

# Proposals for amendments to the Requirements for Generators

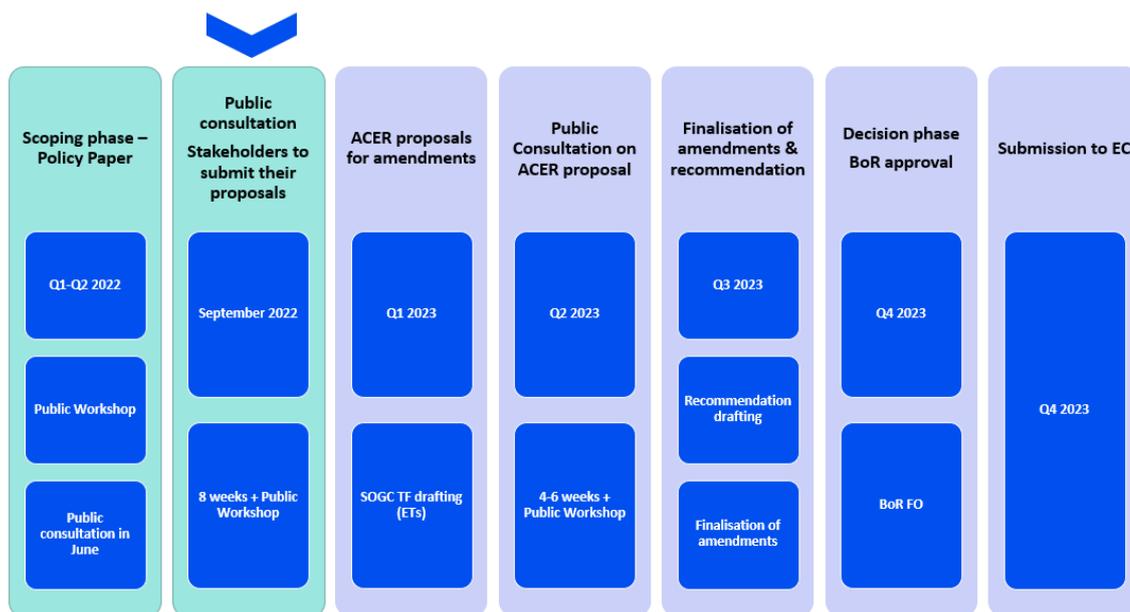
Fields marked with \* are mandatory.

## 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.**

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:

EUTurbines

\* 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:

[REDACTED]

\* 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.

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

Please upload your file if necessary

The maximum file size is 1 MB

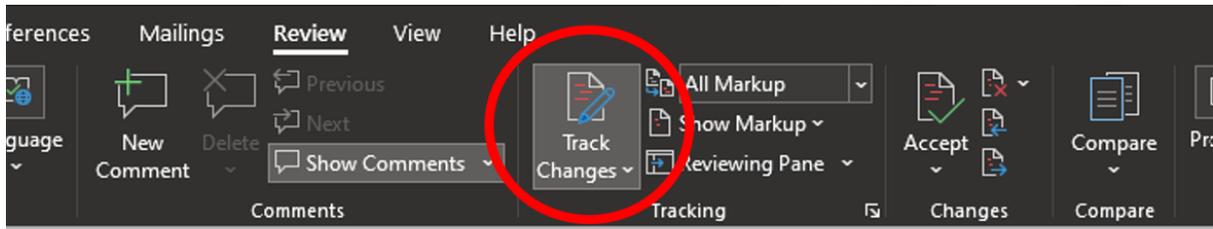
5 Select file to upload

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**

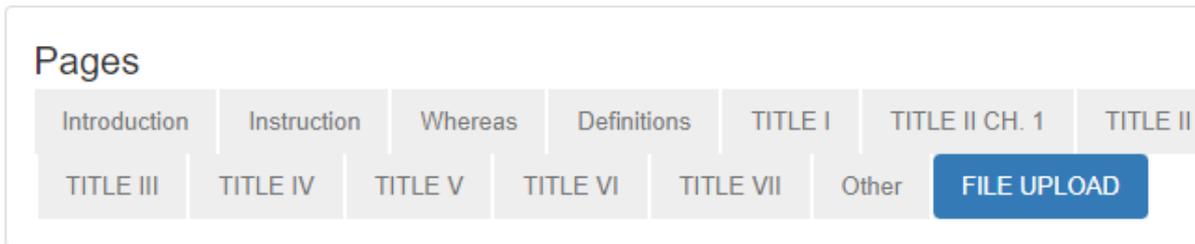
The system restoration requirements laid down respectively in Article 14(4) and Article 15(5) shall apply to AC-connected offshore power park modules types B and C, respectively.

*Article 28*

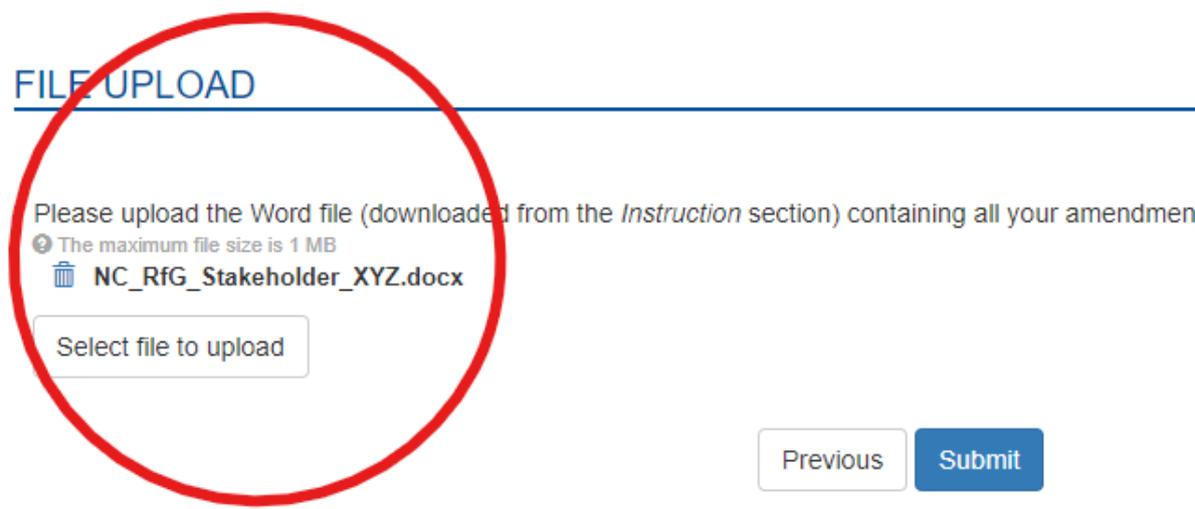
**General system management requirements applicable to AC-connected offshore power park modules**

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.



**FILE UPLOAD**



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)	<p>The requirements on electricity storage are considered to be the same as those on power generation modules unless explicitly stated otherwise in this Regulation. In the case of electrical equipment such as synchronous compensators, flywheels and regenerative braking systems which do not fall onto the definition of a power generating module or electricity storage module, it is down to the relevant TSO to define the technical requirements that apply</p>	<p>We consider that Storage definition shall be part of the regulation.</p> <p>We are proposing the wording as indicated in EG Storage as starting point to be eventually elaborated.</p> <p>We consider that P-to-X-to-P is part of energy storage and as such the definition shall take such technology into account.</p> <p>Requirements for storage system shall then be drafted in a way that reflects also the capabilities associated to such technologies (without applying derogation which are nowhere welcome), for example when it comes to the use of H2 or similar biofuels.</p> <p>Storage module used not as a standalone equipment shall not be subject to overall RfG requirements (as result of the discussion in EG Storage [previously discussion in EG MCS]).</p>	

(4)	<p>For the purpose of this regulation, electricity storage is defined as "The conversion of electrical energy into a form of energy which can be stored, the storing of that energy, and the subsequent reconversion of that energy back into electrical energy". For the avoidance of doubt this definition includes electric vehicles.</p>	<p>We consider that Storage definition shall be part of the regulation.</p> <p>We are proposing the wording as indicated in EG Storage as starting point to be eventually elaborated.</p> <p>We consider that P-to-X-to-P is part of energy storage and as such the definition shall take such technology into account.</p> <p>Requirements for storage system shall then be drafted in a way that reflects also the capabilities associated to such technologies (without applying derogation which are nowhere welcome), for example when it comes to the use of H2 or similar biofuels.</p> <p>Storage module used not as a standalone equipment shall not be subject to overall RfG requirements (as result of the discussion in EG Storage [previously discussion in EG MCS]).</p>	<p>We consider that Storage definition shall be part of the regulation.</p> <p>We are proposing the wording as indicated in EG Storage as starting point to be eventually elaborated.</p> <p>We consider that P-to-X-to-P is part of energy storage and as such the definition shall take such technology into account.</p> <p>Requirements for storage system shall then be drafted in a way that reflects also the capabilities associated to such technologies (without applying derogation which are nowhere welcome), for example when it comes to the use of H2 or similar biofuels.</p> <p>Storage module used not as a standalone equipment shall not be subject to overall RfG requirements (as result of the discussion in EG Storage [previously discussion in EG MCS]).</p>
(5)			
(6)			
(7)			
(8)			
(9)			

(10)			
(11)			
(12)			
(13)			
(14)			
(15)			
(16)			
(17)			
(18)			
(19)			
(20)			
(21)			
(22)			
(23)			
(24)			
(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	<p>(32) An electricity storage module connected to a network by a synchronous generator has to meet the same requirements as a synchronous power generating module and an electricity storage module connected to a network by a non- synchronous generator or through power electronics has to meet the same requirements as a power park module (which could include electric vehicles).</p> <p>For electricity storage modules that are installed with other generating unit (synchronous or non-synchronous) and that are not operating independently RfG requirements do not directly apply. In such a case the generating module and the storage module are considered as a single generating module and RfG requirements applicable to the power generating are the ones that apply. The capacity of the generating module corresponds to the maximum capacity at which the equivalent single generating module is expected to operate.</p>	<p>We consider that Storage definition shall be part of the regulation.</p> <p>We are proposing the wording as indicated in EG Storage as starting point to be eventually elaborated.</p> <p>We consider that P-to-X-to-P is part of energy storage and as such the definition shall take such technology into account.</p> <p>Requirements for storage system shall then be drafted in a way that reflects also the capabilities associated to such technologies (without applying derogation which are nowhere welcome), for example when it comes to the use of H2 or similar biofuels.</p> <p>Storage module used not as a standalone equipment shall not be subject to overall RfG requirements (as result of the discussion in EG Storage [previously discussion in EG MCS]).</p>	



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)	'power-generating module' means either a synchronous power-generating module or a power park module. A power generating module includes an electricity storage module.	<p>We consider that electricity storage module definition shall be part of the regulation.</p> <p>We are proposing the wording as indicated in EG Storage as starting point to be eventually elaborated.</p>	
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)			
Article 2(47)			
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>(66) Families are normally defined as set of power generating units module or set of power generating plants with same technology and similar behaviour and design including controllers with equivalent software, but allowing for instance different rated power and/or allowing for instance different rated voltage.</p> <p>(67) A variant is referred to a power generating module and it can be defined as the same power generating module where one or more of the main components which have an influence on quasi stationary or dynamic behaviour.</p> <p>(68) 'electricity storage' means the conversion of electrical energy into a form of energy which can be stored, the storing of that energy, and the subsequent reconversion of that energy back into electrical energy.</p> <p>(69) 'electricity storage module' is a power generating module which can inject and consume active power to and from the network.</p>	<p>For 66 and 67: Family and variant definitions.</p> <p>Having a definition provided in the regulation to be adopted Europe wide is fostering harmonization when it comes to prove compliance.</p> <p>From 68 to 70: Electricity storage definition. We consider that electricity storage module definition shall be part of the regulation.</p> <p>We are proposing the wording as indicated in EG Storage as starting point to be eventually elaborated.</p>	

(70) 'maximum consumption capacity' means the maximum continuous active power which an electricity storage module can import from the network.

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

## 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	<p>This Regulation establishes a network code which lays down the requirements for grid connection of power-generating facilities (which includes electricity storage which can inject and consume electrical energy to and from the network), namely synchronous power-generating modules, power park modules, , offshore power park modules, to the interconnected system. It, therefore, helps to ensure fair conditions of competition in the internal electricity market, to ensure system security and the integration of renewable electricity sources, and to facilitate Union-wide trade in electricity.</p>	<p>We consider that Storage definition shall be part of the regulation.</p> <p>We are proposing the wording as indicated in EG Storage as starting point to be eventually elaborated.</p> <p>We consider that P-to-X-to-P is part of energy storage and as such the definition shall take such technology into account.</p> <p>Requirements for storage system shall then be drafted in a way that reflects also the capabilities associated to such technologies (without applying derogation which are nowhere welcome), for example when it comes to the use of H2 or similar biofuels.</p> <p>Storage module used not as a standalone equipment shall not be subject to overall RfG requirements (as result of the discussion in EG Storage [previously discussion in EG MCS]).</p>	

Article 3	<p>Remove subparagraph (d) from art. 3(2)</p> <p>(d) storage devices except for pump-storage power-generating modules in accordance with Article 6(2).</p>	See Comments to storage definition. Editorial amendment.	
	<p>Art 4 (1) (2) (8) (9):</p> <p>1. Existing power-generating modules are not subject to the requirements of this Regulation, except where:</p> <p>(a) a type C or type D power-generating module has been modified to such an extent that its electrical and grid-dynamic interaction have materially altered. In these cases and prior to carry out a modification :</p> <p>i. power-generating facility owners who intend to undertake the modernisation of a plant or replacement of equipment affecting the electrical characteristics of the power-generating module shall notify their plans to the relevant system operator in advance;</p> <p>ii. if the relevant system operator considers that the extent of the modernisation or replacement of equipment is material, in respect of any of the</p>		

Article 4

criteria in paragraph 1.c below, the system operator shall notify the relevant regulatory authority or, where applicable, the Member State; and

iii. the relevant regulatory authority or, where applicable, the Member State shall decide which requirements of this Regulation shall apply and if the existing connection agreement needs to be revised or replaced; or

(b) a regulatory authority or, where applicable, a Member State decides to make an existing power-generating module subject to all or some of the requirements of this Regulation, following a proposal from the relevant TSO in accordance with paragraphs 3, 4 and 5. However in such a case a remunerated approach shall be put in place by the regulatory authority ensuring the certainties of the investment to the plant owner. The request shall follow a feasibility study and shall be based on a CBA;

(c) For the purposes of this article a material alteration will be defined according to these parameters:

i. A percentage increase above the existing maximum

An harmonized approach to criteria for significant modernization is considered very useful.

It provides a common understanding to all involved parties on expected costs. It permits to plan for maintenance activities and eventual retrofit.

Alignment of existing generating unit or plant to new requirements shall follow a remunerated approach and shall be eventually based on CBA.

With respect to the paragraph stating that imposing the application of requirements in the RfG can be unilaterally decided, this shall take into account that the decision to build a power

capacity (Pmax) of the PGM to be defined by the relevant system operator; or except in case the increase is happens when adding a new separate generating unit to the existing installation, in such a case the requirements of the present regulation apply to the new equipment(s), while applicability of the new requirement to the existing unit shall be subject to CBA and feasibility evaluation.

ii. A percentage deviation from the existing required reactive capability of the PGM to be defined by the relevant system operator in coordination with the relevant TSO; or

iii. A change in frequency stability and active power management capabilities to be defined by the relevant TSO.

8. Where component parts or units of an existing power generating module are replaced or new parts or units added to an existing power generating module, those new or replacement parts or units should, to the extent applicable:

- (a) Be compliant with the requirements of this Regulation;
- (b) Not be a limitation on the

generating plant shall be based on reasonable CAPEX and OPEX estimation. To align to new requirements can lead to unpredictable high costs and shall be subject to CBA and remunerated approach.

Similarly in case of installation of a new generating unit in a plant where other generating unit are installed shall not trigger unnecessary costs to upgrade existing units. Upgrade of the existing units shall be based on CBA and feasibility study.

	<p>eventual compliance of the power generating module should compliance be required with this Regulation in accordance with this article; and</p> <p>(c) Immediately contribute the requirements of this Regulation pro rata compared to the power generating module as appropriate (e.g. reactive power, frequency response etc). to the future compliance of that power generating module for the possibility that compliance with this Regulation is required in the future.</p> <p>9. Paragraph 8 does not apply to maintenance activities or to recognized spart parts, whether or not those parts are purchased new at the time of their incorporation in the power generating module.</p>		
	<p>Art. 5 (2) (3) (4):</p> <p>2. Power generating modules within the following categories shall be considered as significant:</p> <p>(a) connection point below 110 kV and maximum capacity of 0.8 kW or more (type A);</p> <p>(b) where the capacity of the power generating module is less than the threshold at which the</p>		

connection voltage at its connection point will also be considered, as specified in accordance with the procedure set out in paragraph 4:

- (i) maximum capacity at or above a threshold proposed by each relevant TSO in accordance with the procedure laid out in paragraph 3 (type B). This threshold shall not be above the limits for type B power generating modules contained in Table 1;
  - (ii) maximum capacity at or above a threshold specified by each relevant TSO in accordance with paragraph 3 (type C). This threshold shall not be above the limits for type C power generating modules contained in Table 1; or
  - (iii) connection point at 110 kV or above (type D). A power generating module is also of type D if its connection point is below 110 kV and its maximum capacity is at or above a threshold specified in accordance with paragraph 3 (type D). This threshold shall not be above the limit for type D power generating modules contained in Table 1.
- (c) where the capacity of the power generating module is greater than or equal to the

Article 5

threshold at which the connection voltage at its connection point will also be considered, as specified in accordance with the procedure set out in paragraph 4:

- (i) connection point below 110 kV and maximum capacity at or above a threshold proposed by each relevant TSO in accordance with the procedure laid out in paragraph 3 (type B). This threshold shall not be above the limits for type B power generating modules contained in Table 1;
- (ii) connection point below 110 kV and maximum capacity at or above a threshold specified by each relevant TSO in accordance with paragraph 3 (type C). This threshold shall not be above the limits for type C power generating modules contained in Table 1; or
- (iii) connection point at 110 kV or above (type D). A power generating module is also of type D if its connection point is below 110 kV and its maximum capacity is at or above a threshold specified in accordance with paragraph 3. This threshold shall not be above the limit for type D power generating modules contained in Table 1.

It is important to have a common approach in case of different units / different technologies installation

3. Proposals for maximum capacity thresholds for types B, C and D power generating modules shall be subject to approval by the relevant regulatory authority or, where applicable, the Member State. In forming proposals the relevant TSO shall coordinate with adjacent TSOs and DSOs and shall conduct a public consultation in accordance with Article 10. A proposal by the relevant TSO to change the thresholds shall not be made sooner than three years after the previous proposal.

4. The capacity threshold from which the connection voltage of a power generating module will also be included in the determination of significance as set out in paragraph 2 will be set initially at 10MW. Where the relevant TSO wishes to amend this threshold, such a proposal may be made:

- (i) To decrease the threshold from 10MW down to a value greater than or equal to the higher of either 5MW or the capacity threshold at which a power generating module is of type C as set in paragraph 3; or
- (ii) To increase the threshold from 10MW up to the capacity

threshold at which a power generating module is of type D as set in paragraph 3

Such a proposal shall be subject to approval by the relevant regulatory authority or, where applicable, the Member State. In forming proposals the relevant TSO shall coordinate with adjacent TSOs and DSOs and shall conduct a public consultation in accordance with Article 10. A proposal by the relevant TSO to change the thresholds shall not be made sooner than three years after the previous proposal.

The requirements described in EU 2016/1388 will be applicable to power generating module which will not export power to the grid under any condition; requirements described in the present regulation do not apply to such Power Generating Module. Power Generating Module that are expected to export power to the grid below the threshold applicable for Type A or in general to have limited power exported to the electrical system (below 30% of the installed power) the reference power to be used for defining the requirements will be subject to

	specific requirements.		
Article 6	<p>Article 6 (5):</p> <p>5. An electricity storage module shall be capable of satisfying the requirements of this Regulation irrespective of whether the electricity storage module injects and consumes active power to and from the network.</p>	See above comments for storage.	

Article 7	<p>ART 7. 3 subparagraph (f):  (f) take into consideration agreed European standards and technical specifications. TSOs or ENTSOE shall inform national and European technical committees respectively on applicable new requirements in due time.</p>	<p>Manufacturers use quality processes associated to international recognized standard including product standard (like the IEC 60034 for generators). A regulation is not sufficiently detailed to lead to the definition of a product. The definition and revision of the requirements through technical standards is therefore the most efficient process to align the industry products with less impact (costs, process, quality issues, responsibilities.).</p> <p>Experience of Technical committees is also of advantage for the definition of the requirements and it shall be taken into consideration in the requirements (product standards). Wherever reasonable, references to product standards shall be used.</p>	
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	<p>Art 3.3: the documents defining the requirements and the verification of the compliance as defined by each Member State and system operators shall be available also in english. Unless the english is the official language of the Member State, the english version in case of a translation of the original document shall bear the words "Translation of the original document"</p>	<p>A non-binding translation of the national legislation into a common language (e.g. English) is necessary. It would facilitate compliance as it gives any EU stakeholder the possibility to access and understand all relevant national requirements.</p> <p>Translation of the technical text from 24 official EU languages is a burden to compliance and it can introduce misinterpretation and to eventual unnecessary costs in case of change request. A clear understanding of the local requirements to ensure the safety of the system (and associated compliance verification process) is of the highest priority.</p>	

Please upload figures or tables if necessary

The maximum file size is 1 MB

## 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)	<p>(b) With regard to the rate of change of frequency withstand capability, a power-generating module shall be capable of staying connected to the network and operate at rates of change of frequency up to a value of 1 Hz/s on a rolling window of 500 ms, unless disconnection was triggered by rate-of-change-of-frequency-type loss of mains protection.</p>	<p>It has been recognized that 1Hz/s measured on a rolling window of 500ms is a limit value that ensure the safety of the overall electrical system. This value shall be used as well as a target value for all involved stakeholder and countermeasure shall be put in place to avoid higher average values and limit higher values for shorter period of time.</p> <p>This value has to be considered an upper limit for the so called of “local” ROCOF and we do not recommend specifying any other ROCOF for example considering shorter time interval (e.g. no ROCOF associated to 150ms or 250ms, that is considered of no use, also based on the ROCOF studies carried out in Ireland).</p>	
Article 13(2)			
Article 13(3)			
Article 13(4)			
Article 13(5)			

<p>Article 13(6)</p>	<p>6. The power-generating module shall be equipped with a logic interface (input port) in order to cease active power output or active power input within five seconds following an instruction being received at the input port. If a power generating module has a minimum active power the generating unit is expected to achieve its minimum active power or separate from the grid. In case a specific technology has technical limitation not permitting the power in such a short time, the plant facility owner and the relevant system operator shall agree on specific time interval to reduce power. The relevant system operator shall have the right to specify requirements for equipment to make this facility operable remotely. Each electricity storage module shall also be equipped with an input port to cease active power import upon instruction of the relevant system operator.</p>	<p>Note: Cease fire in 5 seconds for some specific technology (eg storage or PGU based on synchronous generator can means to separate the unit from the grid by opening the circuit breaker).</p> <p>It could be worth to improve the present sentence to reflect the indication above, since the wording is more aligned to inverter based technology and shall be intended to be technology neutral.</p>	
<p>Article 13(7)</p>			

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	<p>ART 13.2 subparagraph (h)            (h) An electricity storage module which is absorbing active power during an overfrequency event shall increase the level of active power absorbed according to the LFSM-O characteristic which shall be considered in terms of the power variation rather than the absolute value. The electricity storage module will absorb power up to filling the maximum energy that it is able to store depending on the specific operative condition, then it will cease consumption. The TSO can define a different characteristic or establish that the electricity storage module when absorbing active power will maintain the absorption level even during the over frequency event. For specific technology a specific absorption characteristic may be used in agreement with System Operator and based on technical or other constrains.</p> <p>Pref is the reference active power to which <math>\Delta P</math> is related and may be specified differently for synchronous power- generating modules and</p>		

power park modules.  $\Delta P$  is the change in active power output from the power-generating module.  $f_n$  is the nominal frequency (50 Hz) in the network and  $\Delta f$  is the frequency deviation in the network. At overfrequencies where  $\Delta f$  is above  $\Delta f_1$ , the power-generating module has to provide a negative active power output change according to the droop S2. In the case of electricity storage modules,  $P_{ref}$  could be the maximum capacity or the maximum consumption capacity at the moment the LFSM-O threshold is reached or the maximum capacity or maximum consumption capacity as agreed with the relevant system operator.

#### ART 13.8

8. With regard to the limited frequency sensitive mode — underfrequency (LFSM-U) an electricity storage module operating in a consumption mode, the requirements of Annex I of this regulation apply.

See comments for electricity storage above. Added that maximum absorbed energy may depend on operative condition (unless the intention is that the maximum energy is considered an upper limit, but the storage can absorb less energy than the max).

It has to be noted that the consumption characteristic can be agreed with system operator depending on the technology involved.

The requirement shall be reasonably “inclusive” since electrical storage are in evolution and are expected to play a more and more important role in the electrical system.

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

---

### **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)	<p>(a) to control active power output, the power-generating module shall be equipped with an interface (input port) in order to be able to reduce active power output following an instruction at the input port. In the case of an electricity storage module consuming active power, the electricity storage module shall be capable of modulating the import of active power following an instruction at the input port; if the electricity storage has technical limitation that impedes such controllability, the consumption characteristic shall be agreed with the system operator. The system operator shall take in consideration technical limitation in considering requirements for electrical storage controllability; and</p>	<p>See previous comment related to electricity storage module. An additional wording has been introduced to tackle specific behaviours associated to storage technology.</p>	
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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

---

## **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)	<p>Article 15(2)(d)            Pref is the reference active power to which <math>\Delta P</math> is related. <math>\Delta P</math> is the change in active power output from the power-generating module. <math>f_n</math> is the nominal frequency (50 Hz) in the network and <math>\Delta f</math> is the frequency deviation in the network.</p> <p>In the case of electricity storage modules, Pref could be the maximum capacity or the maximum consumption capacity at the moment the FSM threshold is reached or the maximum capacity or maximum consumption capacity as agreed with the relevant system operator.</p> <p>Article 15(2)(d)(i)            (i) the power-generating module shall be capable of providing active power frequency response in accordance with the parameters specified by each relevant TSO within the ranges shown in Table 4. In specifying those parameters, the relevant TSO shall take account of the</p>		

Article 15(2)

following facts:  
— in case of overfrequency, the active power frequency response is limited by the minimum regulating level. For electricity storage modules, the active power frequency response may be limited by the minimum regulating level or maximum consumption capacity, or the maximum energy content that the electricity storage module can store in its operative condition or as agreed between the power generating facility and the TSO.

— in case of underfrequency, the active power frequency response is limited by maximum capacity, and, in case of electricity storage modules, also by the maximum consumption capacity or maximum energy content of the electricity storage module in its operative condition (as declared by manufacturer) or as agreed between the power generating facility and the TSO.

— the actual delivery of active power frequency response depends on the operating and ambient conditions of the power-generating module when this

See above comments for electricity storage module.

	<p>response is triggered, in particular limitations on operation near maximum capacity at low frequencies according to paragraphs 4 and 5 of Article 13 and available primary energy sources;</p> <p>— The TSO shall take into account the time needed for some technologies of electricity storage modules to switch from consumption mode to generating mode or vice versa and also the fact that the droop primary frequency control characteristic in consumption and generating mode could be different.</p> <p>Article 15(2)(f)</p> <p>(f) with regard to disconnection due to underfrequency, power-generating facilities capable of acting as a load, including hydro pump-storage power-generating facilities and electricity storage modules, shall be capable of disconnecting their load in case of underfrequency. The requirement referred to in this point does not extend to auxiliary supply;</p>		
Article 15(3)			

Article 15(4)			
Article 15(5)			
	<p>Art.15.6.c c. with regard to the simulation models:</p> <p>(i) at the request of the relevant system operator or the relevant TSO, the power-generating facility owner shall provide simulation models which properly reflect the behaviour of the power-generating module for the relevant study purpose in both steady- state, and dynamic simulations (root mean square), or in electromagnetic transient simulations. Manufacturer proprietary information shall be protected and any means shall be put in place to avoid proprietary information to be shared without consent. These means may include but are not limited to model encryption, non-disclosure agreement as defined by the information provider, use of library model part of the simulation software where only the model parameters and settings are provided, use of models developed on recognized open source software; simulation model are</p>	<p>To foster the use of simulation model in the compliance process. The aim is to help reduce costs associated to compliance verification. Such costs can unnecessarily impact product development.</p> <p>Model encryption and information can be limited to available and reasonable.</p> <p>EUTurbines wants to stress on two aspects that popped up also during the work of EG HCF.</p> <p>Manufacturers are expected to develop the mathematical model of their units on the software that best fit their system and that will be used for compliance validation. A correspondent model can be used for simulations. Simulation software used for simulation can be different from the one used by the manufacturer. Therefore the validated model need to be made</p>	

Article 15(6)

expected to be updated in case major component affecting steady state, quasi steady state and dynamic behavior are affected, by plant facility owner.

The power-generating facility owner shall ensure that the models provided have been verified against the results of compliance tests referred to in Chapters 2, 3 and 4 of Title IV, and shall notify the results of the verification to the relevant system operator or relevant TSO. Member States may require that such verification be carried out by an authorised certifier;

(ii) the Synchronous PGM simulation models provided by the power-generating facility owner shall contain the following sub-models, depending on the existence of the individual components:

- alternator and prime mover,
- speed and power control,
- voltage control, including, if applicable, power system stabiliser ('PSS') function and excitation control system,
- power-generating module

compatible with the simulation software. To develop model in any software and in any revision can lead to major costs and unnecessary activities.

EUTurbines considers that there is the need for a minimum requirements/specifications that apply to the simulation software used by System Operator (which sometime it converts into the software the model has to be provided to the system operator). As a minimum simulation softwares shall be reasonably compatible with a wide range of other software models and open source softwares so that models developed using different software platforms maybe reasonably integrated and shared.

There is also a problem associated with software versions and revisions; it is expected a reasonable compatibility with previous versions or revisions of the same software.

It is not reasonable that manufacturer or plant facility owners bear the costs for maintaining and updating old

protection models, as agreed between the relevant system operator and the power-generating facility owner, and converter models for power park modules;

(iii) In the case that encrypted detailed EMT models are accepted by the relevant system operator or the relevant TSO, the relevant system operator or the relevant TSO shall have the right to specify the model encryption interfaces (for example the model structure and the signal interfaces to be observable in the network studies); the interfaces shall be reasonable, feasible and aligned to the technology to which the model is referred to.

version models into new ones along with the lifecycle of the units (lifecycle spans multiple decades and softwares have new revision updated on a yearly bases); it is also not reasonable that validated model are converted in any type of software available on the market. This requires resources (software license are not cheap, training to keep knowledge on how to use the software is also an additional cost), manpower, eventual test repetition, costs that in general are difficult to budget, they are not negligible and requires qualified personnel.

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

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

<p>New provisions</p>	<p>Article 15(2)(c)(vi)</p> <p>(vi) For an electricity storage module, these requirements shall apply when the electricity storage module is in an injecting mode of operation. Where the electricity storage module is in an importing mode of operation the requirements of Annex I shall apply.</p> <p>Pref is the reference active power to which <math>\Delta P</math> is related and may be specified differently for synchronous power- generating modules and power park modules. <math>\Delta P</math> is the change in active power output from the power- generating module. <math>f_n</math> is the nominal frequency (50 Hz) in the network and <math>\Delta f</math> is the frequency deviation in the network. At underfrequencies where <math>\Delta f</math> is below <math>\Delta f_1</math> the power-generating module has to provide a positive active power output change according to the droop S2</p> <p>In the case of electricity storage modules, Pref could be the maximum capacity or the maximum consumption capacity at the moment the LFSM-U threshold is reached, or the maximum capacity or maximum consumption capacity as agreed with the relevant system operator.</p>	<p>See above comments for electricity storage module.</p>	
-----------------------	---	---	--

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

---

**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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

## 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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

---

## **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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

---

## **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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

## 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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

---

## **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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

---

## **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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

## 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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

## 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			
Article 30			
Article 31			
Article 32			
Article 33			
Article 34			
Article 35			
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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

## TITLE IV - Compliance

---

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

	Amendment proposal	Reasoning	Relation to other provisions
Article 40			
Article 41		<p>To avoid unnecessary impediment in the compliance process. From time to time there is the wrong expectation that tests can be carried out “somewhere” else. This is not necessarily true and the possibility to test at the specific tests site shall be a possibility. The inability to test (for technical reason) shall not be a barrier to connect a generating unit which respects the requirements. In case of technical limitation to test at the site where the unit will be installed, an agreement shall be found among parties (like use of simulation models, etc.).</p>	

<p>Article 42</p>	<p>ADD to article 42.2.</p> <p>“(d) allow the use of alternative or same set of tests carried out in a different facility provided that those tests are efficient and suffice to demonstrate that a power-generating module complies with the requirements of this Regulation.”</p> <p>NEW point 5 to Article 42:</p> <p>“Instead of carrying out the relevant test, power-generating facility owners may rely upon component and or equipment certificates issued by an authorised certifier or measurements issued by an accredited measurements institute to demonstrate compliance with the relevant requirement. In such a case, copies of the equipment certificates shall be provided to the relevant system operator.”</p>	<p>to be verified if this is already existing</p>	
-------------------	--	---	--

Article 43	<p>Proposal for 43 (6)</p> <p>The relevant system operator shall allow the use of compliance simulation as described in article 43.2 also for Type A and Type B generating module. The provision described in art 15.6(c) are in this case applicable also to Type A, and Type B when validated model is used.”</p>	<p>Extension of use of compliance simulation to type A and B generating module. As an alternative the content of paragraph 15.6.c can be moved to Art. 13.</p>	
Article 44			
Article 45			
Article 46			
Article 47			

<p>Article 48</p>	<p>Article 48(4)(a)</p> <p>(a) the power park module's technical capability to continuously modulate active power over the full operating range between maximum capacity and minimum regulating level to contribute to frequency control shall be demonstrated. The steady-state parameters of regulations, such as insensitivity, droop, deadband and range of regulation, as well as dynamic parameters, including frequency step change response shall be verified. In the case of an electricity storage module, the full operating range is between maximum consumption capacity and maximum capacity, limited eventually by operative condition.</p>	<p>See comments on electricity storage module. Note that operative condition can have a limitation on the electrical storage module capability</p>	
<p>Article 49</p>			
<p>Article 50</p>			
<p>Article 51</p>			
	<p>Art. 52 (2) (3) (4) (5)</p> <p>2. With regard to the LFSM-U response simulation the following requirements shall apply:</p> <p>(a) the power-generating module's capability to modulate active power at low frequencies in accordance with</p>		

point (c) of Article 15(2) shall be demonstrated by RMS simulation;

3. With regard to the FSM response simulation the following requirements shall apply:

(a) the power-generating module's capability to modulate active power over the full frequency range in accordance with point (d) of Article 15(2) shall be demonstrated by RMS simulation;

4. With regard to the island operation simulation the following requirements shall apply:

(a) the power-generating module's performance during island operation referred to in the conditions set out in point (b) of Article 15(5) shall be demonstrated by RMS simulation;

5. With regard to the reactive power capability simulation the following requirements shall apply:

(a) the power-generating module's capability to provide leading and lagging reactive power capability in accordance with the conditions set out in points (b) and (c) of Article 18(2) shall be demonstrated by documental

evidence based on manufacturer documentation at different voltage level. Simulation means in this case the representation of the power generating module capabilities considering reactive power capabilities of the Power Generating Unit and PPMs and other equipments or components that influence the reactive power (like transformers, consumptions, etc.). Simulator is based on such documental information. In this case simulation in the outer corners of the U-Q/Pmax diagram can be checked. In addition two simulations of the executed tests shall be performed with the real grid voltage and load points during the tests;

(b) the simulation shall be deemed successful if the following conditions are fulfilled:

(i) the simulation model of the power-generating module is validated against the compliance tests for reactive power capability as far as these tests were accommodated (grid voltage deviations) and allowed by the RSO described in Article 45(7); and

(ii) compliance with the requirements of points (b) and (c) of Article 18(2) is demonstrated.

Simulation can help in the compliance process.

Reactive power capability can be demonstrated by documental evidence based on manufacturer information (rather than simulation) that shows capabilities at different voltage level. Simulation do not provided added value in such respect, real tests, depending on the Type C definition thresholds cannot necessarily be conducted: for big units real tests imply relevant reactive power deviations that displace the voltage consistently. To perform such tests at the different voltages, TSO cooperation is mandatory (OLTC control). By experience this is not well understood and complex to be coordinated.

Article 53			
Article 54			
Article 55			
Article 56			
Article 57			
Article 58			
	<p>art. 59 (1):</p> <p>1. "ACER shall monitor the implementation of this Regulation in accordance with Article 32 of Regulation (EC) No 2019/943. ACER performing its task of monitoring shall involve the European Stakeholder Committee". Monitoring shall cover in particular the following matters:</p> <p>(a) identification of any divergences in the national implementation of this Regulation;</p> <p>(b) assessment of whether the choice of values and ranges in the requirements applicable to power-generating modules under this Regulation continues to be valid. In case of divergence the national regulation shall be updated not later than 3 months after notification from ACER, unless a formal derogation process has been initiated.</p> <p>Article 59 (3)</p> <p>Relevant TSOs and DSOs shall</p>		

Article 59

submit and keep updated to ACER through the national regulatory authority, the information requested by ACER to perform the tasks referred to in paragraphs 1 and 2.”

Addition to article 59 (3):

“The ACER in cooperation with ENTSO for electricity shall set-up a public online tool where national relevant information is collected and accessible to all relevant parties and interested individuals. The information to be gathered are the following:

- Link to legal text
- Definition of exhaustive and non-exhaustive parameters
- TSOs requirements and compliance tests and process to be performed (this can consist of a link to the TSO website)
- DSOs requirements and compliance tests and process to be performed (this can consist of a link to the DSO website)
- National website
- Contact mail and contact phone where requests can be posted.
- Any information relevant that can be useful for any person that has an interest in the code.

art. 59 (1):

Monitoring role has been moved from ENTSO for Electricity to ACER (as outlined in article 32 of EU 2019/943).

ACER shall be empowered to force adherence of the national regulation to the European regulation. The wording shall be aimed to limit as much as reasonable divergence from the regulation.

Art 59 (3)

During the implementation Manufacturers and Plant owners struggled to access the information relevant to the new regulation.

A single point where updated information can be accessed is needed.

The information needs to be reliable, therefore TSOs and DSOs shall be responsible to provide and update the information.

ENTSO for Electricity and ACER shall coordinate to provide an online focal point for the information.

It is recommended to introduce a dedicated article, so that there is a

The online tool can be used by TSOs and DSOs for eventual additional communication specific to their system. The information shall be organized to permit easy access and provide a complete usable information to relevant party including plant owners and manufacturers. Stakeholders shall be involved in developing the online focal point.

TSOs and DSOs shall ensure the information provided is up to date.

TSOs and DSOs shall provide the requested information within three months, or in case of specific requests within a given realistic deadline, that can be calendarized.  
”

#### Article 59 (4)

Where ENTSO for Electricity or the Agency establish areas subject to this Regulation where, 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

formal obligation by the relevant parties to provide information.

Transparent clarification on the work flow and role of actors such as the national regulatory authorities would allow for a clearer picture.

art. 59 (4)

Editorial, regulation crossreference.

	<p>Regulation pursuant to Article 7(1) of Regulation (EC) No 714/2009. Draft amendments to this code can be proposed according to article 60 (1) of EU 2019/943.</p>		
--	--	--	--

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>ADD to article 41.7</p> <p>7. In the frame of compliance testing, when the system operator requires proof of compliance of specific requirements, it shall establish a procedure permitting generating units to be connected to the grid with the purpose of conducting such tests and verifications, including certification test process when requested. This includes to carry out tests to be used to validate simulation model then used to provide evidence of compliance.</p> <p>ADD to article 42.2.</p> <p>“(d) allow the use of alternative or same set of tests carried out in a different facility provided that those tests are efficient and suffice to demonstrate that a power-generating module complies with the requirements of this Regulation.”</p> <p>NEW point 5 to Article 42:</p>	<p>Article 41.7: To avoid unnecessary impediment in the compliance process. From time to time there is the wrong expectation that tests can be carried out “somewhere” else. This is not necessarily true and the possibility to test at the specific</p>	

New articles

“Instead of carrying out the relevant test, power-generating facility owners may rely upon component and or equipment certificates issued by an authorised certifier or measurements issued by an accredited measurements institute to demonstrate compliance with the relevant requirement. In such a case, copies of the equipment certificates shall be provided to the relevant system operator.”

Proposal for 43 (6):

The relevant system operator shall allow the use of compliance simulation as described in article 43.2 also for Type A and Type B generating module. The provision described in art 15.6(c) are in this case applicable also to Type A, and Type B when validated model is used.”

Article 59 (5) NEW

Stakeholders may provide feedback on the implementation of this regulation and identification of any divergences to it, supporting ACER in conducting its activities as described in article 32 (1) of EU 2019/943. ACER shall keep the stakeholders informed on the follow

tests site shall be a possibility. The inability to test (for technical reason) shall not be a barrier to connect a generating unit which respects the requirements. In case of technical limitation to test at the site where the unit will be installed, an agreement shall be found among parties (like use of simulation models, etc.).

Article 42.2.

To facilitate the compliance process, the possibility to avoid test repetition if the same or similar tests are carried out (witnessed by a certified measuring institute) somewhere else.

ART. 43 (6)

Extension of use of compliance simulation to type A and B generating module. As an alternative the content of paragraph 15.6.c can be moved to Art. 13.

art. 59(5)

Ratification of a de facto situation.

Relevant stakeholders shall have the formal possibility to provide feedback to ACER, which shall be formally processed.

up actions.”

#### Article 59 (6) NEW

Based on the experience gathered in the implementation and application of this regulation, ACER and ENTSO for Electricity, may propose amendments to the present requirements with focus on reliable and effective operation and to prevent or limit incidents on the system considering an efficient, harmonized and cost containing implementation of the regulation, also taking into account the needs of all stakeholders in the value chain involved. Experience gathered in the implementation and application of this regulation shall be shared within the regional coordination centres as part of their task as defined in EU 2019/943 and with the mandatory participation of involved stakeholders at least once a year. The feedback from the regional coordination centres shall be shared among TSOs and DSOs at least to the ones belonging to the same synchronous area

Annex I as proposed in EG Storage final report (28 May 2020)

#### art. 59 (6)

Requirements shall focus on reliable and effective operation considering an efficient, harmonized and cost containing implementation of the regulation, also taking into account all stakeholders in the value chain involved.

#### Annex I

To be used as starting point to define requirements in LFSM-U behaviour for energy storage module.

--	--	--	--

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

## 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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

## 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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

## 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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

## 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			

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

Please upload figures or tables if necessary

The maximum file size is 1 MB

## FILE UPLOAD

---

Please upload the Word file (downloaded from the **Instruction** section) containing all your amendment proposals in the Track Changes mode.

The maximum file size is 1 MB

**670dd734-7024-4f7a-93a8-9854478adae0/NC\_RfG\_Stakeholder\_EUTurbines.docx**

### Contact

[Contact Form](#)

