European Network of Transmission System Operators for Electricity

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Explanatory Document to the proposal of all Transmission System Operators performing the reserve replacement for the 2nd amendment of the implementation framework for the exchange of balancing energy from Replacement Reserves in accordance with Article 19 of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing

4 February 2022

DISCLAIMER
This document is submitted by RR transmission system operators (TSOs) to the RR NRAs for information purposes only accompanying the RR TSOs' proposal for the 2nd amendment of the implementation framework for the exchange of balancing energy from Replacement Reserves in accordance with Article 19 of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing.

Content

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1. Introduction

This document provides background information and rationale for the RR TSOs proposal for the 2nd amendment of the implementation framework for the exchange of balancing energy from Replacement Reserves (this proposal is hereafter referred to as the "RR Implementation Framework" or "RRIF"), required by Article 19 (1) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter referred to as "GL EB").

2. Summary of all proposed changes

2.1. Article 3.1(b), 3.1(c) & 11.3: Removal of references to Interconnection Controllability

The Methodologies for pricing balancing energy in accordance with article 30(1) of the GL EB and for common settlement rules in accordance with article 50(1) of the GL EB, approved by ACER on 24th January 2020 and 15th July 2020, respectively, establish that the offers activated by system constraints must be priced and settled in the same way as those activated for balancing purposes as of July 1st, 2022. Thus, RR TSOs propose to remove the references to Interconnection Controllability pricing and settlement in articles 3.1(b), 3.1(c) & 11.3 given that the 2nd amendment of the RRIF will be approved very close or even after the abovementioned deadline.

2.2. Article 4.2(d): Precision on duration of public consultation of 4 weeks for RRIF amendments

Article 4.2(a) of the RRIF defines the duration that should have the public consultation of the first version of the RRIF. RR TSOs propose that the duration of the public consultation of the amendments of the RRIF is the one stated in the article 10 of GL EB.

2.3. Article 7: Removal of reference to the interim period prior to the change of the GCT from H-60 to H-55

During an interim period of one year after the entry into operation of the RR-Platform, the gate closure time (GCT) for the bids submitted by the BSPs was 60 minutes before the period which is concerned by the activation of the RR standard product. On 13th January 2021 the GCT was switched from H-60 to H-55 in compliance with article 7 of RRIF.
As this provision is no longer applicable, the proposal from RR TSOs is to remove the second paragraph in article 7.

2.4. Article 11.4: Adaptation of the paragraph to reflect that price limits will be in accordance with the Pricing Methodology

As indicated in section 2.1, the Methodology for pricing balancing energy in accordance with Article 30(1) of GL EB was approved after the go-live of the RR-Platform. Under these circumstances, RR TSOs decided to not apply caps or floors to the bids submitted to RR-Platform.
Once the Pricing Methodology is approved and price limits are defined in its article 3.3, RR TSOs decide to adapt article 11.4 to reflect the fact that the price limits will be determined in accordance with what is defined in the Pricing Methodology currently in force or in future amendments.

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2.5. Article 12.4: Removal of obligation for observers to pay PMO costs

In order to harmonize the obligations of observer TSOs in RR-Platform with respect to other Balancing platforms, RR TSOs propose not to consider the obligation for observers to pay PMO cost.

2.6. Article 13.5: Adaptation of the paragraph to reflect that counter activations are allowed by the AOF in the RR-Platform and that their impact is monitored by RR TSOs

The approved version of the RRIF establishes that the counter activations (CAs) must be minimized in the Algorithm Optimization Module (AOF) of the RR-Platform no later than twenty-four months after the go-live of the RR-Platform.
Once this interim period has concluded, and as result of the monitoring during this period, RR TSOs consider not necessary at this moment to take specific actions to minimize counter activations besides keeping a close follow up over this issue.
Additionally, RR TSOs propose to align the wording of the RRIF with the wording in mFRRIF regarding monitoring tasks[1] and therefore propose to amend the RRIF accordingly. Further on, it is explicitly indicated that monitoring of counter activations will continue and, in case inefficiencies are identified, RR TSOs or RR NRAs can request a change to the provision. Detailed analysis to support the proposal of maintaining the current acceptation of counter activations and its monitoring process can be found in the Annex 1 of this document.

[1] Article 13.1(g) of Implementation framework for the European platform for the exchange of balancing energy from frequency restoration reserves with manual activation (mFRRIF): "*the impact of scheduled counter-activations on balancing energy prices and on the efficient functioning of the mFRR Platform and intraday market*"

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Annex 1 - Analysis with Market data supporting the TSOs proposal to continue the acceptance of counter activations in the RR-Platform

1. Definitions

In this section, the following definitions are used:

Counter activation: Activation of upward offers and downward offers at the same time. These (economic) counter activations are not needed to increase the satisfaction of needs but are simply happening in order to increase the social welfare. Such counter activations happen, if the price of the upward bids is lower than the price of the downward bids. The shown volumes of counter activations always include the minimum between upward and downward activations. E.g., if in a certain delivery period there is a total activation of 100 MW of upward bids and 200 MW of downward bids, the volume of counter activations would be 100 MW.

Naked counter activation: Counter activations in situations, where no needs from TSOs are submitted.

Cross area counter activation: Counter activations, where the downward activation is occurring in another area than the upward activation. For example, the downward activation is occurring in Spain and the upward activation in Portugal.

Local counter activation: Counter activations, where both the upward and downward activation are occurring in one area. For example, both activations take place in Spain.

Ratios of counter activations wrt. activated volume: The ratio of the volume of counter activations divided by the volume of total activations per month. Counter activations and total activations in this case includes both downward and upward activations.

Ratio of counter activations wrt. available volume: The ratio of the volume of counter activations divided by the volume of total available offers per month. Counter activations and total available offers in this case includes both downward and upward activations.

2. Current status RR

The current implementation of the AOF in the RR-Platform does not limit the possibility of counter activations, if they increase the social welfare. The current RR AOF only avoids naked counter activations by simply not performing a clearing if no need is submitted at all.

3. Applicability of the N-SIDE study to TERRE

The mFRRIF does not include any requirement to minimize counter activations. During the drafting of the mFRRIF, an additional Study of N-SIDE provided extensive input on the topic[2]. While the RR and mFRR platforms are not identical, these results can also be transferred to the RR-Platform due to the following reasons:

- Scheduled Activations in MARI and RR process are quite similar without prejudice to the full activation time (FAT). This is evidenced by the fact that RR-Platform and mFRR-Platform will use

[2]MARI Algorithm Design Principles, N-SIDE, 2nd November 2018, https://eepublicdownloads.entsoe.eu/clean-documents/Network%20codes%20documents/Implementation/MARI/181102_MARI_algorithmDesignPrinciples_N-SIDE_Report_Final.pdf

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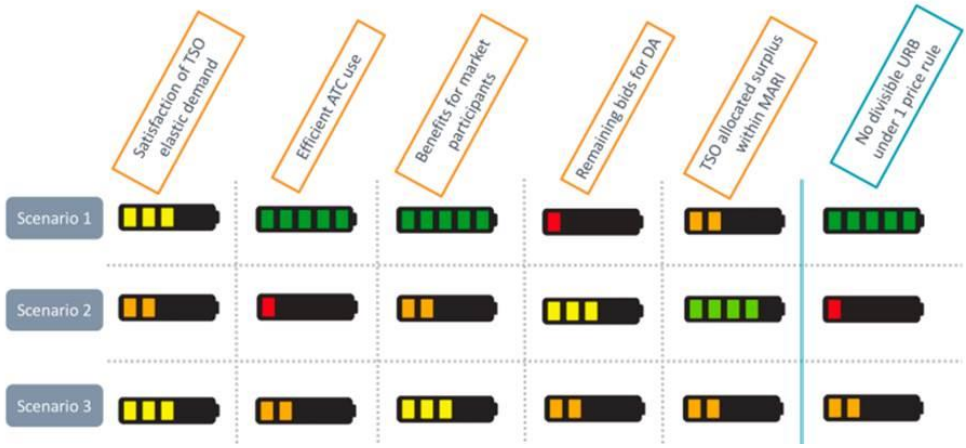
the same LIBRA software. Since the focus of the N-SIDE study is on Schedule Activations, it is valid for TERRE[3].

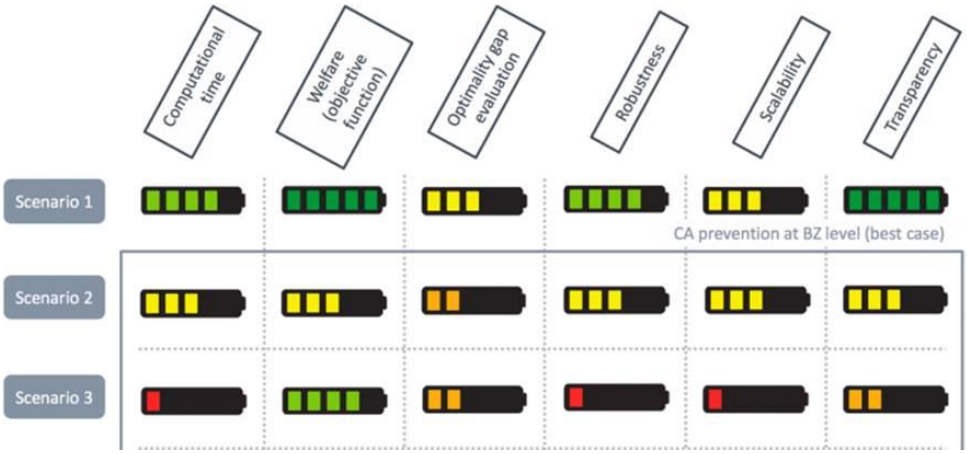
- The study analyses 4 different scenarios: scenario 1 corresponds to the current design of TERRE and scenarios 2 and 3 would be the result of completely or partially minimizing the CAs.

The study justifies that scenario 1 is the preferable from a Market point of view:



Also is demonstrated that scenario 1 is the most convenient analyzing algorithm properties:

[3] Page 6 on N-SIDE study*: "Since the design for direct activations is already more advanced than the design for Scheduled Activations,* ***the focus of the report is set on Scheduled Activations****.*



The most important conclusions from the N-SIDE study are:

- It is not possible to avoid counter activations and unforeseeably rejected bids (URBs) at the same time. Reducing counter activations would increase URBs.
- Reducing counter activations reduces social welfare.
- Avoiding counter activations is computationally very demanding.
- The drawback of counter activations is that it can reduce the availability of bids for subsequent processes e.g., for the direct activation process if counter activations occur as scheduled activations.

The first three points are also directly applicable to TERRE. This is not the case for the fourth point, because there is no direct activation in TERRE. However even the last point can be translated to TERRE. If an upward and a downward bid are counter activated in TERRE it might happen that this reduces the availability of offers for MARI. Nevertheless, counter activations can reduce the requirements for subsequent balancing products (mFRR/aFRR) in the electrical systems, as they are used by the BRPs to reduce their imbalances.

4. Quantitative occurrence of counter activations in 2021

In this section, the occurrence of counter activations in 2021 is evaluated. The occurrence of counter activations is evaluated both per country but also for the whole region 1 (France, Italy, Portugal, Spain and Switzerland) depending on the specific indicator. The analysis is limited to region 1 because region 2 currently only consists of one operational country (i.e., Czech Republic) in which no counter activations have been observed so far.
The following assessment first shows the absolute volume of counter activations in GWh. These values are afterwards compared both to the volume of activations and to the volume of available bids.

Absolute Volume of counter activations [GWh]:

The following table shows the absolute volume of counter activations for each month of the year 2021 as defined above in GWh. These values include both local but also cross-area counter activations.

Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021	Nov 2021	Dec 2021	**Total 2021**
26.65	15.76	17.91	25.70	20.67	13.53	21.82	25.71	46.36	51.89	35.55	56.17	**357.74**

It can be seen that the volume of counter activations is variable depending on the month without being able to identify a correlation.

Ratios of counter activations wrt. activated volume [%]:

The following table shows the ratio of counter activations divided by the **total amount of activations per month**.

Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021	Nov 2021	Dec 2021	**Total 2021**
10.44	6.60	6.71	10.79	8.89	6.12	8.77	9.20	20.27	24.00	11.62	16.20	**11.62**

The average value over the year and the whole region is 11.62%. This means in short that 11.62% of activations on TERRE for region 1 are due to counter activations.

Ratio of counter activations wrt. available volume of bids [%]:

The last table shows the ratio of counter activations divided by the **total amount of available bids per month**. From top to bottom, the table shows the values for each month of the year 2021 and the last row is the sum over all months. From left to right, it shows the values for each country, while the last column is the sum for the whole region 1.

	France	Italy	Portugal	Spain	Switzerland	**Total Region 1**
Jan 2021	0.00	0.00	0.00	0.71	0.00	**0.49**
Feb 2021	2.18	0.01	0.01	0.37	0.00	**0.17**
Mar 2021	0.69	0.00	0.00	0.33	0.01	**0.18**
Apr 2021	0.00	0.01	0.09	0.68	0.01	**0.27**
May 2021	0.34	0.01	0.00	0.34	0.00	**0.23**
Jun 2021	0.38	0.03	0.08	0.22	0.01	**0.16**
Jul 2021	0.27	0.00	0.00	0.33	0.05	**0.25**
Aug 2021	0.02	0.00	0.00	0.40	0.01	**0.33**
Sep 2021	0.13	0.04	0.00	0.92	0.01	**0.53**
Oct 2021	0.38	0.10	0.03	0.60	0.01	**0.56**
Nov 2021	0.14	0.01	0.02	0.39	0.01	**0.30**
Dec 2021	0.06	0.07	0.05	0.51	0.01	**0.45**
Total 2021	**0.20**	**0.02**	**0.02**	**0.47**	**0.01**	**0.32**

The table shows that the counter activations for all months and countries as well as for the whole region remains below 1% of available bids. The average over the year and region is even as low as 0.32%. This means that the average volume of counter activations is only around 0.32% of the volume of all available bids in region 1.

5. Reasons for counter activations

The last table showed that the largest amount of counter activations occurs in Spain. Therefore, this section gives some more insight into the reasons for counter activations in Spain.

It has been identified that some Spanish BSPs send a few amounts of upward offers at prices lower than the Spanish Day-Ahead Market price for that hour, correspondingly, some downward offers have prices higher than the Spanish Day-Ahead Market price for that hour. In addition, the volume of offers submitted by the Spanish electrical system is very high and flexible (most of the offers are fully divisible in hourly resolution). Thus, these offers are highly prioritized by the algorithm and end up being accepted, resulting in some cases in counter activations.
The reason behind those competitive offer prices might be a willingness from the BSPs to reduce the imbalance of generation units with variable energy sources or a seek for a more efficient operating point in combined cycle units, among other possible reasons. Many of these cases might be reduced through an even more flexible internal commercial schedule changes among balance responsible parties (BRPs).

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In any case, these CAs could have contributed to reduce the deviations on the schedules from generation units with variable energy sources and to gain efficiency in combined cycle units by finding better operating points.

6. Conclusion and TSOs proposal

Based on the analysis of the market results of TERRE, TSOs recommend the following:

- Do not implement right now measures to minimize counter activations in the AOF, but
- Further monitor the situation of counter activations.

This recommendation is based on the following evaluation:

- Minimization of counter activations would directly lead to more unforeseeably rejected bids (URBs) which reduces the transparency of results.
- The counter activations increase the social welfare that, as described in article 13.2 of the RRIF is the first objective of the AOF.
- Consistency with mFRR-Platform in order to have the same provisions related to counter activations in the respective IFs since both platforms will use the same LIBRA software.
- The reduction of the availability of bids for subsequent processes (e.g., MARI) due to counter activations in RR-Platform is very limited, while simultaneously counter activations can help to reduce the requirements for subsequent balancing products (mFRR/aFRR) in the electrical systems, as they are used by the BRPs to reduce their imbalances.

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Annex 2 - Market participants' positions and questions will be received during the public consultation

A public consultation of the proposed amendments is going to be performed in the period 4th February until 4th March 2022. Received positions and questions including TSOs answers will be added here, before submitting the proposal to RR NRAs.

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