

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:

Enel Group

* Contact person:

[REDACTED]

* Contact person's email address:

[REDACTED]

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

Italy

* 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:

Energy utility (generator, distribution system operator, retailer)

* 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 upload

4

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.
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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

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Due to the significant length of this survey:

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

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

Whereas Section

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) | Amendment proposal intended to prevent existing demand sites being required to meet | In view of the need to provide regulatory certainty, the requirements of this Regulation should apply to new transmission-connected demand facilities, new transmission-connected distribution facilities, new distribution systems and new demand units used by a demand facility or a closed distribution system to provide demand response services to relevant system operators and relevant transmission system operators ('TSOs'). The requirements of this Regulation should not apply to existing transmission-connected demand facilities, existing transmission-connected distribution facilities, existing distribution systems and existing demand units that are or can be used by a demand facility or a closed distribution system to provide demand response services to relevant system operators and relevant TSOs. The requirements of this Regulation also should not apply to new or existing demand facilities connected at the distribution level unless they provide demand response services to relevant |

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| | impossible requirements as a precondition of providing demand response, as this might lead to demand response not being provided. | system operators and relevant TSOs. An existing demand facility that starts providing demand response should not be treated as a new facility, as this could create a serious barrier to participation. However, the requirements of this Regulation should apply in case the relevant regulatory authority or Member State decides otherwise based on the evolution of system requirements and a full cost-benefit analysis, or in case a substantial modernisation or replacement of equipment impacting the technical capabilities of an existing transmission-connected demand facility, an existing transmission-connected distribution facility, an existing distribution system, or an existing demand unit within a demand facility or a closed distribution system connected at a voltage level above 1 000 V has been performed. |
| (**) | Need clarification on autonomous energy islands which are not allowed in every MSs | 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, 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 |

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| | | constitutes a fully autonomous energy island, provided that autonomous energy islands are allowed by the regulation and technical standards of the Member State. |
| (8) | | |
| (9) | | |
| (10) | | |
| (11) | | |
| (12) | | |
| (13) | For example, just because a customer starts providing demand response using their EV charger, they should not be required to prove that other appliances are tolerant to a particular frequency and voltage range. | The administrative burdens and costs associated with providing demand response should be kept within reasonable limits, 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. Where an existing consumer starts providing demand response, this should not lead to a compliance burden with respect to existing, unchanged equipment on the consumer's site, as this would be a barrier to participation. |
| (14) | | |
| (15) | | |
| (16) | | |
| (17) | | |
| (18) | | |
| (19) | | |
| (20) | | |
| (21) | | |

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| (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) | A large part of the facilities absorb and produce. In future this part will increase. Mentioning only "consumes" is misleading | 'demand facility' means a facility which consumes electrical energy with or without the presence of power generating modules and is connected at one or more connection points to the transmission or distribution system. A distribution system and/or auxiliary supplies of a power-generating module do not constitute a demand facility; |
| 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) | | |
| | | |

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|-----------------|--|--|
| 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 | |

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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 | | |
| Article 4 | | |
| Article 4a [new] | | |
| Article 5 | | |
| Article 6 | | |
| Article 7 | | |
| Article 8 | | |
| Article 9 | | |
| Article 10 | Stakeholder engagement should include the new DSO Entity as well as ENTSO-E | ACER, in close cooperation with the European Network of Transmission System Operators for Electricity (ENTSO for Electricity) and the entity of Distribution System Operators in the Union (the EU DSO Entity), shall organise stakeholder involvement, regarding the requirements for the grid connection of transmission-connected demand facilities, transmission-connected distribution facilities, distribution systems and demand units used by a demand facility or a closed distribution system to provide demand response services to relevant system operators and relevant TSOs, and other aspects of the implementation of this Regulation. This shall include regular meetings with stakeholders to identify problems and propose improvements notably related to the requirements for grid connection of transmission-connected demand facilities, transmission-connected distribution |

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| | | facilities, distribution systems and demand units used by a demand facility or a closed distribution system to provide demand response services to relevant system operators and relevant TSOs. |
| Article 11 | | |

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

| | Text amendment proposal (if applicable) |
|-------------|---|
| New article | |

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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 | | |
| Article 13 | | |
| Article 14 | | |
| Article 15 | <p>The operation conditions are known to TSO, but also and specifically to Relevant System Operator (DSO) side distribution network supplied by the installation directly faced / connected to transmission system. Threshold for reactive power should be set with the cooperation of relevant DSOs especially in case of distribution system and not unilaterally by the TSO. The suggestion is to add "in agreement with relevant system operator to define the connection points where not supply reactive power".</p> | <p>The relevant TSO in agreement with the distribution system operator may require that transmission-connected distribution systems have the capability at the connection point or over a set of connection points defined by the relevant TSO, not to supply reactive power to the transmission system when the magnitude of the active power exchange between the transmission-connected distribution system and the transmission system is lower than a threshold defined by the relevant TSO and agreed with the relevant distribution system operator.</p> <p>Where applicable, Member States may require the relevant TSO to justify the defined set of connection points through a joint analysis with transmission-connected distribution system operators.</p> |
| Article 16 | | |
| Article 17 | | |
| Article 18 | | |
| | | <p>(ii)a maximum total tripping time, starting from the system frequency crossing through the set threshold of frequency relay to the circuit</p> |

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| <p>Article 19</p> | <p>Article 1.c.ii and iii: The proposal tries to clarify better the requirement in terms of maximum time of demand disconnection during low frequency events.</p> <p>Article 4.c: For transmission-connected distribution facility the logic interface input port could better be replaced with a command to the SCADA system. Better to clarify.</p> | <p>breaker opening. It shall be no more than 200 ms;</p> <p>(iii) total time of 200 ms includes all measurements, calculations, the tripping action of the relay and the circuit breaker manoeuvre (opening). It is expected that the operating time of the circuit breaker is no more than 80 ms and the measurement, calculation and tripping action of the relay shall be no more than 120 ms. In the case of using the rate of change threshold, the measurement and calculation and tripping action relay shall be also no larger than 120 ms.</p> <p>(c)if required by the relevant system operator, a transmission-connected demand facility or a transmission-connected distribution facility shall be equipped with a logic interface (input port) in order to be disconnected, eventually in block loading, from the transmission system. As an alternative, the disconnection command could be sent to the transmission-connected distribution facility SCADA sys. If the relevant system operator requires a transmission-connected demand facility or a transmission-connected distribution facility to be equipped with such logic interface, it shall have the right to specify requirements for the equipment to make this facility operable remotely. The relevant TSO shall specify the time required for remote disconnection.</p> |
| | | <p>2. Each TSO may require simulation models or equivalent information showing the behaviour of</p> |

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|------------|---|---|
| Article 20 | Add "specifying the output data format and the simulation tools, in agreement with the relevant distribution operator". | the transmission-connected demand facility, the transmission-connected distribution system, or both, in steady and dynamic states specifying the output data format and the simulation tools, in agreement with the relevant distribution operator. |
| Article 21 | | |
| Article 22 | | |
| Article 23 | | |
| Article 24 | | |
| Article 25 | A more clear reference to harmonized standards is necessary | Article 25.3.c: c). an update of the applicable technical data, simulation models and studies proving compliance of electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat pumps with reference, where existing, to European standards. |
| 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

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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 | | |
| Article 28 | The article refers to services available for all relevant system operators, therefore the requirements should be set by the RSO and not the TSO. | Article 28(2)(d): 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 operator; |
| Article 29 | | |
| Article 30 | | |
| Article 31 | <p>Connection requirements should apply to all (new) demand sites. A selectively application to sites that choose to provide demand response might lead to barriers to DR services.</p> <p>Therefore, Enel does not agree with the addition of the new text. A demand unit is defined by is service. A demand unit not providing a service is specifically excluded from the scope of the NC DC in Article 3.1(d).</p> | <p>(a) demand units within a demand facility or a closed distribution system connected at a voltage level of or below 1 000 V;</p> <p>(b) demand units within a demand facility or a closed distribution system connected at a voltage level above 1 000 V.</p> |
| Article 32 | | |
| 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

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[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 5.a: Also power to gas units and heat pumps which are included in the revision of the DC should be included in this Article not only V1G | Article 5.a:5. With regard to fault-ride-through capability on V1G electric vehicles and associated V1G electric vehicle supply equipment, power to gas units and heat pumps: a. The V1G electric vehicle and associated V1G electric vehicle supply equipment, power to gas units and heat pumps, when operating above the minimum stable operating level, shall be capable of staying connected to the network and continuing to operate stably after the power system has been disturbed by faults in the transmission network according to a voltage-against-time-profile in line with Figure XX.c at the connection point and with the set points in Tables X.1.1 and X.1.2. |
| Article XX+1 | | |
| Article XX+2 | Certificate should be based on harmonized standards. | V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat pumps shall possess equipment certificates, proving compliance with this regulation according to European harmonized technical standards or specifications. |
| Article XX+3 | Certificate should be based on harmonized standards. | 1. V1G electric vehicles and associated V1G electric vehicle supply equipment, and heat pumps connected at a voltage level above 1000 V shall possess equipment certificates, proving |

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|--|--|
| | compliance with this regulation according to European technical standards or specifications. |
|--|--|

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

| | Text amendment proposal (if applicable) |
|-------------|---|
| New article | |

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TITLE IV - Compliance

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 | Certificates should be based on harmonized standards | (a)all documentation and certificates based on European standards to be provided by the demand facility owner, the DSO or the CDSO; |
| 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 | |

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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 | | |
| 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 | |

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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 | | |
| Article 57 | | |

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

| | Text amendment proposal (if applicable) |
|-------------|---|
| New article | |

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TITLE VII - Final provisions

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

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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 | | |

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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 | | |

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Other additional provisions

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

| | Text amendment proposal (if applicable) |
|----------------------|---|
| Other new provisions | |

Please upload figures or tables if necessary

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Background Documents

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

Contact

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