

ACER draft amendments to the Network Code on Demand Connection

Fields marked with * are mandatory.

Introduction

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

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

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

Background

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

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



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

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

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

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

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

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

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

Stakeholder's details

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:

EDP

* Contact person:

[REDACTED]

* Contact person's email address:

[REDACTED]

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

Portugal

* 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:

Vertically integrated utility

* 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)

Instructions

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

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

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

The mandatory steps for submitting the comments are listed below.

Step 1

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

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

Step 2

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

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

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

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

Includes new articles

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

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

	Text amendment proposal (if applicable)
New article	3

Please upload figures or tables if necessary

The maximum file size is 1 MB

Select file to upload4

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

Step 3

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

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

FILE UPLOAD

Please upload your file here

The maximum file size is 1 MB

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

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

Please upload your file

The maximum file size is 1 MB

Please upload your file

The maximum file size is 1 MB

Please upload your file

The maximum file size is 1 MB

Due to the significant length of this survey:

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

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

Whereas Section

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

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

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

(8)		Demand response is an important instrument for increasing the flexibility of the internal energy market and for enabling optimal use of networks. It should be based on customers' actions or on their agreement for a third party to take action on their behalf (individually or as part of an aggregation portfolio)...
(9)		
(10)		
(11)		
(12)		
(13)		The administrative burdens and costs associated with providing demand response should be kept within reasonable limits and proportional to the consumer size, in particular as regards domestic consumers, who will play an increasingly important role in the transition to low carbon society and their uptake should not be unnecessarily burdened with administrative tasks.
(14)		Due to its cross-border impact, this Regulation should aim at the same frequency- related requirements for all voltage levels, at least within a synchronous area. That is necessary because, within a synchronous area, a change in frequency in one Member State would immediately impact frequency and could damage equipment in all other Member States or jeopardise the European electricity network system.

(15)		Frequency-related requirements should support the stable operation of the energy system which is being transformed to accommodate the green transition. In the future, the effectiveness of existing low frequency demand disconnection (LFDD) schemes is expected to be reduced due to the increased penetration of distributed generation. Therefore, a new limited frequency sensitive mode for various demand units (LFSM-UC) is being introduced to account for these changes. Furthermore, Charging units for electro mobility, such as V1G, power-to-gas demand units and heat-pumps are usually technically capable to fulfil such a requirement without negative consequences for the grid user. Also, in big car parks, the impact of the V2G charging station on the frequency, namely superharmonic, should be considered.
(16)		
(17)		
(18)		
(19)		
(20)		
(21)		
(22)		
(23)		
(24)		

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

	Text amendment proposal (if applicable)
New recital	

Definitions (Article 2)

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

Includes new definitions

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 2(1)		
Article 2(2)		
Article 2(3)		
Article 2(4)		
Article 2(5)		
Article 2(6)		
Article 2(7)		
Article 2(8)		
Article 2(9)		
Article 2(10)		
Article 2(11)		
Article 2(12)	Why just “on load tap changer”? The market already offers different solutions (after the transformer), for example, based on power electronics, to achieve the same objective.	
Article 2(13)		
Article 2(14)		
Article 2(15)		
Article 2(16)		
Article 2(17)		
Article 2(18)	It is not clear the difference between this type of demand response and the one defined in (16). A description highlighting the differences should be provided by the drafting team to clarify each concept	delete

Article 2(19)		
Article 2(20)		
Article 2(21)		
Article 2(22)		
Article 2(*)		
Article 2(**)		
Article 2(***)		
Article 2(****)		

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

	Text amendment proposal (if applicable)
New definition	

Please upload figures or tables if necessary

The maximum file size is 1 MB

TITLE I - General provisions

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

Includes new articles

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 1		
Article 3	<p>3.1(b) "Distribution networks are, simplistically, constituted by lines and substations that connect multiple clients and that are also connected to the transmission grids in several cases. Only new facilities (ex.: substations) are to be considered even if there is an existing neighbour distribution substation which does not comply and that can provide N-1 backup to the new substation? Clarification on what constitutes a facility should be provided by the drafting team. This definition is laid in the present version of the DC regulation but is not clear which creates different interpretations."</p>	
Article 4		
Article 4a [new]		
Article 5		
Article 6		
Article 7		
Article 8		
Article 9		
Article 10	<p>Since 2016, when this code was approved, the EU DSO Entity was formed. Given its important</p>	<p>"ACER, in close cooperation with the European Network of Transmission System Operators for</p>

	role with stakeholders, EU DSO Entity involvement in the public consultation process would be very beneficial.	Electricity (ENTSO for Electricity), and the EU DSO Entity, shall organise stakeholder involvement..."
Article 11		

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

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

The maximum file size is 1 MB

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

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

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 12	<p>12.1 Distribution systems is a vague definition as it can also include the clients that are part of the distribution network. The DSO does not have control over the clients facilities.</p>	<p>12.1 Transmission-connected demand facilities, transmission-connected distribution facilities and distribution systems assets managed by the DSO shall be capable of remaining connected to the network and operating at the frequency ranges and time periods specified in Annex I.</p>
Article 13	<p>13.1 Distribution systems is a vague definition as it can also include the clients that are part of the distribution network. The DSO does not have control over the clients facilities.</p> <p>13.7 Following the spirit of this regulation TSO and DSO should agree on these issues.</p>	<p>13.1 Transmission-connected demand facilities, transmission-connected distribution facilities and transmission-connected distribution systems assets managed by the DSO shall be capable of remaining connected to the network and operating at the voltage ranges and time periods specified in Annex II.</p> <p>13.7 With regard to transmission-connected distribution systems with a voltage below 110 kV at the connection point, the relevant TSO and the DSO shall agree on the voltage range at the connection point that the distribution systems connected to that transmission system shall be designed to withstand...</p>
Article 14		

Article 15	15.2 The "where applicable" is not clearly defined and thus must be eliminated.	15.2 delete "where applicable"
Article 16		
Article 17	17.2(e) Limiting automatic reconnections to one-phase faults can create operational difficulties for both TSO and DSO. The one-phase fault provision shall be eliminated, and the decision must be between TSO/DSO agreement.	17.2(e) delete "on 1 phase faults"
Article 18		
Article 19		
Article 20		
Article 21	21.1 Distribution network models are dependent on the behaviour of the clients connected to the distribution grid. Currently there is no European regulation that obliges the Distribution grid client to provide the DSO with a model of its installation. The models that the DSO can provide will necessarily have large errors.	Transmission-connected demand facilities and transmission-connected distribution systems, if agreed between DSO and TSO, shall fulfil the requirements set out in paragraphs 3 and 4 related to the simulation models or equivalent information.
Article 22		
Article 23		
Article 24		
Article 25		
Article 26		

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

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

The maximum file size is 1 MB

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

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

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 27	<p>27.1(a)(iii)</p> <p>There is no practical difference between (i) and (iii). Thus we propose to eliminate the (iii) and refer that demand response active power control can be used for constraint management services.</p>	<p>delete 27.1(a)(iii)</p>
	<p>28.1 and 28.2</p> <p>There is no practical difference between (i) and (iii). Thus we propose to eliminate the (iii) and refer that demand response active power control can be used for constraint management services.</p>	<p>28.1</p> <p>Demand facilities and closed distribution systems may offer demand response active power control, including constraint management, or demand response reactive power control to relevant system operators (DSOs and TSOs).</p> <p>28.2</p> <p>Demand units with demand response active power control or demand response reactive power control shall comply with the following requirements, either individually or, where it is not part of a transmission-connected demand facility, collectively as part of demand aggregation through a third party:</p> <p>28.2(d)</p> <p>be capable of controlling power consumption from the network in a range equal to the range contracted, directly or indirectly through a third party, by the relevant system operators (DSOs and TSOs)</p>

Article 28	<p>28.2(d) and 28.2(e) DSOs should also be included</p> <p>28.2(k) The RfG provides standard values for the ROCOF withstand. The DC should do the same to avoid distortions between Member States. ENTSO-E should be mandated to provide a supported proposal.</p>	<p>28.2(e) be equipped to receive instructions, directly or indirectly through a third party, from the relevant system operator or the relevant TSO to modify their demand and to transfer the necessary information. The relevant system operator (DSOs and TSOs) shall make publicly available the technical specifications approved to enable this transfer of information. For demand units connected at a voltage level below 110 kV, these specifications shall, prior to approval in accordance with Article 6, be subject to consultation with the relevant stakeholders in accordance with Article 9(1);</p> <p>28.2(k) have the withstand capability to not disconnect from the system due to the rate-of-change-of-frequency up to a common value to be proposed by ENTSO-E. With regard to this withstand capability, the value of rate-of-change-of-frequency shall be calculated over a 500 ms time frame. For demand units connected at a voltage level below 110 kV, these specifications shall, prior to approval in accordance with Article 6, be subject to consultation with the relevant stakeholders in accordance with Article 9(1);</p>
Article 29		
Article 30		
Article 31		
	Article 32 defines pre-requisites for demand units to provide demand response services. It is very important to consider the pre-qualification	

Article 32	<p>of demand units not yet connected to the grid, and because of that these installations may not have in their possession all the documentation needed. It is important that they can pre-qualify without certain documentation.</p> <p>32.1 It is very important that, for the provision of demand response services, it is possible to qualify demand units not yet connected to the distribution network.</p> <p>32.6(d) In some cases, only connected demand units may have the certificate. Since it is very important to consider demand units not yet connected to the distribution network, this information shall not be requested.</p>	<p>32.1 The operational notification procedure for a demand unit providing demand response services within a demand facility or a closed distribution system connected or proposed to be connected at a voltage level of or below 1 000 V shall comprise an installation document.</p> <p>delete 32.6(d)</p>
Article 33		

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

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

The maximum file size is 1 MB

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

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

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

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

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

The maximum file size is 1 MB

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

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

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 34		
Article 35		
Article 36		
Article 37		
Article 38		
Article 39		
Article 40		
Article 41		
Article 42		
Article 43		
Article 44		
Article 45		
Article 46		
Article 47		

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

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

The maximum file size is 1 MB

TITLE V - Applications and derogations

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

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 48		
Article 49	49.1 DSOs should also be included	49.1 Demand facility owners, DSOs and CDSOs shall assist and contribute to the cost-benefit analysis undertaken according to Articles 48 and 53 and provide the necessary data as requested by the relevant system operator or relevant TSO within three months of receiving a request, unless agreed otherwise by the relevant system operators (DSOs and TSOs).
Article 50		
Article 51		
Article 52		
Article 53		
Article 54		
Article 55		

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

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

The maximum file size is 1 MB

TITLE VI - Non-binding guidance and monitoring of implementation

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

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Article 56	<p>56.1 and 56.2</p> <p>Since 2016, when this code was approved, the EU DSO Entity was formed. Given its important role with stakeholders, EU DSO Entity involvement would be very beneficial.</p>	<p>56.1</p> <p>No later than six months after the entry into force of this Regulation, the ENTSO for Electricity in cooperation with the EU DSO Entity shall prepare and thereafter every two years provide non-binding written guidance to its members and other system operators concerning the elements of this Regulation requiring national decisions. The ENTSO for Electricity and the EU DSO Entity shall publish this guidance on its website.</p> <p>56.2</p> <p>ENTSO for Electricity and the EU DSO Entity shall consult stakeholders when providing non-binding guidance.</p>
Article 57		

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

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

The maximum file size is 1 MB

TITLE VII - Final provisions

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

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

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

	Text amendment proposal (if applicable)
New article	

Please upload figures or tables if necessary

The maximum file size is 1 MB

ANNEX I

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

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Annex I	It is not clear why frequency requirements within a synchronous Zone need to be different. ENTSO-E should be mandated to propose a uniform value by reaching a consensus within their members.	

Please upload figures or tables if necessary

The maximum file size is 1 MB

ANNEX II

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

	Comment on the ACER draft amendments	Alternative text amendment proposal (if applicable)
Annex II		

Please upload figures or tables if necessary

The maximum file size is 1 MB

Other additional provisions

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

	Text amendment proposal (if applicable)
Other new provisions	

Please upload figures or tables if necessary

The maximum file size is 1 MB

Background Documents

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

Contact

acer-ele-2022-015@acer.europa.eu