
The proposal of all Transmission System Operators performing the reserve replacement for 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

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DISCLAIMER

This document is released on behalf of all Transmission System Operators performing the reserve replacement process solely for the purpose of public consultation on their proposal for 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. This version of the Proposal is a draft proposal and does not constitute a firm, binding or definitive TSOs' position on the content.

All Transmission System Operators performing the reserve replacement process, taking into account the following:

Whereas

- (1) This document is a common proposal developed by all Transmission System Operators performing the reserve replacement process pursuant to Part IV of Regulation (EU) 2017/1485 of 2 August 2017 (hereafter referred to as “**RR TSOs**”) regarding the RR Implementation Framework (RRIF) for a European platform for the exchange of balancing energy from replacement reserves (hereafter referred to as “**RR-Platform**”).
- (2) This proposal of the Replacement Reserve Implementation Framework (hereafter referred to as the “**RRIF**”) takes into account the general principles and goals set in Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter referred to as the “**GL EB**”), Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereafter referred to as the “**GL SO**”) as well as Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-zonal exchanges in electricity (referred to as “**Electricity Regulation**”).
- (3) The RRIF lays down the design, functional requirements, governance and cost sharing for the RR-Platform. In addition, the RRIF contains the proposal for the entity to perform the functions of the proposal. The European RR-Platform shall be able to perform the functions described in Article 5 on this RRIF and as described in the Article 19(3) of the GL EB.
- (4) The goal of the GL EB is the integration of balancing markets. To facilitate this goal, it is necessary to develop Implementation Framework for European platforms for balancing energy exchange from replacement reserves, frequency restoration reserves with manual and automatic activation and imbalance netting. With regards to the replacement reserves, Article 19(1), Article 19(2) and Article 19(3) of the GL EB constitute the legal basis for this proposal.
- (5) To support the implementation of the GL EB, several pilot initiatives have been set up. TERRE (Trans European Replacement Reserve Exchange hereafter referred to as “**TERRE project**”) is the pilot project validated by ENTSO-E for replacement reserve (RR) exchanges.
- (6) Article 19(1) defines the deadline for the submission of RRIF Proposal:

“1. Six months after entry into force of this Regulation, all TSOs performing the reserve replacement process pursuant to Part IV of Regulation (EU) 2017/1485 shall develop a proposal for the implementation framework for a European platform for the exchange of balancing energy from replacement reserves.” Consequently, the deadline to be met is June 18th, 2018.
- (7) Articles 19(2) and 19(3) define several specific requirements to the content of the RRIF Proposal:

“2. The European platform for the exchange of balancing energy from replacement reserves, operated by TSOs or by means of an entity the TSOs would create themselves, shall be based on common governance principles and business processes and shall consist of at least the activation optimisation function and the TSO-TSO settlement function. That European platform shall apply a multilateral TSO-TSO model with common merit order lists to exchange all balancing energy bids from all standard products for replacement reserves, except for unavailable bids pursuant to Article 29(14).

3. *The proposal in paragraph 1 shall include at least:*

(a) the high level design of the European platform;

(b) the roadmap and timelines for the implementation of the European platform;

(c) the definition of the functions required to operate the European platform;

(d) the proposed rules concerning the governance and operation of the European platform, based on the principle of non-discrimination and ensuring equitable treatment of all member TSOs and that no TSO benefits from unjustified economic advantages through the participation in the functions of the European platform;

(e) the proposed designation of the entity or entities that will perform the functions defined in the proposal. Where the TSOs propose to designate more than one entity, the proposal shall demonstrate and ensure:

(i) a coherent allocation of the functions to the entities operating the European platform. The proposal shall take full account of the need to coordinate the different functions allocated to the entities operating the European platform;

(ii) that the proposed setup of the European platform and allocation of functions ensures efficient and effective governance, operation and regulatory oversight of the European platform as well as, supports the objectives of this Regulation;

(iii) an effective coordination and decision making process to resolve any conflicting positions between entities operating the European platform;

(f) the framework for harmonisation of the terms and conditions related to balancing set up pursuant to Article 18;

(g) the detailed principles for sharing the common costs, including the detailed categorisation of common costs, in accordance with Article 23;

(h) the balancing energy gate closure time for all standard products for replacement reserves in accordance with Article 24;

(i) the definition of standard products for balancing energy from replacement reserves in accordance with Article 25;

(j) the TSO energy bid submission gate closure time in accordance with Article 29(13);

(k) the common merit order lists to be organised by the common activation optimisation function pursuant to Article 31;

(l) the description of the algorithm for the operation of the activation optimisation function for the balancing energy bids from all standard products for replacement reserves in accordance with Article 58.”

- (8) The deadlines for the beginning of the operation of the RR-Platform are defined in Article 19(5) of the GL EB. Due to the fact that the countries have different starting points with respect to the national terms and conditions related to balancing, the concerned TSOs have initiated an implementation project approach. This approach will facilitate the fulfilment of the deadlines by foreseeing, up to the extent possible, with early operation of the RR-Platform for countries fulfilling parts of the RRIF proposal, before the deadlines defined by Article 19(5) of the GL EB.
- (9) Articles 4 to 14 of this RRIF proposal fulfil the content described by the Article 19(3) of the GL EB.

- (10) The RRIF contributes to the objective of non-discrimination and transparency in balancing markets pursuant to Article 3(1)(a), (2)(a) and (b) of the GL EB, since the same methodology will apply to all RR TSOs and all BSPs in a non-discriminatory way. All RR TSOs will have access to the same reliable information on settled volumes at the same time and in a transparent way. All BSPs will have access to the same reliable information on the settled volumes at the same time and in a transparent way.
- (11) The RRIF contributes to the objective of enhancing efficiency of balancing as well as efficiency of European and national balancing markets pursuant to Articles 3(1)(b) and (2)(c) of the GL EB by minimising the cost of activated RR in Europe and the national balancing markets and enhancing the social welfare.
- (12) The RRIF contributes to the objective of integrating balancing markets pursuant to Article 3(1)(c) of the GL EB by implementation of the RR-Platform to be used by all RR TSOs performing the replacement reserve process in their Load Frequency Control (LFC) area.
- (13) The RRIF contributes to the objective of contributing to operational security pursuant to Articles 3(1)(c), (2)(d) and (f) of the GL EB since the proposed principles of algorithm maximize the overall social welfare, reduce the activation of RR due to the netting of the RR balancing energy needs while optimizing the use of interconnections between RR TSOs.
- (14) The RRIF contributes to the objective of facilitating the efficient and consistent functioning balancing markets pursuant to Article 3(1)(d) of the GL EB by minimising the overall cost of activated RR in Europe and enhancing the social welfare.
- (15) The RRIF serves the requirement of Article 3(2)(e) of the GL EB since only available transmission capacity after the previous market timeframes is used for RR exchange and by this it is ensured that the development of the forward, day-ahead and intraday markets is not compromised.
- (16) The RRIF serves the requirement of Article 3(2)(h) of the GL EB since the technical framework proposed is based on agreed European standards, which are already in operation.
- (17) In conclusion, the RRIF contributes to the general objectives of the GL EB.

SUBMIT THE FOLLOWING RRIF PROPOSAL TO ALL NATIONAL REGULATORY AUTHORITIES:

Abbreviations

The list below refers to the abbreviations which appear and are used more than once in this RRIF

AOF: Activation optimization function

CMOL: Common merit order list

RR: Replacement reserve

RRIF: RR Implementation Framework

LFC: Load Frequency Control

GL EB: Guideline Energy Balancing

GL SO: Guideline on Electricity Transmission System Operation

NRA: National Regulatory Authority

Article 1

Subject matter and scope

- (1) The RR-Platform as determined in this RRIF in accordance with Article 19 of the GL EB is the common proposal of the RR TSOs as listed in the explanatory document.
- (2) This RRIF applies solely to the exchange of balancing energy from replacement reserves. European platforms for imbalance netting, manual and automatic frequency restoration reserves processes are out of the scope of this RRIF.
- (3) The RR-Platform implements the exchange and activation of balancing energy from replacement reserves standard products, through an optimization algorithm whilst respecting the cross-zonal capacity parameters constraints.

Articles 30 on imbalance netting process and Article 50 on TSO-TSO settlement of the GL EB are out of the scope of this RRIF and will be treated in a separate proposal. However, this RRIF includes some principles in line with those articles.

Article 2

Definitions and interpretations

- (1) For the purposes of the Implementation Frameworks, the terms and conditions used shall have the meaning given to them in Article 2 of the GL EB, Article 3 of the GL SO and Article 2 of Commission Regulation (EU) 2015/1222 of 24 July 2015.
- (2) In addition, in this RRIF, the following terms shall apply:
 - (a) **Cross-zonal**: refers to the border between two bidding zones;
 - (b) **Cross-zonal capacity**: is the cross-zonal transmission capacity between two bidding zones or between RR TSOs or between zones where the TSO-BSP model is developed. The RR process will use the remaining cross-zonal capacity after the intraday market;
 - (c) **Cross-zonal capacity parameters**: are the parameters defined by neighbouring TSOs or by a TSO (in case two or more bidding zones belong to that TSO control area) such as the maximum and minimum limits of the cross-zonal capacity;

- (d) **Designated Entity:** is the entity designated to operate all the RR-Platform functions;
- (e) **Expert group(s):** means the body including nominated experts of all RR TSOs (both Member and Observer) of TERRE project and/or RR-Platform to fulfil the requirements defined in the RRIF;
- (f) **Member:** means the RR TSO who is a member of the TERRE project and/or RR-Platform and has decision making powers to participate in the decision-making according to Article 10. The TSOs member compose the consortium designated to operate all the RR-Platform functions;
- (g) **Market Participants:** means such BSPs and BRPs impacted by the TERRE project and/or the implementation of the RR-Platform in the RR countries;
- (h) **Net position:** is the netted sum of electricity export and import for each delivery period for a bidding zone. In the scope of this RRIF, the net position corresponds to the netted sum of electricity export and import for each delivery period for a bidding zone, resulting from RR-Platform;
- (i) **Observer:** means
 - a. the RR TSOs participating to the TERRE project and/or RR-Platform, not as a Member, without decision making power and without a neighbouring RR TSO, or;
 - b. the TSOs participating to the TERRE project, not as a Member, without decision making power.
- (j) **Offer:** means a RR standard product submitted by a BSP or converted by the RR TSO applying central dispatch model pursuant to Article 27 of the GL EB;
- (k) **Region:** under the scope of this RRIF, “region” incorporates all the RR TSOs which will use the RR-Platform;
- (l) **RR-Platform:** is the European platform for the exchange of balancing energy from replacement reserves;
- (m) **RR TSOs:** means the TSOs performing the RR process pursuant to the SO GL;
- (n) **RR Country:** is a country for which there is a RR-TSO;
- (o) **Social Welfare:** in the context of Activation Optimization Function, is the total surplus of the participating TSOs obtained from satisfying their submitted to the RR platform RR demands and the total surplus of BSPs resulting from the activation of their associated submitted RR offers. The curve consisting of submitted to the RR platform positive TSO RR demands and downward BSP RR offers constitutes the consumer curve, and therefore indicates what price consumers (TSOs and BSPs) are prepared to pay for consuming RR balancing energy. On the other hand, the curve consisting of submitted to the RR platform negative TSO RR demands and upward BSP RR offers constitutes the producer curve, and therefore shows the price they are prepared to receive for supplying RR balancing energy. Social welfare is the total benefit from the RR balancing energy transaction, and therefore is made up of the area corresponding to the consumer and the producer surplus;
- (p) **Steering committee or ‘SC’:** is the decision-making body for the TERRE project and/or RR-Platform as further explained in article 10 of the RRIF;
- (q) **TERRE project:** is the implementation project of RR-Platform;

- (r) **Timeframe resolution:** is the resolution of the RR standard product, the TSO energy balancing need and the AOF.

Article 3 **High-level design of the RR-Platform**

- (1) The RR TSOs by means of RR-Platform implement the exchange and activation optimization of standard product for balancing energy from RR, through an optimization algorithm and respecting the availability of cross-zonal capacities:
- (a) The TSOs receive Offers from the BSPs. The Offers which are coherent with the RR standard products are anonymized and forwarded to the RR-Platform. TSOs also communicate their RR balancing energy needs to the platform, as well as the available cross-zonal capacities.
 - (b) TSOs applying a central dispatching model, pursuant to Article 27 of the GL EB, will convert integrated scheduling process bids received from the BSPs into RR standard products and then submit the RR standard product to the RR-Platform.
 - (c) The RR-Platform will gather all the RR Offers from the RR TSOs' local balancing markets and provide an optimised allocation of RR in order to meet the TSOs' RR balancing energy needs.
 - (d) The RR-Platform executes an algorithm that performs the clearing of the consumer curve against the supply curve as defined in Article 2 (2) (o) of this RRIF. The RR-Platform communicates back to the TSOs the accepted Offers, the satisfied needs and the prices. Based upon this allocation of RR, the RR-Platform calculates the cross-zonal flow in the Region. The resulting cross-zonal schedules and updated cross-zonal capacity parameters are sent to the TSOs and schedules in Net Position to the verification platforms operated by ENTSO-E.
 - (e) The RR-Platform will send data related to the Article 17(1)(j) of the Commission Regulation (EU) No 543/2013 on submission and publication of data in electricity markets (Transparency Regulation) to the central transparency platform operated by ENTSO-E.
 - (f) The RR-Platform will send data related to the Article 12 of GL EB to the central transparency platform operated by ENTSO-E.
 - (g) Finally, the information required to settle expenditure and revenue between TSOs, i.e., the financial value of the energy flows across borders, is used to generate invoices needed to complete TSO-TSO settlement.

Article 4 **The roadmap and timeline for the implementation of the RR-Platform**

- (1) RR TSOs agree on that the TERRE project is the implementation project which will implement the RR-Platform. As soon as every requirement defined in this RRIF and further requirements by the GL EB are fulfilled, the RR-Platform is formally implemented as required by Article 19(4) and 19(5) of the GL EB and therefore constitutes the European platform for RR as referred to in the said articles of the GL EB.
- (2) The timeline for the implementation considers several steps.
- (3) The first step is the submission of this RRIF to the NRAs for approval, once the following steps have been satisfied:
- (a) an approval cycle by the RR TSOs which are submitting this RRIF;

- (b) a public consultation to the European stakeholders (6 weeks duration).
- (4) Six months after the approval of this proposal, all TSOs performing the RR process shall designate the proposed entity supported by this RRIF (Article 19.4 GL EB).
- (5) All TSOs performing the RR process which have at least one interconnected neighbouring TSO, performing the RR process, shall implement and make operational the RR-Platform for the exchange of balancing energy for RR no later than one year after the approval of the proposal for the RRIF for RR-Platform. A TSO may request a derogation from this requirement (Article 62 GL EB).
- (6) The TERRE project aims to establish the main market functioning of the RR-Platform following Article 4 (5) of this RRIF.
 - (a) In parallel to the central platform development, the local implementation will take place simultaneously, to ensure readiness for the exchange with the RR-Platform, once operational. The adjustment of the national RR processes to integrate with the RR-Platform are not in scope of this RRIF and are implemented at a local level.
 - (b) The TERRE project includes the main aspects of the RR market harmonization, in order to establish a level playing field for the market participants in the Region. The details of the harmonization in the Region will be elaborated in Article 11 of this RRIF.
 - (c) The parallel run phase will encompass the participation of the RR TSOs and the national BSPs if needed. This phase is the “end to end testing” which will challenge the readiness of the RR-Platform, the TSOs and the local BSPs. The communication, exchange of information, fall-back procedures and incidental processes will be verified. In order to conduct such parallel run phase, the TERRE project will request the involvement of the BSPs to couple to the testing environment, as the same time as the daily processes. This parallel run phase is foreseen to take place in the 2nd half of 2019.
 - (d) The go-live of the RR-Platform is foreseen to take place one year after the approval of the RRIF. The TSOs which passed the parallel run phase, and are ready to participate to the RR exchange through RR-Platform will be able to connect. In case one TSO did not manage to meet the deadline to participate to the parallel run phase, or the local readiness is questioned, they will be able to connect to the RR-Platform at a later stage.

Article 5

Functions of the RR-Platform

- (1) The RR-Platform shall consist of the following functions:
 - (a) AOF (Activation optimization function)
 - (b) Data management:
 - i. Common merit order list;
 - ii. Available cross-zonal capacity.
 - (c) TSO-TSO settlement.
- (2) It is the responsibility of the Designated entity as described in Article (10) of this RRIF to operate and monitor the RR-Platform and to provide adequate hosting facilities.

Article 6 Definition of the RR Standard Products

- (1) The product exchanged in RR-Platform is the standard product for balancing energy from RR (hereafter referred to as “**RR standard product**”).
- (2) From a commercial point of view, the RR standard product is a 15 minutes scheduled block product that can be activated for a fixed quarter hour or a multiple of a fixed quarter hour.
- (3) The full activation time (FAT) of the RR standard product is 30 minutes. The ramping period can be from 0 to 30 minutes.
- (4) The following table contains the main characteristics of the RR standard product:

Standard Characteristics	
Mode of activation	Manual and scheduled
Preparation Period	From 0 to 30 min
Ramping Period	From 0 to 30 min
FAT	30 min
Deactivation Period	Under national responsibility
Minimum quantity	1 MW
Maximum quantity	In case of divisible bid, no max is requested only technical limit (IT limit). In case of indivisible bid, national rules will be implemented
Minimum duration of delivery period	15 min
Maximum duration of delivery period	60 min ¹
Location	Bidding Zones
Validity Period	Defined by BSP and respecting the min and max delivery period
Minimum duration between the end of deactivation period and the following activation	Recovery Period = determined by BSP
Divisibility	Divisible and/or indivisible bids allowed (Resolution for divisible bids = 0,1MW)
Price of the bid	Defined by the BSPs €/MWh
Timeframe resolution	15 min

¹ The maximum delivery period depends on the number of daily gates. The RR-Platform will start with 24 daily gates (one optimization which will cover 60min balancing duration) and maximum delivery period of 60min. For example, in case of moving the RR-Platform to 48 gates, the maximum delivery period will be 30min (for 96 daily gates, maximum delivery period will be 15min).

Article 7

Gate closure time for RR standard product energy bids

The gate closure time (GCT) for the submission of an RR standard product balancing energy bid to the connecting TSO by BSPs shall be between 60 and 55 minutes before the period which is concerned by the activation of the RR standard product to satisfy the TSO balancing energy need.

For TSOs applying central dispatching model, the GCT for RR integrated scheduling process bids shall be defined pursuant to Articles 24(5) and 24(6) of the GL EB.

No later than two months prior to the entry into operation of the RR-Platform, all TSOs performing the RR process shall develop a proposal to define the Balancing Energy Gate Closure Time for RR standard product energy bids pursuant to paragraph 1. This proposal shall be submitted in accordance with Article 5(3) and Article 10(4) and Article 24(1)(a) of the GL EB.

Article 8

TSO energy bid submission gate closure time for RR

The gate closure time for the submission of the RR standard product energy bids to the common merit order list function by the connecting TSO shall be between 45 and 36 minutes before the period which is concerned by the activation of the RR balancing energy bid to satisfy the TSO balancing energy need.

The TSOs will send the RR balancing energy need to the RR-Platform and cross-zonal capacities before the TSO energy bid submission gate closure time for RR.

No later than two months prior to the entry into operation of the RR-Platform, all TSOs performing the RR process shall develop a proposal to define the TSO energy bid submission gate closure time for RR pursuant to paragraph 1. This proposal shall be submitted in accordance with Article 5(3) and Article 10(4) of the GL EB.

Article 9

Common merit order lists to be organised by the activation optimisation function

- (1) Each BSP in self-dispatch system shall submit the RR standard product energy bids to the connecting TSO.
- (2) Each BSP in central-dispatch system shall submit integrated scheduling process bids to the connecting TSO who shall convert integrated scheduling process bids received from BSPs into RR standard product energy bids.
- (3) The format possibilities of the RR standard product energy bids are:
 - (a) Divisible or indivisible;
 - (b) Exclusive in volume or time and/or Multi-part in volume and price;
 - (c) Linked in volume or time.
- (4) The connecting TSO shall submit the coherent bids to the common merit order list function.
- (5) The common merit order list function shall comprise of two merit order lists that shall contain all involved RR standard product energy bids and all the RR balancing energy needs submitted by the TSOs:
 - (a) First merit order list shall include upward bids and downward RR balancing energy needs sorted in ascending order of price;

- (b) Second merit order list shall include downward bids and upward RR balancing energy needs sorted in descending order of price.

Article 10

Rules for governance and operation of entity operating the platform and proposed designated entity

(1) Designation of Entity:

- (a) RR TSOs designate the RR TSOs as entity for operating together by means of TERRE consortium the AOF.
- (b) RR TSOs designate the RR TSOs as entity for operating together by means of TERRE consortium the data management function.
- (c) RR TSOs designate the RR TSOs as entity for operating together by means of TERRE consortium the TSO-TSO settlement function.
- (d) The TERRE consortium is composed of all Members. The governance and decision making rules of this consortium are in accordance with the GL EB as described in Article 10(2) and (3) of this RRIF.

(2) Governance rules: The TERRE consortium will follow this structure:

- (a) Each RR TSO, whether it is a Member or an Observer, will be represented through the Steering Committee and (expert) groups.
- (b) The Steering Committee is the decision-making body of the TERRE project and/or the RR-Platform and will notably:
 - i. Provide guidance and binding decisions on the TERRE project and/or RR-Platform;
 - ii. Inform ENTSO-E;
 - iii. Informs NRAs;
 - iv. Validates analysis and outputs from the expert groups.
- (c) In addition, all RR TSOs will follow the GL EB governance and operation of the TERRE project and/or RR-Platform based namely on the principle of non-discrimination and ensuring equitable treatment of all RR TSOs and that no TSO benefits from unjustified economic advantages through the participation in the functions of the TERRE project and/or RR-Platform;

(3) Decision making: an effective coordination and decision-making process to resolve any conflicting positions within the consortium establishing the Designated entity will be set up based on the following rules:

- (a) In accordance with Article 4(4) of the GL EB, if the regions concerned are composed of more than five RR countries and no consensus is reached among TSOs deciding on proposals for terms and conditions or methodologies in accordance with Article 5(3) of the GL EB, they shall decide by qualified majority. Since the TERRE project and/or RR-Platform is composed of more than five RR countries, decision shall require majority of:
 - i. Members representing at least 72 % of the RR countries concerned; and
 - ii. Members representing RR countries comprising at least 65 % of the population of the concerned region.

(b) A blocking minority for decisions in accordance with Article 5(3) of the GL EB must include at least a minimum number of TSOs representing more than 35 % of the population of the participating RR countries, plus TSOs representing at least one additional RR country concerned, failing of which the qualified majority shall be deemed attained.

(4) Operation rules:

(a) The operation rules will be agreed between the RR TSOs as introduced in Article 10 (1) (a, b, c) of this RRIF

(b) These operation rules will elaborate on technical details on how:

- i. the RR TSOs, that will have at least one interconnected neighbouring RR TSO, will use the RR-Platform
- ii. the local systems will be connected to the RR-Platform. The RR TSOs will also outline operational aspects such as exception handling, fall-back measures; and
- iii. to raise and escalate incidents.

Article 11

Framework for harmonization of terms and conditions

(1) RR balancing energy need:

The RR balancing energy need submitted by the TSOs to the RR-Platform has several characteristics.

The following table contains the main characteristics of the RR balancing energy need:

RR balancing energy need Characteristics	
Minimum size	1 MW
Minimum delivery period	15 min
Max delivery period	60 min
Location	Bidding zones (ex: several needs for Italy)
Maximum Size	The maximum size of the RR balancing energy need submitted by the TSO for its LCF area should be less or equal to the sum of the shared Offers made in the same direction. Under certain conditions, a TSO can notify the system which will apply an exemption to this rule
Divisible Volume	Under the responsibility of TSO to a resolution of 1MW
Price	For inelastic needs TSOs will not price their needs. For elastic needs a price will be submitted, which will set a min/max price each TSO is willing to receive/pay to satisfy its needs. Its resolution is 0.01€/MWh.
Timeframe resolution	15 min
Firmness	Yes
Direction	Positive (system short) or Negative (system long)
Tolerance Band in volume	Parameter under the responsibility of RR TSO

- (2) Controllability of interconnection: The RR TSOs will be allowed to submit a desired flow to RR-Platform for a specific interconnection. The settlement rules in case of activation of bids for satisfying the controllability of interconnection will be in line with Article 30 of the GL EB.
- (3) Cap and floors prices: The TSOs suggest to not apply caps and floors to the balancing energy offers submitted to RR-Platform. Only technical price limit will be applied (IT limits).
- (4) Harmonized cross-zonal scheduling steps and number of daily clearings: The RR TSOs will reduce the cross-border scheduling steps to less than 60min for the borders included in RR Region. The deadline will be the date required by the GL EB for using the European Platform for exchange of mFRR. Starting from this deadline, the cross-border scheduling step will be 15min.

At the launch of the RR-Platform, the number of daily gates will be 24. After reducing the cross-border scheduling steps to 15min, an increase of the number of daily gates may be evaluated taking into account the maturity of the European balancing market at that time.

- (5) Terms and conditions for BSPs of RR standard product:
 - (a) To become a BSP it is necessary to perform a prequalification;
 - (b) The BSPs for RR must be able to provide a RR standard product (accepted shape or shape which can be converted to RR standard product pursuant to Article 26(3) or 27 of the GL EB) and exchange necessary information with the TSO;
 - (c) The BSPs will be settled for the requested volume of energy;
 - (d) The BSPs will receive the cross-zonal marginal price. If a Connecting TSO converts bids submitted to the RR-Platform from integrated scheduling process bids or from specific products, settlement with BSPs can be adapted in order to ensure such TSO financial neutrality pursuant to Articles 26(4) and 27(3) of GL EB;
 - (e) The BSP will identify the location of the product in non-portfolio bidding systems;
 - (f) In case of under or over delivery of balancing energy, the BSP will have financial consequences directly or through the BRP;
- (6) The terms and conditions for BRPs are out of the scope of the RR-Platform implementation.

Article 12 Cost Sharing Principles

- (1) The cost sharing between the TSOs in different RR countries will be based on the principles in accordance with Article 23 of the GL EB.
- (2) The costs associated with the establishing, amending and operation of RR-Platform are broken down into:
 - (a) **Common costs** resulting from RR-Platform development costs, costs required for external support to the project and the Project Management Office (PMO) costs.
 - (b) **The historical costs** (Article 23(6) of the GL EB) will include all the common costs, as outlined in Article 12.2 (a) of this RRIF, incurred from January 2017 and excluding the PMO costs.
- (3) The TSOs participating to the TERRE project and/or RR-Platform as Members will contribute to the costs outlined in Article 12.2 (a) of this RRIF.
- (4) Observers in the TERRE project and/or RR-Platform will participate only to the PMO costs.

- (5) Observers that have already joined the TERRE project and later become Members or TSOs which directly enter the TERRE project as Members will contribute to the costs as outlined in Article 12.2 (a) and Article 12.2 (b) of this RRIF.
- (6) National Implementation costs are not managed under the TERRE project and will therefore be managed at a local level under regulatory approval.
- (7) Common costs referred to in Article 12.2 (a), (b) of this RRIF, will be shared among the TSOs in the RR countries and third countries participating in the RR-Platform:
 - (a) One eighth will be divided equally between each Member State and third country;
 - (b) Five eighths will be divided between each Member State and third country proportionally to their consumption;
 - (c) Two eighths shall be divided equally between the RR TSOs pursuant to the common costs in accordance with Article 12.2 (a), (b) of this RRIF;
 - (d) The Member State's share of the costs shall be borne by the TSO or TSOs operating in a territory of that Member State. In case more RR TSOs are operating in a Member State, the Member State's share of the costs shall be distributed among those TSOs proportionally to the consumption in the TSOs LFC area or bidding zones.
 - (e) To take into account changes in the common costs or changes in the RR TSOs, the calculation of common costs shall be regularly adapted.

Article 13 **Description of the optimisation algorithm**

- (1) The inputs of the optimisation algorithm are:
 - (a) CMOL in accordance with Article 9 of this RRIF;
 - (b) Cross-zonal capacity calculated in accordance with Article 37 of the GL EB.
- (2) The objective functions of the optimisation algorithm are:
 - (a) Firstly, maximize the social welfare consisting of RR balancing energy Offers and RR balancing energy needs;
 - (b) Secondly, minimize the amount of RR exchange between bidding zones;
 - (c) Finally, maximize the total amount of RR activation in the event of multiple optimal solutions.
- (3) The constraints of the optimisation algorithm are at least the following:
 - (a) The sum of all injections and withdrawals of RR across all bidding zones must be zero;
 - (b) The cross-zonal RR exchange must not exceed the cross-zonal capacity calculated in accordance with Article 37 of the GL EB;
 - (c) The cross-zonal RR exchange must not exceed the limits requested by affected TSOs in accordance with Article 150 of the GL SO;
 - (d) The RR exchange of each bidding zone must not exceed the limits requested by affected TSOs in accordance with Article 150 of the GL SO;
 - (e) The losses in the HVDC lines must be considered in the optimisation;

- (f) Controllability of interconnections when applicable will also be considered.
- (4) The results of the optimisation algorithm are:
 - (a) The RR activations;
 - (b) The satisfied RR balancing energy needs;
 - (c) The used cross-zonal capacity;
 - (d) The net position resulting from the RR-Platform of each LFC area;
 - (e) The cross-zonal marginal prices.
- (5) In the event that the optimisation algorithm will not provide results, a fall-back procedure will be applied as required by Article 28 of the GL EB.

Article 14 **Language**

The reference language for this RRIF shall be English. For the avoidance of doubt, where TSOs need to translate this RRIF into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 21 of the GL EB and any version in another language, the relevant TSOs shall be obliged to dispel any inconsistencies by providing a revised translation of this RRIF to their relevant national regulatory authorities.