

**RECOMMENDATION No 03/2023
OF THE EUROPEAN UNION AGENCY
FOR THE COOPERATION OF ENERGY REGULATORS**

of 19 December 2023

on reasoned proposals for amendments to the Commission Regulation (EU) 2016/631 of 24 April 2016 establishing a network code on requirements for grid connection of generators and Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a network code on demand connection

THE EUROPEAN UNION AGENCY FOR THE COOPERATION OF ENERGY REGULATORS,

Having regard to Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators¹, and, in particular, Article 3(1) thereof,

Having regard to Regulation (EU) 2019/943 on the internal market for electricity², and, in particular, Articles 59(2)(a) and 60(3) thereof,

Having regard to the outcome of the public consultations,

Having regard to the outcome of the consultation with ACER's Electricity Working Group,

Having regard to the favourable opinion of the Board of Regulators of 13 December 2023, delivered pursuant to Article 22(5)(a) of Regulation (EU) 2019/942,

Whereas:

I. INTRODUCTION

- (1) In September 2022, in the framework of the Grid Connection Stakeholders Committee, the European Commission proposed that ACER initiates the process to prepare reasoned proposals for amendments to the grid connection network codes, namely the Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators (hereafter: the RfG Regulation)³ and

¹ OJ L158, 14.6.2019, p. 22.

² OJ L 158, 14.6.2019, p. 54–124.

³ OJ L 112, 24.4.2016.

the Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a network code on Demand Connection (hereafter: the DC Regulation)⁴.

- (2) In May and September 2022, ACER published a draft Policy Paper⁵ (jointly with CEER) and a Policy Paper⁶. In the latter, ACER provided a high-level outline of the main areas to improve the RfG Regulation and the DC Regulation. The ACER Policy Paper reflected ACER's considerations on possible amendments to the grid connection network codes following input received from stakeholders during the summer 2022.
- (3) The Policy Paper addressed potential amendments to the network codes concerning among others: technical requirements for storage, mobile storage and electrical charging points; requirements for mixed customer sites (MCSs), active customers and energy communities; significant modernisation of system users' facilities and equipment; advanced capabilities for grids with significant distributed energy resources (DER) and converter-based technologies; and criteria to determine generators significant for the system.

II. PROCEDURE

- (4) ACER conducted a first public consultation with stakeholders from 26 September until 21 November 2022, to collect stakeholders' proposals on the amendments of the RfG Regulation and the DC Regulation. The evaluation of responses to the public consultation is detailed in Annex 6 to this Recommendation.
- (5) In addition to the public consultation, ACER held three public workshops with stakeholders, with the purpose to introduce the proposed amendments, and a webinar (19 July 2023) to assist stakeholders in providing feedback to the public consultation and allow stakeholders to pose questions to ACER and the regulatory authorities involved in the drafting of the amendments. The workshops focused on specific regulatory issues, namely: electromobility, power-to-gas demand units and heat-pumps (17 April 2023), rate of change of frequency and grid forming capabilities (10 May 2023), and electricity storage (11 May 2023).
- (6) Throughout the procedure, ACER engaged with interested stakeholders in the review of the amendments in order to ensure that they had sufficient opportunity to express their views and concerns. Further, several meetings, with representatives of the relevant European stakeholders' associations, were held on specific proposed amendments (mainly concerning Rate of Change of Frequency (RoCoF) and electromobility).
- (7) In accordance with Article 60(3) of Regulation (EU) 2019/943 on the internal market for electricity (hereafter: Electricity Regulation) and Article 14 of Regulation (EU) 2019/942, ACER conducted a second public consultation from 17 July until 25

⁴ OJ L 223, 18.8.2016

⁵ [ACER/ CEER draft Policy Paper](#) on the revision of network code on requirements for grid connection of generators and network code on demand connection

⁶ Policy Paper on the revision of the Network Code on Requirements for Grid Connection of Generators and the Network Code on Demand Connection.

September 2023 to gather stakeholders' views on concrete amendment proposals to the electricity grid connection network codes. The evaluation of responses to the public consultation is detailed in Annex 7 to this Recommendation.

- (8) ACER's Electricity Working Group (hereafter: AEWG) was consulted between 20 November and 21 November 2023, and provided its advice on 23 November 2023.
- (9) In its advice, the AEWG endorsed the draft ACER Recommendation on reasoned proposals for amendments to the RfG Regulation and to the DC Regulation.
- (10) In its advice, the AEWG considers that as regards the RfG Regulation and the DC Regulation no significant concerns by NRAs have been stated. The AEWG invites ACER to take note of the comments raised by specific NRAs and some that have already been resolved during the meeting.
- (11) On 13 December 2023, ACER's Board of Regulators adopted an amendment on the proposed RfG Regulation and issued a favourable opinion, pursuant to Article 22(5)(a) of Regulation (EU) 2019/942, on the proposed RfG Regulation, as revised by its amendment, and on the proposed DC Regulation.

III. LEGAL GROUNDS FOR THE PRESENT RECOMMENDATION

- (12) In the framework of the Grid Connection Stakeholders Committee in September 2022, the European Commission proposed that ACER initiates the process to prepare reasoned proposals for amendments to the grid connection network codes.
- (13) The RfG Regulation and the DC Regulation are network codes, as referred to by Article 59 of Regulation (EU) 2019/943 on the internal market for electricity (hereafter: Electricity Regulation) relating to the area of 'network connection rules' under Article 59(2)(a) of the Electricity Regulation, which is specified as including rules on the connection of transmission-connected demand facilities, transmission-connected distribution facilities and distribution systems, connection of demand units used to provide demand response, requirements for grid connection of generators, requirements for high-voltage direct current grid connection, requirements for direct current-connected power park modules and remote-end high-voltage direct current converter stations, and operational notification procedures for grid connection.
- (14) Article 60 of the Electricity Regulation defines a process for the amendment of network codes within the areas listed in Article 59 (1) and (2) thereof, with ACER having a formal role for the proposal of such amendments.
- (15) According to the first sentence of Article 60(3) of the Electricity Regulation, ACER may make reasoned proposals to the Commission for amendments, explaining how such proposals are consistent with the objectives of the network codes set out in Article 59(3) of the same Regulation. Article 59(3) of the Electricity Regulation does not refer explicitly to objectives and states that the Commission should establish a priority list every three years, identifying the areas to be included in the development of network codes. Instead, subsequently, Article 59(4) and (11) of the Electricity Regulation do

define objectives for the development of network codes, namely contribution to market integration, non-discrimination, effective competition, and the efficient functioning of the market. Accordingly, the reference in Article 60(3) of the Electricity Regulation to the objectives of Article 59(3) of that Regulation should be read together with Article 59(4) and (11) of the same Regulation and in light of the objectives listed therein. Therefore, these objectives are also relevant for the amendments proposed in this Recommendation (as detailed in the reasoning provided in Annexes 3, 4 and 5).

- (16) According to the second sentence of Article 60(3) of the Electricity Regulation, where ACER considers an amendment proposal to be admissible and where it proposes amendments on its own initiative, ACER should consult all stakeholders in accordance with Article 14 of Regulation (EU) 2019/942. Pursuant to Article 14(1) of Regulation (EU) 2019/942, ACER, in the process of proposing amendments of network codes under Article 60 of the Electricity Regulation, has to *‘extensively consult at an early stage market participants, transmission system operators, consumers, end-users and, where relevant, competition authorities, without prejudice to their respective competence, in an open and transparent manner, in particular when its tasks concern transmission system operators’*.
- (17) Finally, according to Article 3(1) of Regulation (EU) 2019/942, ACER may, upon a request of the European Parliament, the Council or the Commission, or on its own initiative, provide an opinion or a recommendation to the European Parliament, the Council and the Commission on any of the issues relating to the purpose for which it has been established.
- (18) As indicated by Articles 59(2)(a) and 60(3) of the Electricity Regulation, ACER’s contribution to the amendment of network codes concerns issues relating to a purpose for which ACER has been established.

IV. MAIN FINDINGS

- (19) ACER found that amendments to the RfG Regulation and the DC Regulation would be required in the areas set out in paragraphs (26) to (41). In line with the Commission’s request and taking into account the outcome of extensive consultation with the relevant stakeholders, ACER has proposed those amendments in Annexes 1 and 2 to this Recommendation for the reasons detailed in Annexes 4 and 5 to this Recommendation explaining how such proposals are consistent with the objectives in Article 59(4) of the Electricity Regulation⁷.
- (20) The amendments proposed by ACER take into consideration the advice received from the AEWG (see above in paragraphs (9)-(10)).

⁷ Due to the numerous and extensive amendments, ACER proposes that the RfG Regulation and the DC Regulation are repealed.

a. Consultation of the AEWG

- (21) With reference to the comments of specific NRAs (as annexed in AEWG Advice), they are related in essence to the following:
- As regards the RfG Regulation, the comments refer to clarification on the term “same underlying technology”, clarification on the definition of “maximum capacity”, the use of different term regarding the content of charge for electricity storage modules, the consideration of distribution faults for fault-ride-through capability for electric vehicles (EVs), the application of provisions for small type C power park modules (PPMs) regarding grid forming capability in line with type B PPMs provisions, the aggregation of EVs and electric vehicle supply equipment, the final operational notification procedure for EVs and type A power-generating modules (PGMs), clarification on the timeline for the submission of the proposal of transmission system operators (TSOs) regarding significant modernisation, the consideration of nuclear safety rules and the provisions on information exchange of type B PGMs;
 - As regards the DC Regulation, the comments refer to adjustment of Figure (3)XX.c on limited frequency sensitive mode (LFSM) capabilities of V1G electric vehicles, the consideration of distribution faults for fault-ride-through capability for EVs and power-to-gas demand units, additional requirements for data centre demand units and clarification on the timeline for the submission of the proposal of TSOs regarding significant modernisation.
- (22) ACER’s consideration of the comments from regulatory authorities on the different topics is indicated, where pertinent, in Annexes 1 and 2 to this Recommendation.

b. Amendment of the Board of Regulators

- (23) CRU submitted an amendment request regarding paragraph 3 of Article 30 of the RfG Regulation. ACER Director submitted a counter proposal to this amendment of paragraph 3 of Article 30.
- (24) The Board of Regulators adopted the amendment with regard to the proposed paragraph 3 of Article 30 of the RfG Regulation regarding the issue of the final operational notification (FON) for type A PGMs.
- (25) ACER took this amendment into account and revised the proposal for amendments to the RfG Regulation accordingly (see Annexes 1 and 1a).

c. Amendments to the RfG Regulation

- (26) For the general provisions, ACER proposes amendments to definitions, significant modernisation, expansion of application to electricity storage modules, Vehicle-to-Grid (V2G) electric vehicles and associated V2G electric vehicles supply equipment, power generating modules embedded in networks of industrial sites, and regulatory aspects.

- (27) For the general requirements, ACER proposes amendments to general requirements for type A B, C and D power-generating modules, introduction of requirements for type EV1 and EV2 V2G electric vehicles and associated V2G electric vehicles supply equipment as well as introduction of requirements for type EV3 electric vehicles and associated V2G electric vehicle supply equipment and V2G electrical charging parks.
- (28) For the requirements for synchronous power-generating modules, ACER proposes amendments to the requirements for type A, B, C and D synchronous power-generating modules.
- (29) For the requirements for offshore power park modules, ACER proposes amendments to the frequency and voltage stability requirements, robustness requirements, system restoration requirements as well as general management requirements applicable to AC-connected offshore power park modules.
- (30) For the connection of new power-generating modules, ACER proposes the introduction of new article on the connection procedure for type EV2 and associated V2G electric vehicle supply equipment and for type EV3 and associated V2G electric vehicle supply equipment.
- (31) For compliance monitoring, ACER proposes amendments to compliance testing, on compliance testing for V2G electric vehicles and associated V2G electric vehicle supply equipment, for type B power park modules, for offshore power park modules, compliance simulations for type B and C for synchronous power-generating modules, for type B and C power park modules and on equipment certificates.
- (32) For the monitoring of implementation, ACER proposes amendments to update the monitoring process in accordance with the Electricity Regulation.
- (33) For the transitional and final provisions, ACER proposes amendments to transitional provisions regarding emerging technologies and introduces new final provisions.

d. Amendments to the DC Regulation

- (34) For the general provisions, ACER proposes amendments to the definitions, scope of application, significant modernisation and regulatory aspects.
- (35) For the connection of the transmission connected demand facilities, transmission connected demand facilities and distribution systems provisions in the DC Regulation, ACER proposes amendments to general requirements (amendment to short circuit requirements, reactive power requirements, demand connection and demand reconnection and simulation models) and to operational notification procedure (amendments to interim operational notification and to final operational notification).
- (36) For the connection of demand units used by a demand facility or a closed distribution system to provide response services to system operator, ACER proposed amendments to the general provisions of the operational notification procedure, to procedures for demand units providing demand response services.

- (37) ACER proposed the introduction of new provisions on connection of unidirectional charging (V1G) electric vehicles and associated electric vehicles supply equipment, power-to-gas units and heat pumps (general requirements, operational notification procedure).
- (38) Regarding compliance, ACER proposed amendments on the general provisions so as the demand units and V1G vehicles and associated electric vehicles supply equipment, power-to-gas units and heat pumps to be included. ACER also proposed amendments to compliance simulations for transmission connected distribution facilities.
- (39) For the non-binding guidance and monitoring of implementation, ACER proposed amendments to align the monitoring process with the provisions of the Electricity Regulation.
- (40) For the transitional and final provisions, ACER proposes amendments to transitional provisions regarding emerging technologies and introduces new final provisions.
- (41) For Annexes I and II, ACER proposed amendments to general frequency ranges and time period referred to in Article 12(1), and voltage ranges and time periods referred to in Article 13(1), respectively,

HAS ADOPTED THIS RECOMMENDATION:

- 1. ACER recommends to amend Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators, in accordance with Annex 1, for the reasons explained in Annex 4.
- 2. ACER recommends to amend Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a network code on demand connection, in accordance with Annex 2, for the reasons explained in Annex 5.

This Recommendation is addressed to the European Commission.

Done at Ljubljana, on 19 December 2023.

- SIGNED -

For the Agency
The Director
C. ZINGLERSEN

Annexes:

Annex 1 – Amended RfG Regulation

Annex 1a – Amended RfG Regulation TC compared to the current Regulation

Annex 2 – Amended DC Regulation

Annex 2a – Amended DC Regulation TC compared to the current Regulation

Annex 3 – Policy Paper

Annex 4 – Reasoning to proposed amendments to the RfG Regulation

Annex 5 – Reasoning to proposed amendments to the DC Regulation

Annex 6 – Evaluation of responses to the public consultation (26 September until 21 November 2022)

Annex 7 - Evaluation of responses to the public consultation (17 July until 25 September 2023).