

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:

Bundesverband Solarwirtschaft e.V.

* 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:

[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.

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

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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)	<p>Different synchronous electricity systems in the Union have different characteristics which need to be taken into account when setting the requirements for generators. It is therefore appropriate to consider regional specificities when establishing network connection rules as required by Article 8(6) of Regulation (EC) No 714/2009. At the same time, in order to foster an EU-wide internal market for energy technologies and new business-models, a much higher level of harmonisation must be achieved. As a guiding principle for mass-market products, the requirements for generator should be set out in a way that the generator which meets the requirements for grid-connection in one Member State will meet the requirements for grid connection in another Member State without any additional effort or certification. Differing grid connection requirements within one Member State or even individual additional grid connection requirements for every grid should be avoided in order to allow an European internal market for energy technologies and business models.</p>	<p>Too often grid connection requirements differ significantly between Member States. The EU and European companies can only become worldwide leaders for energy transition technologies, if a harmonised internal market for these technologies exists. Today we are far from that. As an example: The Italian Grid Codes differ wildly from the German Grid Codes. In Germany, on top, each of the 900 DSOs can set out individual additional grid connection requirements. It thus requires tremendous transaction costs to establish a technology with one DSO, then with another which has different grid connection requirements and then with any DSO in different Member State - which again has different connection requirements. The Next Generation Network Codes should clearly address this painful fragmentation by stating.</p>	Art. 40
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	<p>module of the energy storage facility shall not be addressed on their aggregated capacity by default. Instead the power-generating facility owner shall have the right to demonstrate to the relevant system operator that the mode of operation of the combined power-generating modules prevents both from injecting energy into the grid at full capacity at the same time. The power-generating facility owner may even prove that the energy storage facility is working in a mode which it does not inject any energy into the grid at all (dynamic capacity restrictions).</p>	<p>only accomodate 50 kW of generating capacity.</p> <p>If both PGM are assessed with their aggregated capacity at 30 kW + 30 kW = 60 kW, then the system operator must reject the grid connection request until he has expanded the grid on that street.</p> <p>If, however, the power-generating facility owner can show that the energy storage facility will only ever inject electricity into the grid after sunset, then the capacity requered will never exceed 30 kW. The grid connection request can be granted.</p> <p>In order to activate the full technical potential of storage, such dynamic capacity restrictions must be allowed under the NC RfG.</p>	
(10)			
(11)			
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Please write your amendment proposal and the reasoning in the table below.

	Proposal for new recitals	Reasoning	Relation to other provisions
New recitals	<p>Where the secure and cost-efficient operation of national networks require advanced technical capabilities due to a high penetration of distributed energy resources (DER), such as synthetic inertia or flexibility, those should first and foremost be procured using market-based mechanisms under Art. 32 of the Directive (EU) 2019/944 or under the System Operations Guideline Commission Regulation (EU) 2017 /1485.</p>	<p>This shall address the temptation for system operators to use the interface of PGM required under the RfG to make available to themselves ancillary services for free.</p> <p>Art. 31, Art. 32 and Art. 40 of Directive (EU) 2019/944 clearly state that ancillary services and in particular non-frequency ancillary services such as steady state voltage control, fast reactive current injections, inertia for local grid stability, short-circuit current, black start capability and island operation capability must be procured using market-based mechanisms.</p> <p>The adoption of such market-based mechanisms is almost non-existent. Instead we observe a desire by system operators to make use of the capabilities of the newest PGM and especially inverters by asking for a permanent communication connection and the right to control said PGMs. Requests like this are highly likely to be filed during this consultation.</p> <p>We reject the idea that system</p>	Art. 13 (6)

	operators getting to control customer-owned PGM while not making an effort to set up market-based mechanisms for such services. This would clearly circumvent the requirements of Directive (EU) 2019/944.	
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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)			
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Article 2(34)			
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Article 2(36)			
Article 2(37)			
Article 2(38)			
Article 2(39)			
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Article 2(41)			
Article 2(42)			
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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			

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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			
	<p>Article 4</p> <p>Application to existing power-generating modules</p> <p>1. Existing power-generating modules are not subject to the requirements of this Regulation, if:</p> <p>(a) there is a replacement of components within the PGM by equivalent components due to defects/ maintenance (this includes an exchange with new equivalent components and reparation), provided the interoperability within the PPM is given and the maximum infeed capacity as agreed with the system operator is not increased,</p> <p>(b) the original requirements</p>		

Article 4

applied to the plant are still fulfilled and

(c) if new components are used for replacement which are capable of fulfilling the actual requirements related to this regulation.

2. The system operator may apply actual requirements in case of a significant modernization, i.e.:

(a) the primary generator of PGM is replaced; or

(b) more than 75% of the power generating units (related to the original capacity of the PGM) have been replaced,

(c) the maximum PGMs infeed capacity as agreed with the system operator has been increased by more than 10%.

3. In case of a significant modernization of parts of the PGM, new requirements to components of the PGM that are not part of the modernization, have to be economically proportionate, i.e. that the costs for fulfilling the additional requirements do not exceed 10% of the modernization costs.

There has to be a balance between keeping existing PGMs up to date regarding their grid-related capabilities and additional efforts arising, when just a part of a PGM is replaced or modernized. Otherwise, there is the risk, that modernization is not undertaken due high additional cost resulting from the application of new requirements (e. g. related to the switchgear or protection systems, when parts of the generating units are replaced).

For Type A generators, the new requirements shall not apply under any circumstances. That is because these are mass-market products. If a Type A generators fails or is replaced for any other reason in the future, it will automatically be replaced by new mass-market PGM which is compliant with this Regulation. Any other wording has a significant risk of deterring especially household customers from repairing faulty PGM if the resulting new requirements are not immediately clear.

4. Existing Type A PGM shall not be subject to this regulation.

5. The relevant regulatory authority or, where applicable, the Member State shall decide on the extension of the applicability of this Regulation to existing power-generating modules within six months of receipt of the report and the recommendation of the relevant TSO in accordance with Article 38(4). The decision of the regulatory authority or, where applicable, the Member State shall be published.

6. The relevant TSO shall take account of the legitimate expectations of power-generating facility owners as part of the assessment of the application of

	<p>this Regulation to existing power-generating modules.</p> <p>7. The relevant TSO may assess the application of some or all of the provisions of this Regulation to existing power-generating modules every three years in accordance with the criteria and process set out in paragraphs 3 to 5.</p>		
	<p>Article 5</p> <p>Determination of significance</p> <p>1. The power-generating modules shall comply with the requirements on the basis of their maximum capacity according to the categories set out in paragraph 2.</p> <p>2. Power-generating modules within the following categories shall be considered as significant:</p> <p>(a) maximum capacity of 0,8 kW or more (type A);</p> <p>(b) maximum capacity at the 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;</p> <p>(c) maximum capacity at or above a threshold specified by each relevant TSO in accordance</p>	<p>The Voltage criterion existing in the actual RfG should be removed. The reason for this is that it imposes – in relation to its</p>	

Article 5

with paragraph 3 (type C). This threshold shall not be above the limits for type C power-generating modules contained in Table 1; or
(d) 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.

Table 1

Limits for thresholds for type B, C and D power-generating modules			
Synchronous areas	Capacity threshold from which a power-generating module is of type B		
	Limit for maximum capacity threshold from which a power-generating module is of type C		
	Limit for maximum capacity threshold from which a power-generating module is of type D		
Continental Europe	0,5 MW		
50 MW	75 MW		
Great Britain	1 MW	50	
	MW	75 MW	
Nordic	1,5 MW	10	
	MW	30 MW	
Ireland and Northern Ireland			

significance - disproportionate requirements to relatively small PGMs with a capacity of up to a few MW in terms of capabilities as well as notification and compliance processes, in case they utilize existing infrastructure connected to the HV System.

Especially when those PGMs are installed in HV-connected demand-facilities, applying the same requirements as those for PGMs of a capacity of >50MW would mean that the potential of such installations would be jeopardized due to additional economic burdens without obvious technical reasons.

With todays capability of Type A plants to support the system's stability (e.g. L/HVRT; LFSM) there is no risk to apply those in High Voltage connected facilities.

The threshold between type A and B should be fixed in order to harmonize products and processes for mass market of small PGMs over Europe. We observe a growing interest by grid operators to require storage facility operators to equalize phase imbalances, despite the fact that the storage facility is not the source of such

0,1 MW	5 MW	10 MW
Baltic	0,5 MW	10 MW
15 MW		

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. Power-generating facility owners shall assist this process and provide data as requested by the relevant TSO.

5. Member States shall not derogate from the values set out for Type A power-generating modules. Where such derogations exist, they shall be harmonised not later than one year after entry of force of this regulation.

6. The relevant system operator shall not require Type A and Type B energy storage facilities to

imbalances. This requires more costly inverters and limits the ability of the storage facility to provide ancillary services to the grid.

We consider imbalances the responsibility of the system operator for which he can and should take alternative measures which do not discriminate against individual technologies. We find it unjustifiable that grid operators today like to require one specific technology to equalize phase-imbalances, simply because it is the latest technology to file a grid connection request.

	equalize phase-imbalances in non-synchronous mode.		
	<p>Article 6</p> <p>Application to power-generating modules, pump-storage power-generating modules, combined heat and power facilities, industrial sites and mixed costumer sites in general</p> <p>1. Offshore power-generating modules connected to the interconnected system shall meet the requirements for onshore power-generating modules, unless the requirements are modified for this purpose by the relevant system operator or unless the connection of power park modules is via a high voltage direct current connection or via a network whose frequency is not synchronously coupled to that of the main interconnected system (such as via a back-to-back convertor scheme).</p> <p>2. Pump-storage power-generating modules shall fulfil all the relevant requirements in both generating and pumping operation mode. Synchronous compensation operation of pump-storage power-generating modules shall not be limited in time by the technical</p>		

Article 6

design of power-generating modules. Pump-storage variable speed power-generating modules shall fulfil the requirements applicable to synchronous power-generating modules as well as those set out in point (b) of Article 20(2), if they qualify as type B, C or D.

3. With respect to power-generating modules embedded in the networks of industrial sites, power-generating facility owners, system operators of industrial sites and relevant system operators whose network is connected to the network of an industrial site shall have the right to agree on conditions for disconnection of such power-generating modules together with critical loads, which secure production processes, from the relevant system operator's network. The exercise of this right shall be coordinated with the relevant TSO.

4. Except for requirements under paragraphs 2 and 4 of Article 13 or where otherwise stated in the national framework, requirements of this Regulation relating to the capability to maintain constant active power output or to modulate active power output shall not apply

New paragraph:

6a) In mixed customer sites, it makes sense to limit the infeed capacity and focus on self-consumption. The most important impact parameters of a PGM to the network is related to the maximum infeed capacity to the grid, rather than installed capacity.

6b) Especially in medium voltage connected existing demand facilities, a reference point at the PCC often leads to significant additional cost for measuring equipment / reconstruction of the switchgear etc. Such cost may jeopardize investments into such PGMs. A reference point within the MCS - at least for relatively small plants in relation to the connection point's capacity - is technically feasible.

6c) The technical requirements with regard to a PGM of the same size should not be different if it's connected to public low voltage grid or a low voltage grid in a Mixed customer site connected to the MV grid. For instance, the significance of a 200kW PGM

to power-generating modules of facilities for combined heat and power production embedded in the networks of industrial sites, where all of the following criteria are met:

- (a) the primary purpose of those facilities is to produce heat for production processes of the industrial site concerned;
- (b) heat and power-generating is inextricably interlinked, that is to say any change of heat generation results inadvertently in a change of active power-generating and vice versa;
- (c) the power-generating modules are of type A, B, C or, in the case of the Nordic synchronous area, type D in accordance with points (a) to (c) of Article 5(2).

5. Combined heat and power-generating facilities shall be assessed on the basis of their electrical maximum capacity.

6. For mixed costumer sites (MCS) the following applies:

- (a) the type classification according to table 1 does not refer to the installed capacity, but the maximum feed-in capacity as agreed with the relevant system operator;
- (b) if the MCS was taken into

connected to LV may be higher than if it's connected to MV Level within a large demand facility. In practice, today the latter has to fulfil more complex requirements, e. g. due to requirements being related to the connection point at MV level.

	<p>operation before the application date of this regulation, the requirements to the PGM may apply at its connection point within the MCS;</p> <p>(c) There shall be the same requirements for the PGM regardless if connected to the grid of the relevant DSO or connected to demand-dominated MCS.</p>		
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			

Please upload figures or tables if necessary

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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)		Harmonisation is required to have a proper single market integration. 3,68 kVA seems the most suitable value.	
Article 13(2)			
Article 13(3)			
Article 13(4)			
Article 13(5)			
		<p>The smaller the PGMs, the higher the proportionate effort to support different communication specifications. There is a high need for harmonization for secure, harmonized remote access solutions for mass applications.</p> <p>.....The deleted sentence and the first added sentence aim at a more harmonised market for energy transition technologies. Given the vast number of relevant system operators, the deleted sentence leads and has led to fragmented landscape of communication requirements preventing the emergence of mass-market solutions. First, national and then European standardisation and harmonisation are the answer to this challenge. The</p>	

Article 13(6)

6. The power-generating module shall be equipped with an interface (input port) in order to cease active power output within five seconds following an instruction being received at the input port. Taking into account European Standardization, the Member States shall specify harmonized requirements for equipment to make PGMs operable remotely. Any requirements for remote communication of the relevant system operator with the interface shall be harmonised on a national level one year after the entry of force of this Regulation. The remote control of the interface may only be used for emergency purposes. In particular, the remote control shall not be used for any functionality which constitutes an ancillary service under Directive (EU) 2019/944, unless the relevant system operator has established a market based mechanism to procure such services via the interface. No remote control requirements shall be mandatory for any PGM with an installed capacity of less than 30 kW.

second two sentences shall address the temptation for system operators to use the logic interface to make available to themselves ancillary services for free.

Art. 31, Art. 32 and Art. 40 of Directive (EU) 2019/944 clearly state that ancillary services and in particular non-frequency ancillary services such as steady state voltage control, fast reactive current injections, inertia for local grid stability, short-circuit current, black start capability and island operation capability must be procured using market-based mechanisms.

The adoption of such market-based mechanisms is almost non-existent. Instead we observe a desire by system operators to make use of the capabilities of the newest PGM and especially inverters by asking for a permanent communication connection and the right to control said PGMs. Requests like this are highly likely to be filed during this consultation.

We reject the idea that system operators get to control customer-owned PGM while not making an effort to set up market-based mechanisms for such

		<p>services. This would clearly circumvent the requirements of Directive (EU) 2019/944. The last sentence brings a best-practice from the German implementation of RfG to the European Level: PGM under 30 kW need not be remote controllable, since maintaining a remote communication application is disproportionately costly given the small size of these typical household-level installations.</p>	
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	8. The requirements related to type A PGMs and electrical storage modules in terms of LVRT, LFSM and reactive capability apply at their terminals. Requirements related to active power reduction in mixed costumer sites may relate to the sum of demand and generation.	It should be made clear, that future requirements like voltage ride through, LFSM and reactive capability are preferably applied at the terminals of the PGMs in order to reduce complexity of the installations. However, they may be applied at the connection point, if this is feasible.	

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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	<p>Where a power generating module is combined with an energy storage facility, the power-generating facility owner choose to which extend the grid power of the energy storage facility or the combined power of the PGM and the energy storage facility will be limited regarding its injection of energy into the grid. This limitation may be different for different 15-minute intervals of the day and different during particular months. The relevant system operator shall only take into account the actual energy which is to be injected into the grid under ensure a maximum use of the available grid capacity by both, the power-generating facility and the energy storage facility while at the same time allowing both to stay within its limitations when operated alone or combined (dynamic capacity restrictions)</p>	<p>Excessive bureaucracy and (literal) paperwork are the main obstacle for the efficient and wide-spread adoption of PV and storage. Given the different ways in which PV and storage can be combined and the different ways in which even existing installations can be operated, system operators require a lot of documentation during the first installation, but also when the mode of operation is changed afterwards. For example when the energy storage facility is switched from pure self-consumption mode to grid injection mode.</p> <p>In this case the need to file paperwork everytime including the signatures of the installation owner and the installer creates a huge barrier especially for household customers. In addition, each of the relevant system operators uses different forms.</p> <p>We suggest that instead, the grid connection and operational notification shall be fully standardised and digitalised one year after entry into force of this Regulation. This way solar and storage can unleash their full technical potential without excessive bureaucratic burden. At the same time the relevant system operator still is provided with all the necessary information he needs.</p>	<p>The same digital workflow should be implemented responsibilities of the power-generating facility owner under Art. 40.</p>
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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			
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			

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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>Responsibility of the power-generating facility owner</p> <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 an equipment certificate according to EN-50549-X shall be sufficient to show compliance with this Regulation and all national implementations. The relevant system operator shall not require any additional certificates or requirements.</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</p>		

	<p>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 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>	<p>Technical requirements for generators are far too fragmented across Member States to allow for a proper world-leading internal market to emerge. Thus, this reform of the RfG shall aim for the highest level of harmonisation possible. at the same time, PGMs must take account of the different historical requirements of the European grids.</p> <p>The technical standard EN-50549-X aims for such a harmonisation despite slightly varying technical requirements. It allows for nationally differing values under a uniform equipment certificate. We ask ACER to consider this harmonisation approach at least for mass-market Type A PGM.</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
New articles			

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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	<p>Amendment of contracts and general terms and conditions</p> <p>1. Regulatory authorities shall ensure that all relevant clauses in contracts and general terms and conditions relating to the grid connection of new power-generating modules are brought into compliance with the requirements of this Regulation.</p> <p>2. All relevant clauses in contracts and relevant clauses of general terms and conditions relating to the grid connection of existing power-generating modules subject to all or some of the requirements of this Regulation in accordance with Article 4(1) shall be amended in order to comply with the requirements of this Regulation. The relevant clauses shall be amended within three years following the decision of the regulatory authority or Member State as referred to in Article 4(1).</p> <p>3. Regulatory authorities shall ensure that national agreements between system operators and owners of new or existing power-generating facilities subject to this Regulation and relating to grid</p>		

	<p>connection requirements for power-generating facilities, in particular in national network codes, reflect the requirements set out in this Regulation.</p> <p>4. No requirements shall be established by the relevant system operators which go beyond the requirements of this Regulation. If additional requirements must be established to ensure the secure operation of the system, the relevant system operator must file these requirements in a transparent process for approval by the NRA. The NRA shall consult with all relevant stakeholders before approval. The NRA approval shall be binding for all national system operators.</p>		<p>We observe a practice of relevant system operators to establish additional grid connection requirements which go beyond the RfG. As an example, in Germany each of the 900 DSOs may (and mayn do) establish additional grid connection requirements beyond the national implementation of the RfG. This prevents a truly harmonised internal market for energy technologies to emerge. That is why we suggest that any requirements which go beyond the RfG should be extremely limited and subject to approval by the NRA.</p>
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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