

**AGREEMENT BY THE REGULATORY AUTHORITIES OF
THE CONTINENTAL EUROPE SYNCHRONOUS AREA**

ON

**THE APPROPRIATE STEPS FOR THE ADOPTION OF
THE DEFINITION OF A MINIMUM
ACTIVATION TIME PERIOD REQUIRED FOR FCR
PROVIDING UNITS OR GROUPS WITH
LIMITED ENERGY RESERVOIRS TO REMAIN
AVAILABLE DURING ALERT STATE PURSUANT TO
ARTICLE 5(9) OF THE COMMISSION REGULATION (EU)
2017/1485**

26 June 2023

I. Introduction and legal context

Pursuant to Article 156(10) of the Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereinafter referred to as: SOGL), all the Continental Europe TSOs (hereinafter referred to as: CE TSOs) shall develop a proposal concerning the minimum activation period to be ensured by frequency containment reserves (hereinafter referred to as: FCR) providing units or groups with limited energy reservoirs (hereinafter referred to as: LER) during alert state (hereinafter referred to as: proposal for T_{min} LER definition). The proposal shall take full account of the results of the cost-benefit analysis (hereinafter referred to as: CBA) conducted pursuant to Article 156(11) of SOGL. According to Article 6(3)(d)(v) of SOGL, the CE TSOs' proposal referred to in Article 156(10) of SOGL is subject to approval by all the Continental Europe national regulatory authorities (hereinafter referred to as: CE NRAs).

After the CE TSOs submitted their proposal for T_{min} LER definition, the CE NRAs issued a request for amendment on 2 December 2022, in accordance with Article 7 of SOGL, asking for a comprehensive assessment of the frequency regulation performances. The CE TSOs unfortunately were not able to fulfil the request within the 2 months as legally prescribed: they proposed, instead, a forward-looking approach with a roadmap accommodating the CE NRAs requests. This represents a failure by the CE TSOs, triggering Article 5(9) of SOGL that mandates the competent national regulatory authorities (the CE NRAs in this case) to define all the appropriate steps for the adoption of the T_{min} LER definition.

This document constitutes the decision of the CE NRAs on these appropriate steps as voted on 26 June 2023.

This common paper of the CE NRAs shall provide evidence of an agreement between the CE NRAs. It is intended to constitute the basis on which the CE NRAs will each subsequently proceed at national level, where needed, based on the conclusions of this document.

The legal provisions that lie at the basis of the T_{min} LER definition, and this CE NRAs agreement on the appropriate steps for its adoption, are found in Articles 4, 5, 6, 7, 118, 154 and 156 of SOGL and in Article 5 of the 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 Regulators (hereinafter referred to as: Regulation 2019/942). They are set out here for reference.

For SOGL the version resulting from the amendments laid down on the Commission Implementing Regulation (EU) 2021/280 of 22 February 2021 is considered.

SOGL

Article 4 – Objectives and regulatory aspects

1. This Regulation aims at: (...)

(c) determining common load-frequency control processes and control structures;

[...]

Article 5 – Terms and conditions or methodologies of TSOs

[...]

9. Where TSOs fail to submit an initial or amended proposal for terms and conditions or methodologies to the regulatory authorities or to the Agency in accordance with Articles 6 and 7 or to the entities designated by the Member States in accordance with Article 6(4) within the deadlines set out in this Regulation, they shall provide the designated entity, competent regulatory authorities and the Agency with the relevant drafts of the terms and conditions or methodologies, and explain

why an agreement has not been reached. The Agency, all competent regulatory authorities jointly, or the competent designated entity shall take the appropriate steps for the adoption of the required terms and conditions or methodologies in accordance with Article 6, for instance by requesting amendments or revising and completing the drafts pursuant to this paragraph, including where no drafts have been submitted, and approve them

Article 6 – Approval of terms and conditions or methodologies of TSOs

[...]

3. The proposals for the following terms and conditions or methodologies shall be subject to approval by all regulatory authorities of the concerned region, on which a Member State may provide an opinion to the concerned regulatory authority: (...)

(d) methodologies, conditions and values included in the synchronous area operational agreements in Article 118 concerning: (...)

(v) for the CE and Nordic synchronous areas, the minimum activation period to be ensured by FCR providers in accordance with Article 156(10);

[...]

Article 7 – Amendments to the terms and conditions of methodologies of TSOs

1. Where the Agency or all competent regulatory authorities jointly request an amendment in order to approve the terms and conditions or methodologies submitted in accordance with paragraphs 2 and 3 of Article 6 respectively, the relevant TSOs shall submit a proposal for amended terms and conditions or methodologies for approval within 2 months following the request from the Agency or the regulatory authorities. The Agency or the competent regulatory authorities shall decide on the amended terms and conditions or methodologies within 2 months following their submission.

Article 153 – FCR dimensioning

1. All TSOs of each synchronous area shall determine, at least annually, the reserve capacity for FCR required for the synchronous area and the initial FCR obligation of each TSO in accordance with paragraph 2.

2. All TSOs of each synchronous area shall specify dimensioning rules in the synchronous area operational agreement in accordance with the following criteria:

(a) the reserve capacity for FCR required for the synchronous area shall cover at least the reference incident and, for the CE and Nordic synchronous areas, the results of the probabilistic dimensioning approach for FCR carried out pursuant to point (c);

[...]

(c) for the CE and Nordic synchronous areas, all TSOs of the synchronous area shall have the right to define a probabilistic dimensioning approach for FCR taking into account the pattern of load, generation and inertia, including synthetic inertia as well as the available means to deploy minimum inertia in real-time in accordance with the methodology referred to in Article 39, with the aim of reducing the probability of insufficient FCR to below or equal to once in 20 years; and

[...]

Article 154 – FCR technical minimum requirements

[...]

2. All TSOs of a synchronous area shall have the right to specify, in the synchronous area operational agreement, common additional properties of the FCR required to ensure operational security in the synchronous area, by means of a set of technical parameters and within the ranges in Article 15(2)(d) of Regulation (EU) 2016/631 and Articles 27 and 28 of Regulation (EU) 2016/1388. Those common additional properties of FCR shall take into account the installed capacity, structure and pattern of consumption and generation of the synchronous area. The TSOs shall apply a transitional period for the introduction of additional properties, defined in consultation with the affected FCR providers.

[...]

Article 156 – Provisions

[...]

10. For the CE and Nordic synchronous areas, all TSOs shall develop a proposal concerning the minimum activation period to be ensured by FCR providers. The period determined shall not be greater than 30 or smaller than 15 minutes. The proposal shall take full account of the results of the cost-benefit analysis conducted pursuant to paragraph 11.

[...]

Regulation 2019/942

Article 5 – Tasks of ACER as regards the development and implementation of network codes and guidelines (R942/2019)

[...]

3. Where one of the following legal acts provides for the development of proposals for terms and conditions or methodologies for the implementation of network codes and guidelines which require the approval of all the regulatory authorities of the region concerned, those regulatory authorities shall agree unanimously on the common terms and conditions or methodologies to be approved by each of those regulatory authorities:

(a) a legislative act of the Union adopted under the ordinary legislative procedure;

(b) network codes and guidelines that were adopted before 4 July 2019 and subsequent revisions of those network codes and guidelines; or

(c) network codes and guidelines adopted as implementing acts pursuant to Article 5 of Regulation (EU) No 182/2011.

[...]

II. The Continental Europe TSOs' proposal

The T_{min} LER definition is one of the methodologies to be included in the Continental Europe Synchronous Area Operational Agreement in line with Article 118(1)(r) and Article 118(2) of SOGL and is subject to the approval of CE NRAs according to Article 6(3)(d)(v) of SOGL.

The CE TSOs prepared their proposal for the T_{min} LER definition based on the outcome of the CBA, referred to in Article 156(11) of SOGL and run in accordance with the methodology approved by the CE NRAs based on the agreement reached on 1 March 2019. Pursuant to Article 156(11) of SOGL, the CE TSOs had to submit their proposal for the T_{min} LER definition within one year after the approval of the CBA assumptions and methodology by the last involved NRAs. Unfortunately, due to some delays in the NRAs process, the CBA approval was completed only on 7 October 2020 when the last NRA issued its national decision, meaning that the proposal for the T_{min} LER definition was due by 7 October 2021.

The last CE NRA received the proposal for the T_{min} LER definition on 3 December 2021, hence the CE NRAs had to reach an agreement by 3 June 2022. Upon request by the CE NRAs, the legal deadline was prorogated by ACER by 6 months until 3 December 2022.

The CE TSOs' proposal suggests a hybrid approach for the T_{min} LER definition:

- a) 30 minutes T_{min} for all LER qualified for FCR after the end of an interim period of 24 months starting from the date of entry into force of the methodology;
- b) LER already qualified before the end of the interim period shall comply with the maximum between the T_{min} legally in force in their connecting area and the T_{min} for which they were prequalified; the two values may differ in case a TSO at local level has exploited the faculty given by Article 156(9) of SOGL to define a T_{min} value at national level.

Considering the FCR state of play in the CE Synchronous Area, the CE TSOs proposal can be practically translated into:

- a) 30 minutes T_{min} for all LER qualified after the interim period;
- b) 15 minutes T_{min} for most of the already qualified LER (since they were qualified for 15 minutes T_{min} and the connecting TSO has not opted for increasing the T_{min});
- c) a value between 15 and 30 minutes for a few already qualified LER (because either qualified for this value or connected in the control area of a TSO having opted for increasing T_{min}).

In other terms, the CE TSOs' proposal aims to preserve the investments already in place, avoiding an expensive retrofitting for the already qualified LERs. This proposal may foresee the cohabitation of LERs with different performances in terms of T_{min}. The CE TSOs believe that this cohabitation is sustainable both from a technical (FCR performances) and economical (FCR market) point of view.

The proposal also includes a description of its expected impact on the objectives of SOGL, in line with Article 6(6) of SOGL.

III. The Regulatory Authorities' Request for Amendment

On 2 December 2022 the CE NRAs issued a Request for Amendment of the proposal for the T_{min} LER definition.

The decision for an amendment request was based on the following reasons:

- 1) The effectiveness of the CBA as the only tool relevant for the T_{min} LER definition was questioned by some NRAs since the CBA is a simplified representation of the real behaviour of the system; for other NRAs instead the CBA outcome was considered as an efficient starting point;
- 2) Long lasting frequency deviations (hereinafter referred to as: LLFDs) weren't considered as a key role when the CBA assumptions and methodology was approved; their significance popped up when the CBA outcome was made available and discussed for defining the TSOs' initial T_{min} LER definition; in general the CE NRAs considered FCR and the T_{min} LER related to the task to contain frequency, while solving the LLFDs pertain more to the task of restoring the frequency (accomplished by frequency restoration reserve (FRR) and replacement reserve (RR)); hence for some NRAs, if FRR and RR were well dimensioned, T_{min} LER should not exceed 15 minutes, since FRR and RR activations should normally suffice to restore the frequency; other NRAs supported, instead, a higher T_{min} LER up to 30 minutes in order to help preserving the operational security, e.g. in case FRR / RR are not sufficiently dimensioned and/or activated before LER exhaustion and would therefore fail in restoring the frequency;
- 3) The analysed historical LLFDs seemed problematic mostly due to the lack of proper FRR behaviour, either in terms of low resources available or in terms of insufficient FRR performances; hence mitigation measures to fight LLFDs were considered to be effective only in a reduced number of cases;

- 4) The CE NRAs were not in a position to either approve or amend the proposal for the Tmin LER definition submitted by the CE TSOs, because - in order to reach an agreement on the proper Tmin definition - a check on the FRR and RR behaviour is needed first;
- 5) The CE NRAs thus agreed requesting the CE TSOs to amend the proposal for the Tmin LER definition, after having completed an overall assessment of the frequency regulation in the CE SA.

In January 2023, the CE NRAs further explained the content of the Request for Amendment with a specific guidance note (attached to this position paper).

The CE NRAs requested the following tasks related to frequency regulation:

1. complete the assessment of the FCR dimensioning with a probabilistic assessment;
2. check the consistency, effectiveness and (in)sufficiency of the current dimensioning criteria for FRR, and, where relevant, RR, at each LFC block level with the criteria listed in Article 157;
3. check the effectiveness of the FRR, and if relevant of the RR, performance criteria (with particular attention to a proper activation and deactivation) adopted in each LFC block;
4. simulate the frequency trend in proper scenarios;
5. assess possible improvements in the quality of the forecast of load and RES production;
6. detail the already implemented and planned mitigation measures to cope with LLFDs;
7. detail the already implemented and planned mitigation measures to cope with deterministic frequency deviations (hereinafter referred to as: DFDs).

The CE NRAs added some tasks for the 2nd run of the CBA:

8. build a new representative simulation of the LLFDs trend;
9. run a new survey on LER and non-LER FCR costs;
10. run a new instance of the CBA based on the new LLFDs trend and on the new FCR costs;

The CE NRAs asked also for a comparison between the different approaches adopted by the TSOs to cope with the frequency deviations. Namely the TSOs shall:

11. check the approach adopted in each LFC block;
12. assess the different performances of mFRR and RR products in addressing the need for tertiary reserve in replacing the already activated automatic frequency restoration reserves resources;
13. compare the quality of the frequency between the different LFC blocks;
14. run some simulations on the same scenarios as in point 4 with proper sensitivities.

IV. The TSOs' reply to the Request for Amendment

The Request for Amendment was sent by the last CE NRA on 27 January 2023, hence, according to the two months deadline provided by Article 7(1) of SOGL, the CE TSOs had to reply by 27 March 2023.

By the above mentioned deadline the CE TSOs reacted clarifying that it was impossible to accommodate all the CE NRAs requests for shortage of time and resource; the CE TSOs thus acknowledged the CE NRAs' requests and provided a roadmap with a timeline by which those requests would be accommodated. Namely:

- FCR probabilistic dimensioning (task 1) is an ongoing project expected to be finalized by end 2023;
- Although 20 LLFDs events were assessed for the period 2017-2021, only 3 LLFDs were caused by forecast errors; still, the CE TSOs are already striving to explore new forecasts technologies (task 5);
- Simulating future frequency deviations (tasks 4 and 8) is not feasible; the CE TSOs suggest, instead, referring to the historical frequency deviations and assessing the impact that mitigation

measures and operational improvements would have had in case they were implemented in the past;

- The CBA (task 10) will be rerun based on updated FCR costs (task 9) and considering, for LLFDs, the historical trends opportunely modified to take into account the effects of mitigation measures and operational improvements;
- All the other tasks (tasks 2, 3, 6, 7, 11, 12, 13 and 14) will be matched by focusing on all the ongoing projects that the TSOs are implementing to improve the real time coordination between LFC blocks and cross-block reserve activation.

The CE TSOs plan to deliver a report on tasks 2, 3, 6, 7, 11, 12, 13 and 14 by mid-March 2024, completing in the meanwhile the survey on the costs (with the report provided in November 2023, followed by a public consultation in December 2023 - January 2024).

In early 2024, based on the outcome of tasks 2, 3, 6, 7, 11, 12, 13 and 14 and on the outcome of the FCR probabilistic dimensioning, the historical LLFDs trends will be modified and in March 2024 the rerun of the CBA will be started: preliminary CBA results will be available in May 2024 and will be consulted in July 2024 with the relevant stakeholders. The new proposal for the Tmin LER definition taking into account the outcome of the new CBA instance will be finalized in October 2024 for the CE TSOs' internal approval procedure.

V. The Regulatory Authorities' position

On the consistency of the TSOs' reply to the Request for Amendment

With the Request for Amendment the CE TSOs were mandated to perform an assessment of the FRR (and where relevant RR) performances and to rerun the CBA based on updated FCR costs and a prospected LLFDs dataset taking into account the effect of mitigation measures and operational improvements on FRR and RR.

The CE TSOs' reply to the Request for Amendment consists only of some slides reporting the timings by which the CE TSOs intend to complete the CE NRAs' request.

The CE NRAs cannot consider the CE TSOs reply consistent with the original requests: neither have any of the demanded activities been completed nor has an amended proposal for Tmin LER definition been submitted. For this reason, the CE NRAs conclude that the CE TSOs failed to submit the amended proposal for the Tmin LER definition and, according to Article 5(9) of SOGL, the CE NRAs become responsible to take all the appropriate steps for the adoption of this proposal.

On the simulations of future frequency events

The CE NRAs acknowledge that the simulations of future frequency events is infeasible and accept the TSOs' suggestion to update the historical data set taking into account the system evolutions that would have an impact on the frequency deviations and the effects of the mitigation measures.

On the forecast errors

The CE NRAs are aware that only a few LLFDs are due to forecast errors, but in general they deem it of utmost importance to keep improving the forecasting activity since this is beneficial for the whole electricity system. The CE TSOs shall strive in that direction.

On the appropriate steps according to SOGL 5(9)

In order to have the proposal for the Tmin LER definition approved as foreseen by SOGL, the CE NRAs deem it of utmost importance to provide the CE TSOs with mandatory deadlines in order to

complete the tasks listed in the Request for Amendment and in the guidance note and submit the new proposal.

The CE NRAs understand that the requested tasks are quite challenging and that a proper amount of time is needed to ensure the overall quality of the assessment and of the related outcome. They can in principle accept the timeline included by the CE TSOs in their reply to the Request for Amendment, but they would like to improve the transparency of the process towards the stakeholders by including proper workshops and some final reports to be published after the already envisaged public consultations:

The CE NRAs are thus setting the following steps for the CE TSOs:

- for the FCR probabilistic dimensioning:
 - a) Submit the finalised FCR dimensioning method (task 1) to the CE NRAs by 31 December 2023 for their subsequent approval;
- for the FRR and RR performances:
 - b) Arrange a public workshop open to all the relevant stakeholders in March 2024, to present the main conclusions of the reports on tasks 2, 3, 6, 7, 11, 12, 13 and 14);
 - c) Submit to the CE NRAs the final report on the tasks mentioned in letter b) by 31 March 2024 at the latest;
- for the CBA rerun:
 - d) Run a public consultation on the detailed data and assumptions considered to run the CBA for at least two months starting by 31 March 2024 at the latest including:
 - the detailed new LLFDs dataset to be used for the CBA rerun to take into account the effects of the mitigation measures and the operational improvements (tasks 4 and 8 modified according to the TSOs' suggestion);
 - a preliminary cost report, based on an updated assessment of the costs to provide FCR
 - all the other assumptions considered;
 - e) Prepare a final report on the detailed data and assumptions considered to run the CBA with an assessment of the answers received during the public consultation and make it public (and submit it to the CE NRAs) by 30 June 2024;
 - f) Prepare a final report on the outcome of the CBA and make it public (and submit to the CE NRAs) by 30 September 2024;
 - g) Launch the public consultation on the new proposal for the T_{min} LER definition by 30 September 2024 at the latest;
 - h) Submit to the CE NRAs the new proposal for the T_{min} LER definition by 31 December 2024, along with the assessment of the answers received during the public consultation;
- Regarding forecast:
 - i) The CE TSOs are recommended to keep improving their forecasting activity: the achieved performances will be checked during the monitoring activity that will be run by ACER and the CE NRAs according to the European Regulatory Framework.

The CE TSOs shall provide full transparency to the CE NRAs on the methodologies and data used to carry out the comprehensive study mentioned by keeping the CE NRAs informed on a regular (ideally monthly) basis when carrying out the study. Dedicated meetings on interim results would also be much appreciated.

VI. Conclusions

The CE NRAs have consulted and closely cooperated and coordinated with each other in order to set the appropriate steps for the adoption of the proposal for the T_{min} LER definition. The CE NRAs will subsequently proceed, where needed, to a decision at national level based on the content of this position paper.

