

Explanatory Note to All TSOs' proposal for amendments of the Implementation framework for the European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation

**in accordance with Article 21 of Commission Regulation (EU)
2017/2195 of 23 November 2017 establishing a guideline on
electricity balancing**

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This document contains partly the same content as mentioned in the recitals of the amendment to which it is attached. All TSOs have decided to keep the duplicate content in order not to lose the link to the background information provided during the public consultation.

1. Voluntary price elastic exceeding demand

Rationale for introducing the concept of voluntary elastic aFRR demand in the framework of PICASSO

Elastic demand in the context of this document is only applicable if a TSO requests this measure and gets it approved by the relevant NRA. Therefore, the application of elastic aFRR demand represents a possibility and is not mandatory to all TSOs.

TSOs are dimensioning their FRR reserves in accordance with article 157 of the SO Regulation. All TSOs of a LFC block also determine the ratio of automatic FRR and manual FRR¹ in order to respect the FRCE target parameters defined in accordance with article 128 of the SO Regulation. By respecting these dimensioning requirements and activating the resulting reserves to compensate system imbalances, the TSOs ensure an acceptable level of frequency quality in the synchronous area, regardless of their connection to an EU platform for the exchange of balancing energy.

To guarantee a satisfactory frequency quality, there is no need as such to access additional FRR energy in other LFC areas, at least in normal state. This is acknowledged by the article 29(12) of EB Regulation that foresees, by default, that the total volume of balancing energy bids that can be activated by a TSO corresponds to the volume of bids submitted by this TSO to the platforms (corrected for sharing of reserves or exchange of balancing capacity). The European platforms were primarily indeed a tool to optimise the activation of bids according to a common merit order list (CMOL) and to dispatch cheaper bids first, not to access more bids.

When drafting the implementation frameworks for aFRR and mFRR, all TSOs requested to use the possibility offered by article 29(13) of EB Regulation to not apply this limitation and to allow each TSO to access all bids in the CMOL, subject to sufficient CZC on the borders. Such a full access to CMOL has several advantages, such as the maximisation of netting opportunities and the possibility for TSOs to access additional FRR liquidity and improve thereby their FRCE and frequency quality, but nothing in the legislation imposes that TSOs would keep improving at any cost their FRCE above the agreed threshold. This is however what happens with the current design of the aFRR balancing energy platform, where all aFRR demand will be satisfied “at any price” regardless of its volume and of the obligations of the TSO resulting from the reserve dimensioning. This design may lead to the activation of extremely expensive bids, also in situations where such activation is not needed to ensure an acceptable frequency quality, resulting (directly or indirectly) in unnecessarily high costs for the consumer. It is to avoid this situation in the future that all TSOs propose to introduce the concept of voluntary (price) elastic aFRR demand.

Proposal to introduce voluntary elastic aFRR demand and framework for its use

The proposed amendment would allow a TSO to decide up to what price it wants to satisfy (part of) its aFRR demand: if the aFRR demand exceeds the need for aFRR reserves as determined by the TSO

¹ According to art. 157 of SO Regulation, the TSOs also define the automatic FRR full activation time and manual FRR full activation time. In practice, these parameters are (to be) harmonised in accordance with the aFRR and mFRR implementation frameworks.

in accordance with article 157 of the SO Regulation², this TSO may decide to only satisfy the exceeding demand (and further improve the frequency quality compared to the situation without PICASSO) if this is not too costly. If the cross-border marginal price (CBMP) is below the price defined by the TSO, the entire demand of the TSO will be satisfied at the CBMP, improving the frequency quality compared to the situation without PICASSO. If the CBMP is above the price limit defined by the TSO, only its inelastic aFRR demand will be satisfied at the CBMP and the elastic aFRR demand will not be satisfied, limiting the activation cost of the TSO while still ensuring an acceptable level of frequency quality (but not “overperforming”). Such behaviour is in line with the principle under SO Regulation art. 4(2)(c) and EB Regulation art. 3(2)(c) obliging transmission system operators to apply the principle of optimisation between the highest overall efficiency and lowest total costs for all parties involved.

In addition to the minimum level of inelastic aFRR demand based on dimensioning rules for aFRR, all provisions of the SO Regulation (e.g., on the time to restore frequency) apply that will lead to additional limitations. The TSO has to compensate such system imbalances (i.e., the TSO cannot wait for the system imbalance to disappear). To do so, the TSO can activate other available means (standard or local specific); alternatively, the TSO can decide to rely on aFRR available in excess to the volume of aFRR that is needed to cover intra-quarter-hour system imbalance variations and comply with its FRCE target parameters, but the TSO then needs to ensure the actual activation of the product by using inelastic aFRR demand.

As required for elastic mFRR demand in the mFRR implementation framework, the elastic aFRR demand “shall not be used in such a way that it imposes a cap on balancing energy prices for all LFC areas or bidding zones”. As explained above, part of the aFRR demand has to be price inelastic and shall lead to the activation of balancing energy bids regardless of their price. This could lead to very high CBMP, in particular in cases where TSOs in the uncongested area have a simultaneous (large) demand in the same direction, and bids at the end of the common merit order are activated.

Transparency on the use of elastic aFRR demand

Transparency on the use of elastic aFRR will on the one hand be ensured by the publications of the rules to define the volume and price or prices of this elastic aFRR demand (i.e., one-time publication, which is to be updated in case of changes) by the relevant TSO. On the other hand each TSO using elastic demand will publish the elastic demand curves as soon as possible after their application to ensure transparency of using the elastic demand.

In addition, the yearly common report of all member TSOs shall be extended by the inclusion of information on the usage of elastic aFRR demand.

² Imposing that up to the dimensioned volume the aFRR demand has to be inelastic is important to avoid a deterioration of frequency quality.

2. Ensure consistency of aFRR IF with changes in Pricing Methodology resulting from proposal “Improving CBMP determination by considering LFC outputs: setpoint for automatic FRR activation”

Simultaneous with the proposed amendment for the aFRR IF, TSOs propose an amendment of the Pricing Methodology³ to include an alternative determination of the aFRR CBMP. The way the cross-border marginal price is computed should also be reflected in the aFRR implementation framework. The reason being that (i) All TSOs propose to use the setpoint for automatic FRR activation in order to compute the cross-border marginal price and (ii) the cross-border marginal price is an output of the AOF. This means that the activation optimisation function (AOF) should have access to the setpoint for automatic FRR activation in order to compute the cross-border marginal price, which is currently not the case. To ensure consistency of the proposed amendment of the Pricing Methodology with the aFRR IF, the following changes related to the alternative determination of the aFRR CBMP are proposed to the aFRR IF:

1. The inclusion of the definition of ‘setpoint for automatic FRR activation’. This will be an input to the CMBP determination and is thus defined in the aFRR IF. The definition is: “setpoint for automatic FRR activation’ means the output of the frequency restoration controller within an LFC area as described in Art. 145(4) of SO Regulation. The setpoint for automatic FRR serves as the basis for determining the set-points for BSPs within this LFC area but does not consider the BSP ramping restrictions that could be taken into account before sending the final activation signals to the BSPs.”.
2. The inclusion of the ‘setpoint for automatic FRR activation’ signal in the chapter that describes the inputs to the AOF.

³ Methodology for pricing balancing energy and cross-zonal capacity used for the exchange of balancing energy or operating the imbalance netting process in accordance with Article 30(1) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing