ISO/IEC 17025 accreditation standard with the component as the device under test;

(ii) Manufacturers declaration on the component's capability as a comprehensible presentation of the functional design of the component with regards to the (selected) specified requirements to be assessed.

A component certificate may unambiguously refer to one or more component simulation model (s) that have been validated according to a validation guideline that is defined in the certification scheme. The simulation model shall be capable to the requirements of Article 15 (6) (c) and Chapter 5, 6 and 7 of Title IV,

structure (Article 40 (1) (b/c)) and the validity (Article 40 (1) (d)).

Article 40 (2) provides a classification of equipment certificates into PGU, components and PGM certificates according to the IGD on Compliance Verification (2021) and enhanced by provision of the draft to IECRE OD 009.

Article 41 (1) introduces the 4 options on which specified requirements the conformity assessment of an equipment certificate might be based on, and which might hence be accepted by RSOs (according to amended articles 30, 31 and 35):

1. the requirements as published by the RSO (i.e. approved by the national entity)
 2. requirements as set out by the RfG in terms of the most stringent requirements
 3. requirements as set out by European standards (i.e. EN 50549- 1/-2)
 4. the capabilities of the equipment as declared by the manufacturer.
- (Note: testing guideline TS 50549-10 as well as the certification guideline of IECRE OD009 will introduce the concept of capability testing and certification!).

Article 41 (2) opens the option for

New articles

where applicable with respect to the type of PGU.

(c) Power generating module (PGM) certificates: the PGM certificate shall demonstrate the conformity of the PGM with the specified requirements according to Article 41 at the connection point. The conformity assessment shall be based on the following evaluation schemes, if not otherwise stated in the certification scheme the PGM certificate is based on

- (i) applying the statement(s) of conformity on PGU(s) and component(s) installed in the PGM as provided in the equipment certificates of these PGU(s) and component(s);
- (ii) steady-state and dynamic simulations executed with the validated PGU model(s) and component model(s) (if applicable);
- (iii) documentation and declaration by the manufacturer(s) of additional equipment installed in the PGM that does not provide an equipment certificate (e.g. cables, transformers, substations etc.)
- (iv) documentation by the relevant system operator on the network characteristics at the

RSO to accept equipment certificates based on national grid code requirements other than the RSO's ones and specifies that eventually additional information on the compliance to the RSO's requirements need to be provided. Article 41 (3) provides the option of selective certification on only distinguished electrical characteristics, e.g. FRT, LSFM, ...).

EFAC recommends these additional options on certification as they will promote and accelerate the availability of certificates for the benefit of PGM conformity assessment.

Article 42 introduces the concept of family grouping in order to facilitate the certification of non-tested PGUs (components) within a product series.

Note: more elaborated definitions on the family grouping might be provided by the expert group HCF
Article 43 introduces the concept of prototype declaration to facilitate the operational notification of innovative equipment where no certificates can be made available due to still ongoing testing and modelling. Here, the concept proposed by EFAC is close to the

All articles that refer to equipment certificates, i.e. in Title III and IV. In particular, if article 41 is not accepted, the level of acceptance of certificates by RSOs as amended in article 30, 31 and 35 needs to be further detailed there.

connection point and on specific setpoint parameters with respect to the specified requirements under certification.

The PGM certificate for power-generating modules of type B and C constitutes a PGMD issued by an authorised certifier according to Article 32 (6).

Article 41

Specified Requirements

1. According to Article 40 (a) and (b) vii the specified requirements based on which the conformity of the equipment under certification is assessed need to be clearly identified within the equipment certificate. For any equipment certificate issued under the regime of this regulation and applied in the context of Title III or Title IV the respective specified requirement shall be one of the following:
 - (a) requirements of general application under this Regulation as established by relevant system operators or TSOs, approved by the entity designated by the Member State and published according to the provisions of Article 7 (1), i.e. national grid codes;
 - (b) Requirements as set out by

well elaborated German approach. EFAC is convinced that these clarification will promote the provision and application of equipment certificates into the notification process and will, thus, reduce the struggle many MS are facing today due to unclear definitions and knowledge of formal requirements. Especially a clear obligation to the RSO to specify what certification programmes and requirements the RSO is willing to accept will help a lot to deploy certificates in the overall process.

this regulation and defined for the respective technology of the equipment under certification (synchronous power-generating modules, power park module or offshore power park module). Where requirements are not defined as unambiguous parameters but as ranges, the most stringent criteria, i.e. parameter setting shall be subject to the conformity assessment. The equipment certificate shall clearly indicate what type(s) A-D and synchronous area(s) the requirements applied for the conformity assessment refer to;

(c) requirements as set out by European standards on grid connection;

(d) the outmost technical capability of the equipment with respect to general grid connection requirements as declared by the manufacturer of the equipment. Obligations for the manufacturer declaration on the equipment's capability shall be defined in the certification scheme;

2. Relevant system operators may accept equipment certificates whose conformity assessment is based on specified requirements according to (1) (a) approved by

entities of other Member States. In this case, the relevant system operator shall specify which additional information needs to be provided next to the equipment certificate in order to demonstrate the compliance of the equipment with the established requirements of general application under this Regulation approved by its entity,

3. In general, the conformity statement of an equipment certificate shall comprise all assessment criteria provided by the specified requirements in accordance with (1). In addition, equipment certificates shall be eligible where the conformity statement covers only selected specified requirements (e.g. FRT, LFSM, etc.).

The restriction of the conformity statement of such selective (or: partial) equipment certificates to the selected requirements shall be clearly indicated on the cover page of these certificates.

Article 42

Product Series of Equipment for Certification

The application of the results of a conformity assessment of one equipment to other equipment

within a given product series that does not provide defined evaluation measure, i.e. type testing, for the purpose of equipment certification is eligible based on the respective provisions of the certification scheme the equipment certificate is based on. For transfer of the results of a conformity assessment of SPGMs the stability of the non-tested SPGM under fault conditions shall be assessed by simulations based on a model on the rotor angle, that needs to be validated based on the tested SPGM within the family.

Article 43

Prototype Declaration

1. A prototype equipment is the first item of equipment of a type that undergoes significant technical development or innovation, as well as any further item of equipment of that type that is put into service within two years of the first item of equipment of that prototype equipment being commissioned. Significant technical developments and innovations are deemed if components or software versions are changed in such a way that the electrical behaviour of the equipment on the grid changes

significantly or that an equivalent electrical behaviour is achieved by another technical development and innovation.

2. A prototype declaration issued by an authorized certifier shall demonstrate that the prototype equipment complies with the requirement of general application established under this Regulation. I. e., the prototype declaration shall comprise:

(a) A declaration of partial or full conformity to the requirements of general application established under this Regulation;

(b) A declaration that the prototype equipment provides a significant technical development or innovation;

(c) An indication of differences to existing and already certified equipment, if applicable;

(d) Technical data according to the requirements of general application established under this Regulation.

3. Within the two-year prototype status period starting with the commissioning of the first prototype equipment of this type, a prototype declaration is deemed to be equivalent to an equipment certificate in the course of the

operational notification of power-generating modules under the provisions of Title III on the following conditions, unless the relevant system operator does not specify additional requirements on the operational notification of such prototypes:

(a) An equipment certificate is provided within the two-year prototype status period demonstrating the conformity to the requirements of general application established under this Regulation at least to the same extent as stated by the prototype declaration;

(b) The regular demonstration that the power-generating module complies with the requirements of general application established under this Regulation is provided according to the provisions of Title III for the operational notification of type B, C and D power-generating modules within one year after the equipment certificate for the prototype equipment has been issued.

4. The prototype declaration's validity terminates with the end of the two-year prototype status or the publication of the respective equipment certificate, whatever is earlier.

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TITLE V - Derogations

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 60			
Article 61			
Article 62			
Article 63			
Article 64			
Article 65			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new articles in this section	Reasoning	Relation to other provisions
New articles			

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TITLE VI - Transitional arrangements for emerging technologies

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 66			
Article 67			
Article 68			
Article 69			
Article 70			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new articles in this section	Reasoning	Relation to other provisions
New articles			

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TITLE VII - Final provisions

Please write your amendment proposal and the reasoning in the table below.

	Amendment proposal	Reasoning	Relation to other provisions
Article 71			
Article 72			

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new articles in this section	Reasoning	Relation to other provisions
New articles			

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Other additional provisions

Please write your amendment proposal and the reasoning in the table below.

	Proposal for new provisions	Reasoning	Relation to other provisions
Other new provisions			

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