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⁽¹⁾ Text with EEA relevance.

EN

Acts whose titles are printed in light type are those relating to day-to-day management of agricultural matters, and are generally valid for a limited period.

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II

(Non-legislative acts)

REGULATIONS

COMMISSION DELEGATED REGULATION (EU) 2017/2194

of 14 August 2017

**supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council on
markets in financial instruments with regard to package orders**

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012 ⁽¹⁾, and in particular Article 9(6) thereof,

Whereas:

- (1) Package orders are common in all asset classes and may include many different components within the same asset class or across different asset classes. Package orders may therefore comprise an unlimited number of combinations of components. Accordingly, it is appropriate to adopt a holistic approach in establishing qualitative criteria to identify those package orders which should be considered as standardised and frequently traded and therefore, as a whole, having a liquid market. To take into account the characteristics of the different types of package order, those qualitative criteria should include general criteria applicable across all asset classes, as well as specific criteria applicable to the different asset classes comprising a package order.
- (2) The determination of the classes of derivative subject to the trading obligation under Regulation (EU) No 600/2014 requires derivatives within those classes to be standardised and sufficiently liquid. Therefore, it is appropriate to consider that there is a liquid market for the package order as a whole where all the components of that package order are of the same asset class and are subject to the trading obligation. However, package orders where all components are above a certain size or which include a large number of components are not considered as sufficiently standardised or liquid. It is therefore appropriate to specify that package orders where all components are subject to the trading obligation should be considered as having a liquid market where the package order is composed of no more than four components or where not all components within the package order are above a size that is large in scale compared to normal market size.
- (3) The possibility to trade financial instruments on a trading venue demonstrates that those instruments are standardised and relatively liquid. It is therefore appropriate to consider that where all components of a package order are available for trading on a trading venue, that package order as a whole potentially has as a liquid market. A package order should be considered as being available for trading where a trading venue offers it for trading to its members, participants or clients.
- (4) While it is possible to trade package orders with many different components, liquidity is concentrated in packages consisting exclusively of components from the same asset class, such as interest rate derivatives, equity

⁽¹⁾ OJ L 173, 12.6.2014, p. 84.

derivatives, credit derivatives or commodity derivatives. Therefore, package orders composed only of derivatives of one of those asset classes should be eligible for being considered as having a liquid market, whereas package orders composed of derivative components from more than one of those asset classes are not frequently traded and, as a consequence, do not have a liquid market. Furthermore, package orders including components of asset classes other than interest rate derivatives, equity derivatives, credit derivatives or commodity derivatives are not sufficiently standardised and consequently, are not considered as having a liquid market.

- (5) It is therefore necessary to specify a methodology to determine whether there is a liquid market for the package order as a whole, including where one or more of the components of a package order are not considered as having a liquid market, or are large in scale compared to normal market size. However, package orders where none of the components have a liquid market, where all components are large in scale compared to normal market size, or which are a combination of components that do not have a liquid market and components that are large in scale compared to normal market size, are not considered as standardised or frequently traded and therefore should be determined as not having a liquid market for the package order as a whole.
- (6) For package orders consisting of interest rate swaps, most transactions are concentrated in package orders where the components have certain benchmark tenors. It is therefore appropriate to consider only those package orders as being liquid as a whole. To reflect the characteristics of the different interest rate swaps, it is important to differentiate contracts starting immediately after the execution of the trade from contracts starting at a predetermined date in the future. The tenor of a contract should be calculated based on the date at which the obligations under the contract come into effect, that is, on the effective date. However, to take into account the liquidity pattern of those contracts as well as to avoid circumvention, those tenors should not be interpreted too strictly, but rather as targeted intervals around a benchmark tenor.
- (7) Many market participants trade package orders consisting of two contracts with a different expiry date. In particular, roll forwards are highly standardised and frequently traded. Those package orders are used to replace a position in a contract that is nearest to expiry with a position in a contract expiring at the next maturity date, thereby allowing market participants to maintain an investment position beyond the initial expiration of a contract. It is therefore appropriate to consider that there is a liquid market for those package orders as a whole.
- (8) For reasons of consistency and in order to ensure the smooth functioning of the financial markets, it is necessary that this Regulation and the provisions laid down in Regulation (EU) No 600/2014 apply from the same date.
- (9) This Regulation is based on the draft regulatory technical standards submitted by the European Securities and Markets Authority (ESMA) to the Commission.
- (10) ESMA has conducted open public consultations on the draft regulatory technical standards on which this Regulation is based, analysed the potential related costs and benefits and requested the opinion of the Securities and Markets Stakeholder Group established by Article 37 of Regulation (EU) No 1095/2010 of the European Parliament and of the Council ⁽¹⁾,

HAS ADOPTED THIS REGULATION:

Article 1

Package orders for which there is a liquid market as a whole

There shall be a liquid market for a package order as a whole where either of the following conditions is satisfied:

- (a) the package order consists of no more than four components that belong to classes of derivative that have been declared subject to the trading obligation for derivatives in accordance with the procedure described in Article 32 of Regulation (EU) No 600/2014, unless one of the following applies:
 - (i) all the components of the package order are large in scale compared to normal market size;

⁽¹⁾ Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC (OJ L 331, 15.12.2010, p. 84).

- (ii) the components of the package order do not exclusively belong to one of the asset classes as referred to Annex III to Commission Delegated Regulation (EU) 2017/583 ⁽¹⁾;
- (b) the package order meets all of the following conditions:
 - (i) all components of the package order are available for trading on the same trading venue;
 - (ii) all components of the package order are subject to the clearing obligation in accordance with Article 5 of Regulation (EU) No 648/2012 of the European Parliament and of the Council ⁽²⁾ or the clearing obligation in accordance with Article 29(1) of Regulation (EU) No 600/2014;
 - (iii) at least one of the components of the package order has a liquid market or is not large in scale compared to normal market size;
 - (iv) the package order meets the criteria applicable to the relevant asset class and laid down in Articles 2, 3, 4 or 5.

Article 2

Asset-class specific criteria for package orders consisting exclusively of interest rate derivatives

The asset-class specific criteria referred to in Article 1(b)(iv) for package orders consisting exclusively of interest rates derivatives as referred to in Section 5 of Annex III to Delegated Regulation (EU) 2017/583 shall be the following:

- (a) the package order has no more than three components;
- (b) all components of the package order belong to the same sub-asset class as referred to in in Section 5 of Annex III to Delegated Regulation (EU) 2017/583;
- (c) all components of the package order are denominated in the same notional currency of either EUR, USD or GBP;
- (d) where the package order consists of interest rate swaps, the components of that package order have a tenor of 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20 or 30 years;
- (e) where the package order consists of interest rate future components, those components are either of the following:
 - (i) contracts with a maturity not exceeding 6 months for interest rate futures based on 3 months interest rate;
 - (ii) contracts with the expiration date closest to the current date for interest rate futures based on 2, 5 and 10 year interest rates;
- (f) where the package order consists of bond futures, the package order replaces a position in a contract that is nearest to expiry with a position in a contract with the same underlying expiring at the next maturity date.

For the purpose of point (d), a component of a package order shall be deemed to have a tenor of 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20 or 30 years where the period of time between the effective date of the contract and the termination date of the contract equals one of the time periods mentioned in point (d), plus or minus 5 days.

Article 3

Asset-class specific criteria for package orders consisting exclusively of equity derivatives

The asset-class specific criteria referred to in Article 1(b)(iv) for package orders consisting exclusively of equity derivatives, as referred to in Section 6 of Annex III to Delegated Regulation (EU) 2017/583, shall be the following:

- (a) the package order has no more than two components;
- (b) all components of the package order belong to the same sub-asset class as referred to in Section 6 of Annex III to Delegated Regulation (EU) 2017/583;

⁽¹⁾ Commission Delegated Regulation (EU) 2017/583 of 14 July 2016 supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council on markets in financial instruments with regard to regulatory technical standards on transparency requirements for trading venues and investment firms in respect of bonds, structured finance products, emission allowances and derivatives (OJ L 87, 31.3.2017, p. 229).

⁽²⁾ Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories (OJ L 201, 27.7.2012, p. 1).

- (c) all components of the package order are denominated in the same notional currency of either EUR, USD or GBP;
- (d) all components of the package order have the same underlying index;
- (e) the expiry date of all components of the package order does not exceed 6 months;
- (f) where the package order contains options, all options have the same expiry date.

Article 4

Asset-class specific criteria for package orders consisting exclusively of credit derivatives

The asset-class specific criteria referred to in Article 1(b)(iv) for package orders consisting exclusively of credit derivatives as referred to in Section 9 of Annex III to Delegated Regulation (EU) 2017/583 shall be the following:

- (a) the package order has no more than two components;
- (b) all components of the package order are index credit default swaps as referred to in Section 9 of Annex III to Delegated Regulation (EU) 2017/583;
- (c) all components of the package order are denominated in the same notional currency of either EUR or USD;
- (d) all components of the package order have the same underlying index;
- (e) all components of the package order have a tenor of 5 years;
- (f) the package order replaces a position in a next-to-recent version of an index series (latest off-the-run) with a position in the most recent version (on-the-run).

Article 5

Asset-class specific criteria for package orders consisting exclusively of commodity derivatives

The asset-class specific criteria referred to in Article 1(b)(iv) for package orders consisting exclusively of commodity derivative as referred to in Section 7 of Annex III to Delegated Regulation (EU) 2017/583 shall be the following:

- (a) the package order has no more than two components;
- (b) all components of the package order are commodity derivative futures as referred to in Section 7 of Annex III to Delegated Regulation (EU) 2017/583;
- (c) all components of the package order have the same underlying commodity defined at the most granular level as specified in Table 2 of the Annex to Commission Delegated Regulation (EU) 2017/585 ⁽¹⁾;
- (d) all components of the package order are denominated in the same notional currency of either EUR, USD or GBP;
- (e) the package order replaces a position in a contract that is nearest to expiry with a position in a contract expiring at the next maturity date.

Article 6

Entry into force and application

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply from 3 January 2018.

⁽¹⁾ Commission Delegated Regulation (EU) 2017/585 of 14 July 2016 supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the data standards and formats for financial instrument reference data and technical measures in relation to arrangements to be made by the European Securities and Markets Authority and competent authorities (OJ L 87, 31.3.2017, p. 368).

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 14 August 2017.

For the Commission

The President

Jean-Claude JUNKER

COMMISSION REGULATION (EU) 2017/2195
of 23 November 2017
establishing a guideline on electricity balancing
(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to 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-border exchanges in electricity and repealing Regulation (EC) No 1228/2003 ⁽¹⁾ and in particular Articles 18(3)(b), 18(3)(d) and 18(5) thereof,

Whereas:

- (1) A fully functioning and interconnected internal energy market is crucial for maintaining security of energy supply, increasing competitiveness and ensuring that all consumers can purchase energy at affordable prices.
- (2) A well-functioning internal market in electricity should provide producers with appropriate incentives for investing in new power generation, including in electricity from renewable energy sources, paying special attention to the most isolated Member States and regions in the Union's energy market. A well-functioning market should also provide consumers with adequate measures to promote more efficient use of energy, which presupposes a secure supply of energy.
- (3) Regulation (EC) No 714/2009 sets out non-discriminatory rules on conditions for access to the network for cross-border exchanges in electricity and, in particular, rules on capacity allocation for interconnections and transmission systems affecting cross-border electricity flows. In order to move towards a genuinely integrated electricity market and to ensure operational security, efficient balancing rules should be developed in order to provide incentives for market participants to contribute to solving the system scarcities for which they are responsible. In particular, it is necessary to set up rules related to the technical and operational aspects of system balancing and to energy trading. Such rules should include system-related power reserve rules.
- (4) Commission Regulation (EU) 2017/1485 ⁽²⁾ sets out harmonised rules on system operation applicable to transmission system operators ('TSOs'), regional security coordinators, distribution system operators ('DSOs') and significant grid users. It identifies different critical system states (normal state, alert state, emergency state, blackout state and restoration state). It also sets out requirements and principles to maintain operational security throughout the Union and aims to promote the coordination of requirements and principles for Union-wide load-frequency-control and reserves.
- (5) This Regulation establishes an EU-wide set of technical, operational and market rules to govern the functioning of electricity balancing markets. It sets out rules for the procurement of balancing capacity, the activation of balancing energy and the financial settlement of balance responsible parties. It also requires the development of harmonised methodologies for the allocation of cross-zonal transmission capacity for balancing purposes. Such rules will increase the liquidity of short-term markets by allowing for more cross-border trade and for a more efficient use of the existing grid for the purposes of balancing energy. As balancing energy bids will compete on EU-wide balancing platforms, it will also have positive effects on competition.
- (6) This Regulation pursues the objective of ensuring the optimal management and coordinated operation of the European electricity transmission system, while supporting the achievement of the Union's targets for penetration of renewable generation, as well as providing benefits for customers. TSOs, working with DSOs where relevant, should be responsible for organising European balancing markets and should strive for their integration, keeping the system in balance in the most efficient manner. To do so, TSOs should work in close cooperation with one another and with DSOs, coordinating their activities as much as possible to deliver an efficient electricity system, across all regions and voltage levels, without prejudice to competition law.

⁽¹⁾ OJ L 211, 14.8.2009, p. 15.

⁽²⁾ Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (OJ L 220, 25.8.2017, p. 1).

- (7) TSOs should be able to delegate all or part of any tasks under this Regulation to a third party. The delegating TSO should remain responsible for ensuring compliance with the obligations in this Regulation. Likewise Member States should be able to assign tasks and obligations under this Regulation to a third party. Such assignment should be limited to tasks and obligations executed at national level (such as imbalance settlement). The limitations to the assignment should not lead to unnecessary changes to the existing national arrangements. However TSOs should remain responsible for the tasks entrusted to them pursuant to Directive 2009/72/EC of the European Parliament and of the Council ⁽¹⁾ for the development of European-wide methodologies, as well as the implementation and operation of the European-wide balancing platforms. Where, in a Member State, the expertise and experience of operating imbalance settlement lies with a third party, the TSO of the Member State may request the other TSOs and ENTSO-E to enable such third party to assist in the development of the proposal. However, the responsibility for developing the proposal remains with the TSO of the Member State in conjunction with all other TSOs and such responsibility cannot be transferred to a third party.
- (8) The rules defining the role of balancing service providers and the role of balance responsible parties ensure a fair, transparent and non-discriminatory approach. Moreover, the rules concerning the terms and conditions related to balancing set out the principles and roles by which the balancing activities governed by this Regulation will take place, and ensure adequate competition based on a level-playing field between market participants, including demand-response aggregators and assets located at the distribution level.
- (9) Each balancing service provider intending to provide balancing energy or balancing capacity should successfully pass a qualification process defined by the TSOs in close cooperation with DSOs where necessary.
- (10) The integration of balancing energy markets should be facilitated with the establishment of common European platforms for operating the imbalance netting process and enabling the exchange of balancing energy from frequency restoration reserves and replacement reserves. Cooperation between TSOs should be strictly limited to what is necessary for the efficient and secure design, implementation and operation of those European platforms.
- (11) The platforms for the exchange of balancing energy from frequency restoration reserves and replacement reserves should apply a model with merit order lists in order to ensure cost-efficient activation of bids. Only where a cost benefit analysis performed by all TSOs shows that the model for the platform for the exchange of balancing energy from frequency restoration reserves with automatic activation should be modified, it should be possible for TSOs to implement and make operational the platform based on another model.
- (12) The integration of balancing energy markets should facilitate the efficient functioning of the intraday market in order to provide the possibility for market participants to balance themselves as close as possible to real time. Only the imbalances remaining after the end of the intraday market should be balanced by TSOs with the balancing market. The harmonisation of the imbalance settlement period to 15 minutes in Europe should support intraday trading and foster the development of a number of trading products with same delivery windows.
- (13) In order to allow an exchange of balancing services, the creation of common merit order lists and adequate liquidity in the balancing market, it is necessary to regulate the standardisation of balancing products. This Regulation lists the minimum set of standard characteristics and additional characteristics defining standard products.
- (14) The pricing method for standard products for balancing energy should create positive incentives for market participants in keeping and/or helping to restore the system balance of their imbalance price area, reduce system imbalances and costs for society. Such pricing approach should strive for an economically efficient use of demand response and other balancing resources subject to operational security limits. The pricing method used in the procurement of balancing capacity should strive for an economically efficient use of demand response and other balancing resources subject to operational security limits.
- (15) In order to enable TSOs to procure and use balancing capacity in an efficient, economic and market-based manner, there is a need to foster market integration. In this regard, this Regulation establishes three methodologies through which TSOs may allocate cross-zonal capacity for the exchange of balancing capacity and sharing of reserves, when supported on the basis of a cost-benefit analysis: the co-optimisation process, the market-based allocation process and the allocation based on an economic efficiency analysis. The co-optimisation

⁽¹⁾ Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (OJ L 211, 14.8.2009, p. 55).

allocation process should be performed on a day-ahead basis whereas the market-based allocation process could be performed where the contracting is done not more than one week in advance of the provision of the balancing capacity and the allocation based on an economic efficiency analysis where the contracting is done more than one week in advance of the provision of the balancing capacity on the conditions that the volumes allocated are limited and that an assessment is done every year.

- (16) Once a methodology for the allocation process of cross-zonal capacity is approved by the relevant regulatory authorities, early application of the methodology by two or more TSOs could take place to gain experience and allow for a smooth application by more TSOs in the future. The application of such a methodology, where existing, should nevertheless be harmonised by all TSOs in order to foster market integration.
- (17) The general objective of imbalance settlement is to ensure that balance responsible parties support the system's balance in an efficient way and to incentivise market participants in keeping and/or helping to restore the system balance. This Regulation defines rules on imbalance settlement, ensuring that it is made in a non-discriminatory, fair, objective and transparent basis. To make balancing markets and the overall energy system fit for the integration of increasing shares of variable renewables, imbalance prices should reflect the real-time value of energy.
- (18) A process for provisionally derogating TSOs from the application of certain rules should be set out in this Regulation to take into account circumstances where exceptionally, for example, compliance with those rules could lead to risks concerning operational security or lead to premature replacement of smart grid infrastructure.
- (19) In accordance with Article 8 of Regulation (EC) No 713/2009 of the European Parliament and of the Council ⁽¹⁾, the Agency for the Cooperation of Energy Regulators ('the Agency') should take a decision where the relevant regulatory authorities are not able to reach an agreement on common terms and conditions or methodologies.
- (20) This Regulation has been developed in close cooperation with the Agency, the ENTSO for Electricity ('ENTSO-E') and stakeholders, in order to adopt effective, balanced and proportionate rules in a transparent and participative manner. In accordance with Article 18(3) of Regulation (EC) No 714/2009, the Commission will consult the Agency, ENTSO-E and other relevant stakeholders before proposing any amendment to this Regulation.
- (21) The measures provided for in this Regulation are in accordance with the opinion of the Committee referred to in Article 23(1) of Regulation (EC) No 714/2009,

HAS ADOPTED THIS REGULATION:

TITLE I

GENERAL PROVISIONS

Article 1

Subject matter and scope

1. This Regulation lays down a detailed guideline on electricity balancing including the establishment of common principles for the procurement and the settlement of frequency containment reserves, frequency restoration reserves and replacement reserves and a common methodology for the activation of frequency restoration reserves and replacement reserves.
2. This Regulation shall apply to transmission system operators ('TSOs'), distribution system operators ('DSOs') including closed distribution systems, regulatory authorities, the Agency for the Cooperation of Energy Regulators ('the Agency'), the European Network of Transmission System Operators for Electricity ('ENTSO-E'), third parties to whom responsibilities have been delegated or assigned and other market participants.
3. This Regulation shall apply to all transmission systems and interconnections in the Union except the transmission systems on islands that are not connected with other transmission systems via interconnections.
4. Where more than one TSO exists in a Member State, this Regulation shall apply to all TSOs in a Member State. Where a TSO does not have a function relevant to one or more obligations under this Regulation, Member States may provide that the responsibility to comply with those obligations is assigned to one or more specific TSOs.

⁽¹⁾ Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators (OJ L 211, 14.8.2009, p. 1).

5. Where a load-frequency control ('LFC') area consists of two or more TSOs, all TSOs of that LFC area may decide, subject to the approval by the relevant regulatory authorities, to exercise one or more obligations under this Regulation in a coordinated manner for all scheduling areas of the LFC area.
6. The European platforms for the exchange of standard products for balancing energy may be opened to TSOs operating in Switzerland on the condition that its national law implements the main provisions of Union electricity market legislation and that there is an intergovernmental agreement on electricity cooperation between the Union and Switzerland, or if the exclusion of Switzerland may lead to unscheduled physical power flows via Switzerland endangering the system security of the region.
7. Subject to the conditions of paragraph 6, the participation of Switzerland in the European platforms for the exchange of standard products for balancing energy shall be decided by the Commission based on an opinion given by the Agency and all TSOs in accordance with the procedures set out in paragraph 3 of Article 4. The rights and responsibilities of Swiss TSOs shall be consistent with the rights and responsibilities of TSOs operating in the Union, allowing for a smooth functioning of balancing market at Union level and a level-playing field for all stakeholders.
8. This Regulation shall apply to all system states defined in Article 18 of Regulation (EU) 2017/1485.

Article 2

Definitions

For the purposes of this Regulation, the definitions in Article 2 of Directive 2009/72/EC, Article 2 of Regulation (EC) No 714/2009, Article 2 of Commission Regulation (EU) No 543/2013 ⁽¹⁾, Article 2 of Commission Regulation (EU) 2015/1222 ⁽²⁾, Article 2 of Commission Regulation (EU) 2016/631 ⁽³⁾, Article 2 of Commission Regulation (EU) 2016/1388 ⁽⁴⁾, Article 2 of Commission Regulation (EU) 2016/1447 ⁽⁵⁾, Article 2 of Commission Regulation (EU) 2016/1719 ⁽⁶⁾, Article 3 of Commission Regulation (EU) 2017/1485, and Article 3 of Commission Regulation (EU) 2017/2196 ⁽⁷⁾ shall apply.

The following definitions shall also apply:

- (1) 'balancing' means all actions and processes, on all timelines, through which TSOs ensure, in a continuous way, the maintenance of system frequency within a predefined stability range as set out in Article 127 of Regulation (EU) 2017/1485, and compliance with the amount of reserves needed with respect to the required quality, as set out in Part IV Title V, Title VI and Title VII of Regulation (EU) 2017/1485;
- (2) 'balancing market' means the entirety of institutional, commercial and operational arrangements that establish market-based management of balancing;
- (3) 'balancing services' means balancing energy or balancing capacity, or both;
- (4) 'balancing energy' means energy used by TSOs to perform balancing and provided by a balancing service provider;
- (5) 'balancing capacity' means a volume of reserve capacity that a balancing service provider has agreed to hold and in respect to which the balancing service provider has agreed to submit bids for a corresponding volume of balancing energy to the TSO for the duration of the contract;

⁽¹⁾ Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and of the Council (OJ L 163, 15.6.2013, p. 1).

⁽²⁾ Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (OJ L 197, 25.7.2015, p. 24).

⁽³⁾ Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators (OJ L 112, 27.4.2016, p. 1).

⁽⁴⁾ Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a network code on demand connection (OJ L 223, 18.8.2016, p. 10).

⁽⁵⁾ Commission Regulation (EU) 2016/1447 of 26 August 2016 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules (OJ L 241, 8.9.2016, p. 1).

⁽⁶⁾ Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation (OJ L 259, 27.9.2016, p. 42).

⁽⁷⁾ Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration (see page 54 of this Official Journal).

- (6) 'balancing service provider' means a market participant with reserve-providing units or reserve-providing groups able to provide balancing services to TSOs;
- (7) 'balance responsible party' means a market participant or its chosen representative responsible for its imbalances;
- (8) 'imbalance' means an energy volume calculated for a balance responsible party and representing the difference between the allocated volume attributed to that balance responsible party and the final position of that balance responsible party, including any imbalance adjustment applied to that balance responsible party, within a given imbalance settlement period;
- (9) 'imbalance settlement' means a financial settlement mechanism for charging or paying balance responsible parties for their imbalances;
- (10) 'imbalance settlement period' means the time unit for which balance responsible parties' imbalance is calculated;
- (11) 'imbalance area' means the area in which an imbalance is calculated;
- (12) 'imbalance price' means the price, be it positive, zero or negative, in each imbalance settlement period for an imbalance in each direction;
- (13) 'imbalance price area' means the area for the calculation of an imbalance price;
- (14) 'imbalance adjustment' means an energy volume representing the balancing energy from a balancing service provider and applied by the connecting TSO for an imbalance settlement period to the concerned balance responsible parties, used for the calculation of the imbalance of these balance responsible parties;
- (15) 'allocated volume' means an energy volume physically injected or withdrawn from the system and attributed to a balance responsible party, for the calculation of the imbalance of that balance responsible party;
- (16) 'position' means the declared energy volume of a balance responsible party used for the calculation of its imbalance;
- (17) 'self-dispatching model' means a scheduling and dispatching model where the generation schedules and consumption schedules as well as dispatching of power generating facilities and demand facilities are determined by the scheduling agents of those facilities;
- (18) 'central dispatching model' means a scheduling and dispatching model where the generation schedules and consumption schedules as well as dispatching of power generating facilities and demand facilities, in reference to dispatchable facilities, are determined by a TSO within the integrated scheduling process;
- (19) 'integrated scheduling process' means an iterative process that uses at least integrated scheduling process bids that contain commercial data, complex technical data of individual power generating facilities or demand facilities and explicitly includes the start-up characteristics, the latest control area adequacy analysis and the operational security limits as an input to the process;
- (20) 'integrated scheduling process gate closure time' means the point in time when the submission or the update of integrated scheduling process bids is no longer permitted for the given iterations of the integrated scheduling process;
- (21) 'TSO-TSO model' means a model for the exchange of balancing services where the balancing service provider provides balancing services to its connecting TSO, which then provides these balancing services to the requesting TSO;
- (22) 'connecting TSO' means the TSO that operates the scheduling area in which balancing service providers and balance responsible parties shall be compliant with the terms and conditions related to balancing;
- (23) 'exchange of balancing services' means either or both exchange of balancing energy and exchange of balancing capacity;
- (24) 'exchange of balancing energy' means the activation of balancing energy bids for the delivery of balancing energy to a TSO in a different scheduling area than the one in which the activated balancing service provider is connected;

- (25) 'exchange of balancing capacity' means the provision of balancing capacity to a TSO in a different scheduling area than the one in which the procured balancing service provider is connected;
- (26) 'transfer of balancing capacity' means a transfer of balancing capacity from the initially contracted balancing service provider to another balancing service provider;
- (27) 'balancing energy gate closure time' means the point in time when submission or update of a balancing energy bid for a standard product on a common merit order list is no longer permitted;
- (28) 'standard product' means a harmonised balancing product defined by all TSOs for the exchange of balancing services;
- (29) 'preparation period' means the period between the request by the connecting TSO in case of TSO-TSO model or by the contracting TSO in case of TSO-BSP model and the start of the ramping period;
- (30) 'full activation time' means the period between the activation request by the connecting TSO in case of TSO-TSO model or by the contracting TSO in case of TSO-BSP model and the corresponding full delivery of the concerned product;
- (31) 'deactivation period' means the period for ramping from full delivery to a set point, or from full withdrawal back to a set point;
- (32) 'delivery period' means the period of delivery during which the balancing service provider delivers the full requested change of power in-feed to, or the full requested change of withdrawals from the system;
- (33) 'validity period' means the period when the balancing energy bid offered by the balancing service provider can be activated, where all the characteristics of the product are respected. The validity period is defined by a start time and an end time;
- (34) 'mode of activation' means the mode of activation of balancing energy bids, manual or automatic, depending on whether balancing energy is triggered manually by an operator or automatically in a closed-loop manner;
- (35) 'divisibility' means the possibility for a TSO to use only part of the balancing energy bids or balancing capacity bids offered by the balancing service provider, either in terms of power activation or time duration;
- (36) 'specific product' means a product different from a standard product;
- (37) 'common merit order list' means a list of balancing energy bids sorted in order of their bid prices, used for the activation of those bids;
- (38) 'TSO energy bid submission gate closure time' means the latest point in time when a connecting TSO can forward the balancing energy bids received from a balancing service provider to the activation optimisation function;
- (39) 'activation optimisation function' means the function of operating the algorithm applied to optimise the activation of balancing energy bids;
- (40) 'imbalance netting process function' means the role to operate the algorithm applied for operating the imbalance netting process;
- (41) 'TSO-TSO settlement function' means the function of performing the settlement of cooperation processes between the TSOs;
- (42) 'capacity procurement optimisation function' means the function of operating the algorithm applied for the optimisation of the procurement of balancing capacity for TSOs exchanging balancing capacity.
- (43) 'TSO-BSP model' means a model for the exchange of balancing services where the balancing service provider provides balancing services directly to the contracting TSO, which then provides these balancing services to the requesting TSO;
- (44) 'contracting TSO' means the TSO that has contractual arrangements for balancing services with a balancing service provider in another scheduling area;
- (45) 'requesting TSO' means the TSO that requests the delivery of balancing energy.

*Article 3***Objectives and regulatory aspects**

1. This Regulation aims at:
 - (a) fostering effective competition, non-discrimination and transparency in balancing markets;
 - (b) enhancing efficiency of balancing as well as efficiency of European and national balancing markets;
 - (c) integrating balancing markets and promoting the possibilities for exchanges of balancing services while contributing to operational security;
 - (d) contributing to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union while facilitating the efficient and consistent functioning of day-ahead, intraday and balancing markets;
 - (e) ensuring that the procurement of balancing services is fair, objective, transparent and market-based, avoids undue barriers to entry for new entrants, fosters the liquidity of balancing markets while preventing undue distortions within the internal market in electricity;
 - (f) facilitating the participation of demand response including aggregation facilities and energy storage while ensuring they compete with other balancing services at a level playing field and, where necessary, act independently when serving a single demand facility;
 - (g) facilitating the participation of renewable energy sources and support the achievement of the European Union target for the penetration of renewable generation.
2. When applying this Regulation, Member States, relevant regulatory authorities, and system operators shall:
 - (a) apply the principles of proportionality and non-discrimination;
 - (b) ensure transparency;
 - (c) apply the principle of optimisation between the highest overall efficiency and lowest total costs for all parties involved;
 - (d) ensure that TSOs make use of market-based mechanisms, as far as possible, in order to ensure network security and stability;
 - (e) ensure that the development of the forward, day-ahead and intraday markets is not compromised;
 - (f) respect the responsibility assigned to the relevant TSO in order to ensure system security, including as required by national legislation;
 - (g) consult with relevant DSOs and take account of potential impacts on their system;
 - (h) take into consideration agreed European standards and technical specifications.

*Article 4***Terms and conditions or methodologies of TSOs**

1. TSOs shall develop the terms and conditions or methodologies required by this Regulation and submit them for approval to the relevant regulatory authorities in accordance with Article 37 of Directive 2009/72/EC within the respective deadlines set out in this Regulation.
2. Where a proposal for terms and conditions or methodologies pursuant to this Regulation needs to be developed and agreed by more than one TSO, the participating TSOs shall closely cooperate. TSOs, with the assistance of ENTSO-E, shall regularly inform the relevant regulatory authorities and the Agency about the progress of developing these terms and conditions or methodologies.

3. Where no consensus is reached among TSOs deciding on proposals for terms and conditions or methodologies in accordance with Article 5(2), they shall decide by qualified majority. A qualified majority for proposals in accordance with Article 5(2) shall require a majority of:

- (a) TSOs representing at least 55 % of the Member States; and
- (b) TSOs representing Member States comprising at least 65 % of the population of the Union.

A blocking minority for decisions in accordance with Article 5(2) must include TSOs representing at least four Member States, failing of which the qualified majority shall be deemed attained.

4. Where the regions concerned are composed of more than five Member States and no consensus is reached among TSOs deciding on proposals for terms and conditions or methodologies in accordance with Article 5(3), they shall decide by qualified majority. A qualified majority for proposals in accordance with Article 5(3) shall require a majority of:

- (a) TSOs representing at least 72 % of the Member States concerned; and
- (b) TSOs representing Member States comprising at least 65 % of the population of the concerned area.

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

5. TSOs deciding on proposals for terms and conditions or methodologies in accordance with Article 5(3) in relation to regions composed of five Member States or less shall decide based on consensus.

6. For TSO decisions under paragraphs 3 and 4, one vote shall be attributed per Member State. If there is more than one TSO in the territory of a Member State, the Member State shall allocate the voting powers among the TSOs.

7. Where TSOs fail to submit a proposal for terms and conditions or methodologies to the relevant regulatory authorities within the deadlines defined in this Regulation, they shall provide the relevant 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 shall inform the Commission and shall, in cooperation with the relevant regulatory authorities, at the Commission's request, investigate the reasons for the failure and inform the Commission thereof. The Commission shall take the appropriate steps to make possible the adoption of the required terms and conditions or methodologies within four months from the receipt of the Agency's information.

Article 5

Approval of terms and conditions or methodologies of TSOs

1. Each relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC shall approve the terms and conditions or methodologies developed by TSOs under paragraphs 2, 3 and 4.

2. The proposals for the following terms and conditions or methodologies shall be subject to approval by all regulatory authorities:

- (a) the frameworks for the establishment of the European platforms pursuant to Articles 20(1), 21(1) and 22(1);
- (b) the modifications of the frameworks for the establishment of the European platforms pursuant to Articles 20(5) and 21(5);
- (c) the standard products for balancing capacity pursuant to Article 25(2);
- (d) the classification methodology for the activation purposes of balancing energy bids pursuant to Article 29(3);
- (e) the assessment on the possible increase of the minimum volume of balancing energy bids that shall be forwarded to the European platforms pursuant to Article 29(11);
- (f) the methodologies for pricing balancing energy and cross-zonal capacity used for the exchange of balancing energy or operating the imbalance netting process pursuant to Article 30(1) and (5);
- (g) the harmonisation of the methodology for the allocation process of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to Article 38(3);

- (h) the methodology for a co-optimised allocation process of cross-zonal capacity pursuant to Article 40(1);
- (i) the TSO-TSO settlement rules for the intended exchange of energy pursuant to Article 50(1);
- (j) the harmonisation of the main features of imbalance settlement pursuant to Article 52(2);

on which a Member State may provide an opinion to the concerned regulatory authority.

3. The proposals for the following terms and conditions or methodologies shall be subject to approval by all regulatory authorities of the concerned region:

- (a) the framework, for the geographical area concerning all TSOs performing the reserve replacement process pursuant to Part IV of Regulation (EU) 2017/1485, for the establishment of the European platform for replacement reserves pursuant to Article 19(1);
- (b) for the geographical area concerning two or more TSOs exchanging or mutually willing to exchange balancing capacity, the establishment of common and harmonised rules and process for the exchange and procurement of balancing capacity pursuant to Article 33(1);
- (c) for the geographical area covering TSOs exchanging balancing capacity, the methodology for calculating the probability of available cross-zonal capacity after intraday cross-zonal gate closure time pursuant to Article 33(6);
- (d) the exemption, for the geographical area in which the procurement of balancing capacity has taken place, for not allowing balancing service providers to transfer their obligations to provide balancing capacity pursuant to Article 34(1);
- (e) the application of a TSO-BSP model, in a geographical area comprising two or more TSOs, pursuant to Article 35(1);
- (f) the cross-zonal capacity calculation methodology for each capacity calculation region pursuant to Article 37(3);
- (g) in a geographical area comprising two or more TSOs, the application of the allocation process of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to Article 38(1) ;
- (h) for each capacity calculation region, the methodology for a market-based allocation process of cross-zonal capacity pursuant to Article 41(1);
- (i) for each capacity calculation region, the methodology for an allocation process of cross-zonal capacity based on an economic efficiency analysis and the list of each individual allocation of cross-zonal capacity based on an economic efficiency analysis pursuant to paragraphs 1 and 5 of Article 42;
- (j) for the geographical area comprising all TSOs intentionally exchanging energy within a synchronous area, the TSO-TSO settlement rules for the intended exchange of energy pursuant to Article 50(3);
- (k) for the geographical area comprising all asynchronously connected TSOs intentionally exchanging energy, the TSO-TSO settlement rules for the intended exchange of energy pursuant to Article 50(4);
- (l) for each synchronous area, the TSO-TSO settlement rules for the unintended exchange of energy pursuant to Article 51(1);
- (m) for the geographical area comprising all asynchronously connected TSOs, the TSO-TSO settlement rules for the unintended exchange of energy pursuant to Article 51(2);
- (n) the exemption, at synchronous area level, to the harmonisation of the imbalance settlement periods pursuant to Article 53(2);
- (o) for the geographical area comprising two or more TSOs exchanging balancing capacity, the principles for balancing algorithms pursuant to Article 58(3);

on which a Member State may provide an opinion to the concerned regulatory authority.

4. The proposals for the following terms and conditions or methodologies shall be subject to approval by each regulatory authority of each concerned Member State on a case-by-case basis:

- (a) the exemption to publish information on offered prices of balancing energy or balancing capacity bids due to market abuse concerns pursuant to Article 12(4);
- (b) where appropriate, the methodology for allocating costs resulting from actions taken by DSOs, pursuant to Article 15(3);
- (c) the terms and conditions related to balancing pursuant to Article 18;

- (d) the definition and the use of specific products pursuant to Article 26(1);
- (e) the limitation on the amount of bids that is forwarded to the European platforms pursuant to Article 29(10);
- (f) the exemption to separate procurement of upward and downward balancing capacity pursuant to Article 32(3);
- (g) where appropriate, the additional settlement mechanism separate from the imbalance settlement, to settle the procurement costs of balancing capacity, administrative costs and other costs related to balancing with balance responsible parties pursuant to Article 44(3);
- (h) the derogations to one or more provisions of this Regulation pursuant to Article 62(2);
- (i) the costs relating to the obligations imposed on system operators or assigned third entities in accordance with this Regulation pursuant to Article 8(1);

on which a Member State may provide an opinion to the concerned regulatory authority.

5. The proposal for terms and conditions or methodologies shall include a proposed timescale for their implementation and a description of their expected impact on the objectives of this Regulation. The implementation timescale shall not be longer than 12 months after the approval by the relevant regulatory authorities, except where all relevant regulatory authorities agree to extend the implementation timescale or where different timescales are stipulated in this Regulation. Proposals on terms and conditions or methodologies subject to the approval by several or all regulatory authorities shall be submitted to the Agency at the same time that they are submitted to regulatory authorities. Upon request by the relevant regulatory authorities, the Agency shall issue an opinion within three months on the proposals for terms and conditions or methodologies.

6. Where the approval of the terms and conditions or methodologies requires a decision by more than one regulatory authority, the relevant regulatory authorities shall consult and closely cooperate and coordinate with each other in order to reach an agreement. Where the Agency issues an opinion, the relevant regulatory authorities shall take that opinion into account. Regulatory authorities shall decide on the terms and conditions or methodologies submitted in accordance with paragraphs 2 and 3, within six months following the receipt of the terms and conditions or methodologies by the relevant regulatory authority or, where applicable, by the last relevant regulatory authority concerned.

7. Where the relevant regulatory authorities have not been able to reach agreement within the period referred to in paragraph 6, or upon their joint request, the Agency shall adopt a decision concerning the submitted proposals for terms and conditions or methodologies within six months from the day of referral, in accordance with Article 8(1) of Regulation (EC) No 713/2009.

8. Any party may complain against a relevant system operator or TSO in relation to that system operator's or TSO's obligations or decisions under this Regulation and may refer the complaint to the relevant regulatory authority which, acting as dispute settlement authority, shall issue a decision within two months after receipt of the complaint. That period may be extended by a further two months where additional information is sought by the relevant regulatory authority. That extended period may be further extended with the agreement of the complainant. The relevant regulatory authority's decision shall be binding unless and until overruled on appeal.

Article 6

Amendments to terms and conditions or methodologies of TSOs

1. Where one or several regulatory authorities in accordance with Article 37 of Directive 2009/72/EC require an amendment in order to approve the terms and conditions or methodologies submitted in accordance with paragraphs 2, 3 and 4 of Article 5, the relevant TSOs shall submit a proposal for amended terms and conditions or methodologies for approval within two months following the requirement from the relevant regulatory authorities. The relevant regulatory authorities shall decide on the amended terms and conditions or methodologies within two months following their submission.

2. Where the relevant regulatory authorities have not been able to reach an agreement on terms and conditions or methodologies within the two-month deadline, or upon their joint request, the Agency shall adopt a decision concerning the amended terms and conditions or methodologies within six months, in accordance with Article 8(1) of Regulation (EC) No 713/2009. If the relevant TSOs fail to submit a proposal for amended terms and conditions or methodologies, the procedure provided for in Article 4 shall apply.

3. TSOs responsible for developing a proposal for terms and conditions or methodologies or regulatory authorities responsible for their adoption in accordance with paragraphs 2, 3 and 4 of Article 5 may request amendments of those terms and conditions or methodologies. The proposals for amendments to the terms and conditions or methodologies shall be submitted to consultation in accordance with the procedure set out in Article 10 and approved in accordance with the procedure set out in Article 4 and Article 5.

*Article 7***Publication of terms and conditions or methodologies on the internet**

TSOs responsible for establishing the terms and conditions or methodologies in accordance with this Regulation shall publish them on the internet following approval by the relevant regulatory authorities or, where no such approval is required, following their establishment, except where such information is considered as confidential in accordance with Article 11.

*Article 8***Recovery of costs**

1. Costs related to the obligations imposed on system operators or assigned third entities in accordance with this Regulation shall be assessed by the relevant regulatory authorities in accordance with Article 37 of Directive 2009/72/EC.
2. Costs considered as reasonable, efficient, and proportionate by the relevant regulatory authority shall be recovered through network tariffs or other appropriate mechanisms as determined by the relevant regulatory authorities.
3. If requested by the relevant regulatory authorities, system operators or assigned entities shall, within three months of the request, provide the information necessary to facilitate the assessment of the costs incurred.
4. Any costs incurred by market participants in meeting the requirements of this Regulation shall be borne by those market participants.

*Article 9***Stakeholder involvement**

The Agency, in close cooperation with ENTSO-E, shall organise stakeholder involvement regarding the balancing market and other aspects of the implementation of this Regulation. Such involvement shall include regular meetings with stakeholders to identify problems and propose improvements related to the integration of the balancing market.

*Article 10***Public consultation**

1. TSOs responsible for submitting proposals for terms and conditions or methodologies or their amendments in accordance with this Regulation shall consult stakeholders, including the relevant authorities of each Member State, on the draft proposals for terms and conditions or methodologies and other implementing measures for a period of not less than one month.
2. The consultation shall last for a period of not less than one month, except for the draft proposals pursuant to points (a), (b), (c), (d), (e), (f), (g), (h) and (j) of Article 5(2) that shall be consulted for a period of not less than two months.
3. At least the proposals pursuant to points (a), (b), (c), (d), (e), (f), (g), (h) and (j) of Article 5(2) shall be subject to public consultation at European level.
4. At least the proposals pursuant to points (a), (b), (c), (d), (e), (f), (g), (h), (i), (n), and (o) of Article 5(3) shall be subject to public consultation at the concerned regional level.
5. At least the proposals pursuant to points (a), (b), (c), (d), (e), (f), (g) and (i) of Article 5(4) shall be subject to public consultation in each concerned Member State.
6. TSOs responsible for the proposal for terms and conditions or methodologies shall duly consider the views of stakeholders resulting from the consultations undertaken in accordance with paragraphs 2 to 5, prior to its submission for regulatory approval. In all cases, a sound justification for including or not including the views resulting from the consultation shall be provided together with the submission and published in a timely manner before or simultaneously with the publication of the proposal for terms and conditions or methodologies.

*Article 11***Confidentiality obligations**

1. Any confidential information received, exchanged or transmitted pursuant to this Regulation shall be subject to the conditions of professional secrecy laid down in paragraphs 2, 3 and 4.

2. The obligation of professional secrecy shall apply to any person subject to the provisions of this Regulation.
3. Confidential information received by the persons or regulatory authorities referred to in paragraph 2 in the course of their duties may not be divulged to any other person or authority, without prejudice to cases covered by national law, the other provisions of this Regulation or other relevant Union legislation.
4. Without prejudice to cases covered by national law or Union legislation, regulatory authorities, bodies or persons who receive confidential information pursuant to this Regulation may use it only for the purpose of carrying out their duties under this regulation, except where written consent has been provided by the primary owner of the data.

Article 12

Publication of information

1. All entities referred to in Article 1(2) shall provide TSOs with all the relevant information to fulfil their obligations laid down in paragraphs 3 to 5.
2. All entities referred to in Article 1(2) shall ensure that information in paragraphs 3 to 5 is published at a time and in a format that does not create an actual or potential competitive advantage or disadvantage to any individual or companies.
3. Each TSO shall publish the following information as soon as it becomes available:
 - (a) information on the current system balance of its scheduling area or scheduling areas, as soon as possible but no later than 30 minutes after real-time;
 - (b) information on all balancing energy bids from its scheduling area or scheduling areas, anonymised where necessary, no later than 30 min after the end of the relevant market time unit. The information shall include:
 - (i) type of product;
 - (ii) validity period;
 - (iii) offered volumes;
 - (iv) offered prices;
 - (v) information on whether the bid was declared as unavailable;
 - (c) information on whether the balancing energy bid was converted from a specific product or from an integrated scheduling process no later than 30 min after the end of the relevant market time unit;
 - (d) information regarding how balancing energy bids from specific products or from integrated scheduling process have been converted into balancing energy bids from standard products no later than 30 min after the end of the relevant market time unit;
 - (e) aggregated information on balancing energy bids no later than 30 min after the end of the relevant market time unit, which shall include:
 - (i) total volume of offered balancing energy bids;
 - (ii) total volume of offered balancing energy bids separately per type of reserves;
 - (iii) total volume of offered and activated balancing energy bids separately for standard and specific products;
 - (iv) volume of unavailable bids separately per type of reserves;
 - (f) information on offered volumes as well as offered prices of procured balancing capacity, anonymised where necessary, no later than one hour after the results of the procurement have been notified to the bidders;
 - (g) the initial terms and conditions related to balancing referred to in Article 18 at least one month before the application and any amendments to the terms and conditions immediately following approval by the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC;

- (h) information on the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to Article 38 at the latest 24 hours after the allocation and no later than 6 hours before the use of the allocated cross-zonal capacity:
 - (i) date and time when the decision on allocation was made;
 - (ii) period of the allocation;
 - (iii) volumes allocated;
 - (iv) market values used as a basis for the allocation process in accordance with Article 39;
- (i) information on the use of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to Article 38 at the latest one week after the use of allocated cross-zonal capacity:
 - (i) volume of allocated and used cross-zonal capacity per market time unit;
 - (ii) volume of released cross-zonal capacity for subsequent timeframes per market time unit;
 - (iii) estimated realised costs and benefits of the allocation process;
- (j) approved methodologies referred to in Articles 40, 41 and 42 at least one month before the application;
- (k) description of the requirements of any algorithm developed and amendments to it referred to in Article 58, at least one month before the application;
- (l) common annual report referred to in Article 59.

4. Subject to approval pursuant to Article 18, a TSO may withhold the publication of information on offered prices and volumes of balancing capacity or balancing energy bids if justified for reasons of market abuse concerns and if not detrimental to the effective functioning of the electricity markets. A TSO shall report such withholdings at least once a year to the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC.

5. No later than two years after entry into force of this Regulation, each TSO shall publish the information pursuant to paragraph 3 in a commonly agreed harmonised format at least through the information transparency platform established pursuant to Article 3 of Regulation (EU) No 543/2013. No later than four months after the entry into force of this Regulation, ENTSO-E shall update the manual of procedures as referred to Article 5 of Regulation (EU) No 543/2013 and submit it to the Agency for its opinion, which the Agency shall provide within two months.

Article 13

Delegation and assignment of tasks

1. A TSO may delegate all or part of any tasks with which it is entrusted under this Regulation to one or more third parties in case the third party can carry out the respective function at least as effectively as the delegating TSO. The delegating TSO shall remain responsible for ensuring compliance with the obligations under this Regulation, including ensuring access to information necessary for monitoring by the relevant regulatory authorities in accordance with Article 37 of Directive 2009/72/EC.

2. Prior to the delegation, the third party concerned shall demonstrate to the delegating TSO its ability to meet the tasks to be delegated.

3. In the event that all or part of any tasks specified in this Regulation are delegated to a third party, the delegating TSO shall ensure that suitable confidentiality agreements in accordance with the confidentiality obligations of the delegating TSO have been put in place prior to the delegation. After delegating all or part of any tasks to a third party, the delegating TSO must inform the relevant regulatory authority and publish this decision on the internet.

4. Without prejudice to the tasks entrusted to TSOs pursuant to Directive 2009/72/EC, a Member State, or where applicable a relevant regulatory authority, may assign tasks or obligations entrusted to TSOs under this Regulation to one or more third parties. The concerned Member State, or where applicable the concerned regulatory authority, may only assign TSOs' tasks and obligations which do not require direct cooperation, joint decision-making or entering into contractual relationship with TSOs from other Member States. Prior to the assignment, the third party concerned shall demonstrate to the Member State, or where applicable the relevant regulatory authority, its ability to meet the task to be assigned.

5. In the event that tasks and obligations are assigned to a third party by a Member State, or a regulatory authority, references to TSO in this Regulation shall be understood as referring to the assigned entity. The relevant regulatory authority shall ensure regulatory oversight of the assigned entity in respect of the assigned tasks and obligations.

TITLE II

ELECTRICITY BALANCING MARKET

CHAPTER 1

Functions and responsibilities*Article 14***Role of the TSOs**

1. Each TSO shall be responsible for procuring balancing services from balancing service providers in order to ensure operational security.
2. Each TSO shall apply a self-dispatching model for determining generation schedules and consumption schedules. TSOs that apply a central dispatching model at the time of the entry into force of this Regulation shall notify to the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC in order to continue to apply a central dispatching model for determining generation schedules and consumption schedules. The relevant regulatory authority shall verify whether the tasks and responsibilities of the TSO are consistent with the definition in Article 2(18).

*Article 15***Cooperation with DSOs**

1. DSOs, TSOs, balancing service providers and balance responsible parties shall cooperate in order to ensure efficient and effective balancing.
2. Each DSO shall provide, in due time, all necessary information in order to perform the imbalance settlement to the connecting TSO in accordance with the terms and conditions related to balancing pursuant to Article 18.
3. Each TSO may, together with the reserve connecting DSOs within the TSO's control area, jointly elaborate a methodology for allocating costs resulting from actions of DSOs pursuant to paragraphs 4 and 5 of Article 182 of Regulation (EU) 2017/1485. The methodology shall provide for a fair allocation of costs taking into account the responsibilities of the parties involved.
4. DSOs shall report to the connecting TSO any limits defined pursuant to paragraphs 4 and 5 of Article 182 of Regulation (EU) 2017/1485 that could affect the requirements set out in this Regulation.

*Article 16***Role of balancing service providers**

1. A balancing service provider shall qualify for providing bids for balancing energy or balancing capacity which are activated or procured by the connecting TSO or, in a TSO-BSP model, by the contracting TSO. Successful completion of the prequalification, ensured by the connecting TSO and processed pursuant to Article 159 and Article 162 of Regulation (EU) 2017/1485 shall be considered as a prerequisite for the successful completion of the qualification process to become a balancing service provider pursuant to this Regulation.
2. Each balancing service provider shall submit to the connecting TSO its balancing capacity bids that affect one or more balance responsible parties.
3. Each balancing service provider participating in the procurement process for balancing capacity shall submit and have the right to update its balancing capacity bids before the gate closure time of the procurement process.
4. Each balancing service provider with a contract for balancing capacity shall submit to its connecting TSO the balancing energy bids or integrated scheduling process bids corresponding to the volume, products, and other requirements set out in the balancing capacity contract.
5. Any balancing service provider shall have the right to submit to its connecting TSO the balancing energy bids from standard products or specific products or integrated scheduling process bids for which it has passed the prequalification process pursuant to Article 159 and Article 162 of Regulation (EU) 2017/1485.

6. The price of the balancing energy bids or integrated scheduling process bids from standard and specific products pursuant to paragraph 4 shall not be predetermined in a contract for balancing capacity. A TSO may propose an exemption to this rule in the proposal for the terms and conditions related to balancing set-up pursuant to Article 18. Such an exemption shall only apply to specific products pursuant to Article 26(3)(b) and be accompanied with a justification demonstrating higher economic efficiency.

7. There shall be no discrimination between balancing energy bids or integrated scheduling process bids submitted pursuant to paragraph 4 and balancing energy bids or integrated scheduling process bids submitted pursuant to paragraph 5.

8. For each product for balancing energy or balancing capacity, the reserve providing unit, the reserve providing group, the demand facility or the third party and the associated balance responsible parties pursuant to Article 18(4)(d), shall belong to the same scheduling area.

Article 17

Role of balance responsible parties

1. In real time, each balance responsible party shall strive to be balanced or help the power system to be balanced. The detailed requirements concerning this obligation shall be defined in the proposal for terms and conditions related to balancing set up pursuant to Article 18.

2. Each balance responsible party shall be financially responsible for the imbalances to be settled with the connecting TSO.

3. Prior to the intraday cross-zonal gate closure time, each balance responsible party may change the schedules required to calculate its position pursuant to Article 54. TSOs applying a central dispatching model may establish specific conditions and rules for changing the schedules of a balance responsible party in the terms and conditions related to balancing set up pursuant to Article 18.

4. After the intraday cross-zonal gate closure time, each balance responsible party may change the internal commercial schedules required to calculate its position pursuant to Article 54 in accordance with the rules set out in the terms and conditions related to balancing set up pursuant to Article 18.

Article 18

Terms and conditions related to balancing

1. No later than six months after entry into force of this Regulation and for all scheduling areas of a Member State, the TSOs of this Member State shall develop a proposal regarding:

- (a) the terms and conditions for balancing service providers;
- (b) the terms and conditions for balance responsible parties.

Where a LFC area consists of two or more TSOs, all TSOs of that LFC area may develop a common proposal subject to the approval by the relevant regulatory authorities.

2. The terms and conditions pursuant to paragraph 1 shall also include the rules for suspension and restoration of market activities pursuant to Article 36 of Regulation (EU) 2017/2196 and rules for settlement in case of market suspension pursuant to Article 39 of Regulation (EU) 2017/2196 once approved in accordance with Article 4 of Regulation (EU) 2017/2196.

3. When developing proposals for terms and conditions for balancing service providers and balance responsible parties, each TSO shall:

- (a) coordinate with the TSOs and DSOs that may be affected by those terms and conditions;
- (b) respect the frameworks for the establishment of European platforms for the exchange of balancing energy and for the imbalance netting process pursuant to Articles 19, 20, 21 and 22;
- (c) involve other DSOs and other stakeholders throughout the development of the proposal and take into account their views without prejudice to public consultation pursuant to Article 10.

4. The terms and conditions for balancing service providers shall:
 - (a) define reasonable and justified requirements for the provisions of balancing services;
 - (b) allow the aggregation of demand facilities, energy storage facilities and power generating facilities in a scheduling area to offer balancing services subject to conditions referred to in paragraph 5 (c);
 - (c) allow demand facility owners, third parties and owners of power generating facilities from conventional and renewable energy sources as well as owners of energy storage units to become balancing service providers;
 - (d) require that each balancing energy bid from a balancing service provider is assigned to one or more balance responsible parties to enable the calculation of an imbalance adjustment pursuant to Article 49.
5. The terms and conditions for balancing service providers shall contain:
 - (a) the rules for the qualification process to become a balancing service provider pursuant to Article 16;
 - (b) the rules, requirements and timescales for the procurement and transfer of balancing capacity pursuant to Articles 32, 33 and 34;
 - (c) the rules and conditions for the aggregation of demand facilities, energy storage facilities and power generating facilities in a scheduling area to become a balancing service provider;
 - (d) the requirements on data and information to be delivered to the connecting TSO and, where relevant, to the reserve connecting DSO during the prequalification process and operation of the balancing market;
 - (e) the rules and conditions for the assignment of each balancing energy bid from a balancing service provider to one or more balance responsible parties pursuant to paragraph 4 (d);
 - (f) the requirements on data and information to be delivered to the connecting TSO and, where relevant, to the reserve connecting DSO to evaluate the provisions of balancing services pursuant to Article 154(1), Article 154(8), Article 158(1)(e), Article 158(4)(b), Article 161(1)(f) and Article 161(4)(b) of Regulation (EU) 2017/1485;
 - (g) the definition of a location for each standard product and each specific product taking into account paragraph 5 (c);
 - (h) the rules for the determination of the volume of balancing energy to be settled with the balancing service provider pursuant to Article 45;
 - (i) the rules for the settlement of balancing service providers defined pursuant to Chapters 2 and 5 of Title V;
 - (j) a maximum period for the finalisation of the settlement of balancing energy with a balancing service provider in accordance with Article 45, for any given imbalance settlement period;
 - (k) the consequences in case of non-compliance with the terms and conditions applicable to balancing service providers.
6. The terms and conditions for balance responsible parties shall contain:
 - (a) the definition of balance responsibility for each connection in a way that avoids any gaps or overlaps in the balance responsibility of different market participants providing services to that connection;
 - (b) the requirements for becoming a balance responsible party;
 - (c) the requirement that all balance responsible parties shall be financially responsible for their imbalances, and that the imbalances shall be settled with the connecting TSO;
 - (d) the requirements on data and information to be delivered to the connecting TSO to calculate the imbalances;
 - (e) the rules for balance responsible parties to change their schedules prior to and after the intraday energy gate closure time pursuant to paragraphs 3 and 4 of Article 17;

- (f) the rules for the settlement of balance responsible parties defined pursuant to Chapter 4 of Title V;
- (g) the delineation of an imbalance area pursuant to Article 54(2) and an imbalance price area;
- (h) a maximum period for the finalisation of the settlement of imbalances with balance responsible parties for any given imbalance settlement period pursuant to Article 54;
- (i) the consequences in case of non-compliance with the terms and conditions applicable to balance responsible parties;
- (j) an obligation for balance responsible parties to submit to the connecting TSO any modifications of the position;
- (k) the settlement rules pursuant to Articles 52, 53, 54 and 55;
- (l) where existing, the provisions for the exclusion of imbalances from the imbalance settlement when they are associated with the introduction of ramping restrictions for the alleviation of deterministic frequency deviations pursuant to Article 137(4) of Regulation (EU) 2017/1485.

7. Each connecting TSO may include the following elements in the proposal for the terms and conditions for balancing service providers or in the terms and conditions for balance responsible parties:

- (a) a requirement for balancing service providers to provide information on unused generation capacity and other balancing resources from balancing service providers, after the day-ahead market gate closure time and after the intraday cross-zonal gate closure time;
- (b) where justified, a requirement for balancing service providers to offer the unused generation capacity or other balancing resources through balancing energy bids or integrated scheduling process bids in the balancing markets after day ahead market gate closure time, without prejudice to the possibility of balancing service providers to change their balancing energy bids prior to the balancing energy gate closure time or the integrated scheduling process gate closure time due to trading within intraday market;
- (c) where justified, a requirement for balancing service providers to offer the unused generation capacity or other balancing resources through balancing energy bids or integrated scheduling process bids in the balancing markets after intraday cross-zonal gate closure time;
- (d) specific requirements with regard to the position of balance responsible parties submitted after the day-ahead market timeframe to ensure that the sum of their internal and external commercial trade schedules equals the sum of the physical generation and consumption schedules, taking into account electrical losses compensation, where relevant;
- (e) an exemption to publish information on offered prices of balancing energy or balancing capacity bids due to market abuse concerns pursuant to Article 12(4);
- (f) an exemption for specific products defined in Article 26(3)(b) to predetermine the price of the balancing energy bids from a balancing capacity contract pursuant to Article 16(6);
- (g) an application for the use of dual pricing for all imbalances based on the conditions established pursuant to Article 52(2)(d)(i) and the methodology for applying dual pricing pursuant to Article 52(2)(d)(ii).

8. TSOs applying a central dispatching model shall also include the following elements in the terms and conditions related to balancing:

- (a) the integrated scheduling process gate closure time pursuant to Article 24(5);
- (b) the rules for updating the integrated scheduling process bids after each integrated scheduling process gate closure time pursuant to Article 24(6);
- (c) the rules for using integrated scheduling process bids prior to the balancing energy gate closure time pursuant to Article 24(7);
- (d) the rules for converting integrated scheduling process bids pursuant to Article 27.

9. Each TSO shall monitor the fulfilment by all parties of the requirements set out in the terms and conditions for balancing within its scheduling area or scheduling areas.

CHAPTER 2

European platforms for the exchange of balancing energy*Article 19***European platform for the exchange of balancing energy from replacement reserves**

1. By 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.
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.
4. By six months after the approval of the proposal for the implementation framework for a European platform for the exchange of balancing energy from replacement reserves, all TSOs performing the reserve replacement process pursuant to Part IV of Regulation (EU) 2017/1485 shall designate the proposed entity or entities entrusted with operating the European platform pursuant to paragraph 3(e).

5. By one year after the approval of the proposal for the implementation framework for a European platform for the exchange of balancing energy from replacement reserves, all TSOs performing the reserve replacement process pursuant to Part IV of Regulation (EU) 2017/1485 and that have at least one interconnected neighbouring TSO performing the replacement reserves process shall implement and make operational the European platform for the exchange of balancing energy from replacement reserves. They shall use the European platform to:

- (a) submit all balancing energy bids from all standard products for replacement reserves;
- (b) exchange all balancing energy bids from all standard products for replacement reserves, except for unavailable bids pursuant to Article 29(14);
- (c) strive to fulfil all their needs for balancing energy from replacement reserves.

Article 20

European platform for the exchange of balancing energy from frequency restoration reserves with manual activation

1. By one year after entry into force of this Regulation, all TSOs shall develop a proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with manual activation.

2. The European platform for the exchange of balancing energy from frequency restoration reserves with manual activation, 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. This 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 frequency restoration reserves with manual activation, 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 frequency restoration reserves with manual activation in accordance with Article 24;
- (i) the definition of standard products for balancing energy from frequency restoration reserves with manual activation 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 frequency restoration reserves with manual activation in accordance with Article 58.
4. By six months after the approval of the proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with manual activation, all TSOs shall designate the proposed entity or entities entrusted with operating the European platform pursuant to paragraph 3(e).
5. By eighteen months after the approval of the proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with manual activation, all TSOs may develop a proposal for modification of the European platform for the exchange of balancing energy from frequency restoration reserves with manual activation pursuant to paragraph 1. Proposed modifications shall be supported by a cost-benefit analysis performed by all TSOs pursuant to Article 61. The proposal shall be notified to the Commission.
6. By thirty months after the approval of the proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with manual activation, or where all TSOs submit a proposal for modification of the European platform pursuant to paragraph 5, by 12 months after the approval of the proposal for modification of the European platform, all TSOs shall implement and make operational the European platform for the exchange of balancing energy from frequency restoration reserves with manual activation and they shall use the European platform to:
- (a) submit all balancing energy bids from all standard products for frequency restoration reserves with manual activation;
 - (b) exchange all balancing energy bids from all standard products for frequency restoration reserves with manual activation, except for unavailable bids pursuant to Article 29(14);
 - (c) strive to fulfil all their needs for balancing energy from the frequency restoration reserves with manual activation.

Article 21

European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation

1. By one year after entry into force of this Regulation, all TSOs shall develop a proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation.
2. The European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation, 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. This 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 frequency restoration reserves with automatic activation, 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 frequency restoration reserves with automatic activation in accordance with Article 24;
 - (i) the definition of standard products for balancing energy from frequency restoration reserves with automatic activation 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 frequency restoration reserves with automatic activation in accordance with Article 58.
4. By six months after the approval of the proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation, all TSOs shall designate the proposed entity or entities entrusted with operating the European platform pursuant to paragraph 3(e).
5. By eighteen months after the approval of the proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation, all TSOs may develop a proposal for modification of the European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation pursuant to paragraph 1 and of the principles set in paragraph 2. Proposed modifications shall be supported by a cost-benefit analysis performed by the all TSOs pursuant to Article 61. The proposal shall be notified to the Commission.
6. By thirty months from the approval of the proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation, or where all TSOs submit a proposal for modification of the European platform pursuant to paragraph 5, by 12 months after the approval of the proposal for modification of the European platform, all TSOs performing the automatic frequency restoration process pursuant to Part IV of Regulation (EU) 2017/1485 shall implement and make operational the European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation and they shall use the European platform to:
- (a) submit all balancing energy bids from all standard products for frequency restoration reserves with automatic activation;
 - (b) exchange all balancing energy bids from all standard products for frequency restoration reserves with automatic activation, except for unavailable bids pursuant to Article 29(14);
 - (c) strive to fulfil all their needs for balancing energy from the frequency restoration reserves with automatic activation.

Article 22

European platform for imbalance netting process

1. By six months after entry into force of this Regulation, all TSOs shall develop a proposal for the implementation framework for a European platform for the imbalance netting process.

2. The European platform for the imbalance netting process, 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 imbalance netting process function and the TSO-TSO settlement function. The European platform shall apply a multilateral TSO-TSO model to perform the imbalance netting process.

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 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 description of the algorithm for the operation of imbalance netting process function in accordance with Article 58.

4. By six months after the approval of the proposal for the implementation framework for a European platform for the imbalance netting process, all TSOs shall designate the proposed entity or entities entrusted with operating the European platform pursuant to paragraph 3(e).

5. By one year after the approval of the proposal for the implementation framework for a European platform for the imbalance netting process, all TSOs performing the automatic frequency restoration process pursuant to Part IV of Regulation (EU) 2017/1485 shall implement and make operational the European platform for the imbalance netting process. They shall use the European platform to perform the imbalance netting process, at least for the Continental Europe synchronous area.

Article 23

Cost sharing between TSOs in different Member States

1. All TSOs shall provide a yearly report to the relevant regulatory authorities in accordance with Article 37 of Directive 2009/72/EC in which the costs of establishing, amending and operating the European platforms pursuant to Articles 19, 20, 21 and 22 are explained in detail. This report shall be published by the Agency taking due account of sensitive commercial information.

2. The costs referred to in paragraph 1 shall be broken down into:

- (a) common costs resulting from coordinated activities of all TSOs participating in the respective platforms;
- (b) regional costs resulting from activities of several but not all TSOs participating in the respective platforms;
- (c) national costs resulting from activities of the TSOs in that Member State participating in the respective platforms.

3. Common costs referred to in paragraph 2(a) shall be shared among the TSOs in the Member States and third countries participating in the European platforms. To calculate the amount to be paid by the TSOs in each Member State and, if applicable, third country, one eighth of the common cost shall be divided equally between each Member State and third country, five eighths shall be divided between each Member State and third country proportionally to their consumption, and two eighths shall be divided equally between the participating TSOs pursuant to paragraph 2(a). 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 several 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 control areas.

4. To take into account changes in the common costs or changes in the participating TSOs, the calculation of common costs shall be regularly adapted.

5. TSOs cooperating in a certain region shall jointly agree on a proposal for the sharing of regional costs in accordance with paragraph 2(b). The proposal shall then be individually approved by the relevant regulatory authorities of each of the Member States and, if applicable, third country in the region. TSOs cooperating in a certain region may alternatively use the cost sharing arrangements set out in paragraph 3.

6. The cost sharing principles shall apply to costs contributing to the establishing, amending and operating the European platforms from the approval of the proposal for the relevant implementation frameworks pursuant to Articles 19(1), 20(1), 21(1) and 22(1). In case the implementation frameworks propose that existing projects shall evolve into a European platform, all TSOs participating in the existing projects may propose that a share of the costs incurred before the approval of the proposal for the implementation frameworks directly related to the development and implementation of this project and assessed as reasonable, efficient and proportionate is considered as part of the common costs pursuant to paragraph 2(a).

Article 24

Balancing energy gate closure time

1. As part of the proposals pursuant to Articles 19, 20 and 21, all TSOs shall harmonise the balancing energy gate closure time for standard products at the Union level, at least for each of the following processes:

- (a) replacement reserves;
- (b) frequency restoration reserves with manual activation;
- (c) frequency restoration reserves with automatic activation.

2. Balancing energy gate closure times shall:

- (a) be as close as possible to real time;
- (b) not be before the intraday cross-zonal gate closure time;
- (c) ensure sufficient time for the necessary balancing processes.

3. After the balancing energy gate closure time, the balancing service providers shall no longer be permitted to submit or update their balancing energy bids.

4. After the balancing energy gate closure time, balancing service providers shall report to the connecting TSO any unavailable volumes of balancing energy bids without undue delay in accordance to 158(4)(b) and 161(4)(b) of Regulation (EU) 2017/1485. If the balancing service provider has a connection point to a DSO, and if required by the DSO, the balancing service provider shall also report any unavailable volumes of balancing energy bids to the DSO without undue delay.

5. By two years after entry into force of this Regulation, each TSO applying a central dispatching model shall define at least one integrated scheduling process gate closure time which shall:

- (a) enable balancing service providers to update their integrated scheduling bids as close as possible to real time;
- (b) be no longer than eight hours before real-time;
- (c) be set before the TSO energy bid submission gate closure time.

6. After each integrated scheduling process gate closure time, the integrated scheduling process bid may only be changed in accordance with the rules defined by the connecting TSO in the terms and conditions for balancing service providers set up pursuant to Article 18. Those rules shall be implemented before the connecting TSO joins any process for the exchange of balancing energy and shall allow balancing service providers to update their integrated scheduling bids to the extent possible until the intraday cross-zonal gate closure time, while ensuring:

- (a) the economic efficiency of the integrated scheduling process;
- (b) operational security;
- (c) consistency of all iterations of the integrated scheduling process;
- (d) fair and equal treatment of all balancing service providers in the scheduling area;
- (e) no negative effect on the integrated scheduling process.

7. Each TSO applying a central dispatching model shall establish the rules for using the integrated scheduling process bids prior to the balancing energy gate closure time in accordance with Article 18(8) (c) in order to:

- (a) ensure that the TSO meets its reserve capacity requirements in real time;
- (b) ensure sufficient resources to solve internal congestions;
- (c) ensure the possibility of feasible dispatching of power generating facilities and demand facilities in real time.

Article 25

Requirements for standard products

1. Standard products for balancing energy shall be developed as part of the proposals for the implementation frameworks for the European platforms pursuant to Articles 19, 20 and 21. After the approval of each implementation framework and no later than the time when a TSO uses the respective European platform, the TSO shall use only standard and, where justified, specific balancing energy products in order to maintain the system's balance in accordance with Article 127, Article 157 and Article 160 of Regulation (EU) 2017/1485.

2. By two years after entry into force of this Regulation, all TSOs shall develop a proposal for a list of standard products for balancing capacity for frequency restoration reserves and replacement reserves.

3. At least every two years, all TSOs shall review the list of standard products for balancing energy and balancing capacity. The review of standard products shall take into account:

- (a) the objectives set out in Article 3(1);
- (b) if applicable, proposed changes to the list of standard products and the number of common merit order lists pursuant to Article 31(2);
- (c) the performance indicators set out in Article 59(4).

4. The list of standard products for balancing energy and balancing capacity may set out at least the following characteristics of a standard product bid:

- (a) preparation period;
- (b) ramping period;
- (c) full activation time;
- (d) minimum and maximum quantity;
- (e) deactivation period;
- (f) minimum and maximum duration of delivery period;
- (g) validity period;
- (h) mode of activation.

5. The list of standard products for balancing energy and balancing capacity shall set out at least the following variable characteristics of a standard product to be determined by the balancing service providers during the prequalification or when submitting the standard product bid:

- (a) price of the bid;
- (b) divisibility;
- (c) location;
- (d) minimum duration between the end of deactivation period and the following activation.

6. Standard products for balancing energy and balancing capacity shall:

- (a) ensure an efficient standardisation, foster cross-border competition and liquidity, and avoid undue market fragmentation;
- (b) facilitate the participation of demand facility owners, third parties and owners of power generating facilities from renewable energy sources as well as owners of energy storage units as balancing service providers.

Article 26

Requirements for specific products

1. Following the approval of the implementation frameworks for the European platforms pursuant to Articles 19, 20 and 21, each TSO may develop a proposal for defining and using specific products for balancing energy and balancing capacity. This proposal shall include at least:

- (a) a definition of specific products and of the time period in which they will be used;
- (b) a demonstration that standard products are not sufficient to ensure operational security and to maintain the system balance efficiently or a demonstration that some balancing resources cannot participate in the balancing market through standard products;
- (c) a description of measures proposed to minimise the use of specific products subject to economic efficiency;
- (d) where applicable, the rules for converting the balancing energy bids from specific products into balancing energy bids from standard products;
- (e) where applicable, the information on the process for the conversion of balancing energy bids from specific products into balancing energy bids from standard products and the information on which common merit order list the conversion will take place;
- (f) a demonstration that the specific products do not create significant inefficiencies and distortions in the balancing market within and outside the scheduling area.

2. Each TSO using specific products shall review at least once every two years the necessity to use specific products in accordance with the criteria laid down in paragraph 1.

3. The specific products shall be implemented in parallel to the implementation of the standard products. Following the use of the specific products, the connecting TSO may alternatively:

- (a) convert the balancing energy bids from specific products into balancing energy bids from standard products;
- (b) activate the balancing energy bids from specific products locally without exchanging them.

4. The rules for converting balancing energy bids from specific products into balancing energy bids from standard products pursuant to paragraph 1(d) shall:

- (a) be fair, transparent and non-discriminatory;
- (b) not create barriers for the exchange of balancing services;
- (c) ensure the financial neutrality of TSOs.

Article 27

Conversion of bids in a central dispatching model

1. Each TSO applying a central dispatching model shall use the integrated scheduling process bids for the exchange of balancing services or for the sharing of reserves.

2. Each TSO applying a central dispatching model shall use the integrated scheduling process bids available for the real time management of the system to provide balancing services to other TSOs, while respecting operational security constraints.

3. Each TSO applying a central dispatching model shall convert as far as possible the integrated scheduling process bids pursuant to paragraph 2 into standard products taking into account operational security. The rules for converting the integrated scheduling process bids into standard products shall:

- (a) be fair, transparent and non-discriminatory;
- (b) not create barriers for the exchange of balancing services;
- (c) ensure the financial neutrality of TSOs.

Article 28

Fall-back procedures

1. Each TSO shall ensure that fall-back solutions are in place in case the procedures referred to in paragraphs 2 and 3 fail.

2. Where the procurement of balancing services fails, the concerned TSOs shall repeat the procurement process. TSOs shall inform market participants that fall-back procedures will be used as soon as possible.

3. Where the coordinated activation of balancing energy fails, each TSO may deviate from the common merit order list activation and shall inform market participants as soon as possible.

TITLE III

PROCUREMENT OF BALANCING SERVICES

CHAPTER 1

Balancing energy

Article 29

Activation of balancing energy bids from common merit order list

1. In order to maintain the system's balance in accordance with Article 127, Article 157 and Article 160 of Regulation (EU) 2017/1485, each TSO shall use cost-effective balancing energy bids available for delivery in its control area based on common merit order lists or another model as set with the proposal by all TSOs pursuant to paragraph 5 of Article 21.

2. TSOs shall not activate balancing energy bids before the corresponding balancing energy gate closure time, except in the alert state or the emergency state when such activations help alleviate the severity of these system states and except when the bids serve purposes other than balancing pursuant to paragraph 3.

3. By one year after the entry into force of this Regulation, all TSOs shall develop a proposal for a methodology for classifying the activation purposes of balancing energy bids. This methodology shall:

- (a) describe all possible purposes for the activation of balancing energy bids;
- (b) define classification criteria for each possible activation purpose.

4. For each balancing energy bid activated from the common merit order list, the TSO activating the bid shall define the activation purpose based on the methodology pursuant to paragraph 3. The activation purpose shall be notified and visible to all TSOs through the activation optimisation function.

5. In the event that the activation of balancing energy bids deviates from the results of the activation optimisation function, the TSO shall publish the information about the reasons for the occurrence of such deviation in a timely manner.

6. The request for activation of a balancing energy bid from the activation optimisation function shall oblige the requesting TSO and connecting TSO to accept the firm exchange of balancing energy. Each connecting TSO shall ensure the activation of the balancing energy bid selected by the activation optimisation function. The balancing energy shall be settled pursuant to Article 50 and between the connecting TSO and the balancing service provider pursuant to Chapter 2 of Title V.

7. The activation of balancing energy bids shall be based on a TSO-TSO model with a common merit order list.
 8. Each TSO shall submit all necessary data for the operation of the algorithm in paragraphs 1 and 2 of Article 58 to the activation optimisation function in accordance with the rules established pursuant to Article 31(1).
 9. Each connecting TSO shall submit, prior to the TSO energy bid submission gate closure time, all balancing energy bids received from balancing service providers to the activation optimisation function, taking into account the requirements in Articles 26 and 27. The connecting TSOs shall not modify or withhold balancing energy bids, except for:
 - (a) balancing energy bids related to Articles 26 and 27;
 - (b) balancing energy bids that are manifestly erroneous and include an unfeasible delivery volume;
 - (c) balancing energy bids that are not forwarded to the European platforms in accordance with paragraph 10.
 10. Each TSO applying a self-dispatching model and operating within a scheduling area with a local intraday gate closure time after the balancing energy gate closure time pursuant to Article 24 may develop a proposal to limit the amount of bids that is forwarded to the European platforms pursuant to Articles 19 to 21. The bids forwarded to the European platforms shall always be the cheapest bids. This proposal shall include:
 - (a) the definition of the minimum volume that shall be forwarded to the European platforms. The minimum volume of bids submitted by the TSO shall be equal to or higher than the sum of the reserve capacity requirements for its LFC block according to Articles 157 and 160 of Regulation (EU) 2017/1485 and the obligations arising from the exchange of balancing capacity or sharing of reserves;
 - (b) the rules to release the bids that are not submitted to the European platforms and the definition of the point in time at which the concerned balancing service providers shall be informed of the release of its bids.
 11. At least once every two years after the approval of the proposal in paragraph 10 by the respective regulatory authority, all TSOs shall assess the impact of limiting the volume of bids sent to the European platforms and the functioning of the intraday market. This assessment shall include:
 - (a) an evaluation by the relevant TSOs on the minimum volume of bids that shall be forwarded to the European platforms pursuant to paragraph 10(a);
 - (b) a recommendation to the relevant TSOs limiting balancing energy bids.
- Based on this assessment, all TSOs shall make a proposal to all regulatory authorities to review the minimum volume of balancing energy bids that shall be forwarded to the European platforms pursuant to paragraph 10(a).
12. Each requesting TSO may request the activation of balancing energy bids from the common merit order lists up to the total volume of balancing energy. The total volume of balancing energy that can be activated by the requesting TSO from balancing energy bids from the common merit order lists is calculated as a sum of volumes of:
 - (a) balancing energy bids submitted by the requesting TSO not resulting from sharing of reserves or exchange of balancing capacity;
 - (b) balancing energy bids submitted by other TSOs as a result of balancing capacity procured on behalf of the requesting TSO;
 - (c) balancing energy bids resulting from the sharing of reserves under the condition that the other TSOs participating in the sharing of reserves have not already requested the activation of those shared volumes.
 13. All TSOs may establish in the proposals for the implementation frameworks for the European platforms pursuant to Articles 19, 20 and 21 the conditions or situations in which the limits set out in paragraph 12 shall not apply. When a TSO requests balancing energy bids beyond the limit set out in paragraph 12, all other TSOs shall be informed.
 14. Each TSO may declare the balancing energy bids submitted to the activation optimisation function unavailable for the activation by other TSOs because they are restricted due to internal congestion or due to operational security constraints within the connecting TSO scheduling area.

*Article 30***Pricing for balancing energy and cross-zonal capacity used for exchange of balancing energy or for operating the imbalance netting process**

1. By one year after the entry into force of this Regulation, all TSOs shall develop a proposal for a methodology to determine prices for the balancing energy that results from the activation of balancing energy bids for the frequency restoration process pursuant to Articles 143 and 147 of Regulation (EU) 2017/1485, and the reserve replacement process pursuant to Articles 144 and 148 of Regulation (EU) 2017/1485. Such methodology shall:

- (a) be based on marginal pricing (pay-as-cleared);
- (b) define how the activation of balancing energy bids activated for purposes other than balancing affects the balancing energy price, while also ensuring that at least balancing energy bids activated for internal congestion management shall not set the marginal price of balancing energy;
- (c) establish at least one price of balancing energy, for each imbalance settlement period;
- (d) give correct price signals and incentives to market participants;
- (e) take into account the pricing method in the day-ahead and intraday timeframes.

2. In case TSOs identify that technical price limits are needed for efficient functioning of the market, they may jointly develop as part of the proposal pursuant to paragraph 1 a proposal for harmonised maximum and minimum balancing energy prices, including bidding and clearing prices, to be applied in all scheduling areas. In such a case, harmonised maximum and minimum balancing energy prices shall take into account the maximum and minimum clearing price for day-ahead and intraday timeframes pursuant to Regulation (EU) 2015/1222.

3. The proposal pursuant to paragraph 1 shall also define a methodology for pricing of cross-zonal capacity used for exchange of balancing energy or for operating the imbalance netting process. Such methodology shall be consistent with the requirements established under Regulation (EU) 2015/1222, and:

- (a) reflect market congestion;
- (b) be based on the prices for balancing energy from activated balancing energy bids, determined in accordance either with the pricing method pursuant to paragraph 1(a), or if applicable, the pricing method pursuant to paragraph 5;
- (c) not apply any additional charges for the exchange of balancing energy or for operating the imbalance netting process, except a charge to compensate losses if this charge is also taken into account in other timeframes.

4. The harmonised pricing method defined in paragraph 1 shall apply to balancing energy from all standard and specific products pursuant to Article 26(3)(a). For specific products pursuant to Article 26(3)(b), the concerned TSO may propose a different pricing method in the proposal for specific products pursuant to Article 26.

5. Where all TSOs identify inefficiencies in the application of the methodology proposed pursuant to paragraph 1(a), they may request an amendment and propose a pricing method alternative to the pricing method in paragraph 1(a). In such case, all TSOs shall perform a detailed analysis demonstrating that the alternative pricing method is more efficient.

*Article 31***Activation optimisation function**

1. All TSOs shall establish an activation optimisation function in accordance with Article 29 and this Article for the optimisation of the activation of balancing energy bids from different common merit order lists. This function shall take into account at least:

- (a) activation processes and technical constraints from different balancing energy products;
- (b) operational security;
- (c) all balancing energy bids included in the compatible common merit order lists;

- (d) the possibility to net the counteracting activation requests from TSOs;
 - (e) submitted activation requests of all TSOs;
 - (f) available cross-zonal capacity.
2. Common merit order lists shall consist of balancing energy bids from standard products. All TSOs shall establish the necessary common merit order lists for the standard products. Upward and downward balancing energy bids shall be separated in different common merit order lists.
3. Each activation optimisation function shall use at least one common merit order list for upward balancing energy bids and one common merit order list for downward balancing energy bids.
4. TSOs shall ensure that the balancing energy bids submitted to the common merit order lists are expressed in euros and make reference to the market time unit.
5. Depending on the requirement for standard products for balancing energy, TSOs may create more common merit order lists.
6. Each TSO shall submit its activation requests for balancing energy bids to the activation optimisation function.
7. The activation optimisation function shall select balancing energy bids and request the activation of selected balancing energy bids from the connecting TSOs where the balancing service provider, associated with the selected balancing energy bid, is connected.
8. The activation optimisation function shall submit the confirmation of the activated balancing energy bids to the TSO requesting the activation of the balancing energy bids. The activated balancing service providers shall be responsible for delivering the requested volume until the end of the delivery period.
9. All TSOs that operate the frequency restoration process and the reserve replacement process to balance their LFC area shall strive to use all balancing energy bids from relevant common merit order lists to balance the system in the most efficient way, taking into account operational security.
10. TSOs that do not use the reserve replacement process to balance their LFC area shall strive to use all balancing energy bids from relevant common merit order lists for frequency restoration reserves to balance the system in the most efficient way, taking into account operational security.
11. Except in the normal state, TSOs may decide to balance the system using only the balancing energy bids from balancing service providers in its own control area if such decision helps alleviate the severity of the current system state. The TSO shall publish a justification for such decision without undue delay.

CHAPTER 2

Balancing capacity

Article 32

Procurement rules

1. All TSOs of the LFC block shall regularly and at least once a year review and define the reserve capacity requirements for the LFC block or scheduling areas of the LFC block pursuant to dimensioning rules as referred in Articles 127, 157 and 160 of Regulation (EU) 2017/1485. Each TSO shall perform an analysis on optimal provision of reserve capacity aiming at minimisation of costs associated with the provision of reserve capacity. This analysis shall take into account the following options for the provision of reserve capacity:
- (a) procurement of balancing capacity within control area and exchange of balancing capacity with neighbouring TSOs, when applicable;
 - (b) sharing of reserves, when applicable;
 - (c) the volume of non-contracted balancing energy bids which are expected to be available both within their control area and within the European platforms taking into account the available cross-zonal capacity.

2. Each TSO procuring balancing capacity shall define the rules for the procurement of balancing capacity in the proposal for the terms and conditions related to balancing service providers developed pursuant to Article 18. The rules for the procurement of balancing capacity shall comply with the following principles:

- (a) the procurement method shall be market-based for at least the frequency restoration reserves and the replacement reserves;
- (b) the procurement process shall be performed on a short-term basis to the extent possible and where economically efficient;
- (c) the contracted volume may be divided into several contracting periods.

3. The procurement of upward and downward balancing capacity for at least the frequency restoration reserves and the replacement reserves shall be carried out separately. Each TSO may submit a proposal to the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC requesting the exemption to this requirement. The proposal for exemption shall include:

- (a) specification of the time period during which the exemption would apply;
- (b) specification of the volume of balancing capacity for which the exemption would apply;
- (c) analysis of the impact of such an exemption on the participation of balancing resources pursuant to Article 25(6)(b);
- (d) justification for the exemption demonstrating that such an exemption would lead to higher economic efficiency.

Article 33

Exchange of balancing capacity

1. Two or more TSOs exchanging or mutually willing to exchange balancing capacity shall develop a proposal for the establishment of common and harmonised rules and processes for the exchange and procurement of balancing capacity while respecting the requirements set out in Article 32.

2. Except in cases where the TSO-BSP model is applied pursuant to Article 35, the exchange of balancing capacity shall always be performed based on a TSO-TSO model whereby two or more TSOs establish a method for the common procurement of balancing capacity taking into account the available cross-zonal capacity and the operational limits defined in Chapters 1 and 2 of Part IV Title VIII of Regulation (EU) 2017/1485.

3. All TSOs exchanging balancing capacity shall submit all balancing capacity bids from standard products to the capacity procurement optimisation function. TSOs shall not modify or withhold any balancing capacity bids and shall include them in the procurement process, except under conditions set out in Article 26 and Article 27.

4. All TSOs exchanging balancing capacity shall ensure both the availability of cross-zonal capacity and that the operational security requirements set out in Regulation (EU) 2017/1485 are met, either by:

- (a) the methodology for calculating the probability of available cross-zonal capacity after intraday cross-zonal gate closure time pursuant to paragraph 6;
- (b) the methodologies for allocating cross-zonal capacity to the balancing timeframe pursuant to Chapter 2 of Title IV.

5. Each TSO using the methodology for calculating the probability of available cross-zonal capacity after intraday cross-zonal gate closure time shall inform other TSOs in their LFC block of the risk of unavailability of reserve capacity in the scheduling area or areas of its control area that may affect the fulfilment of the requirements pursuant to Article 157(2)(b) of Regulation (EU) 2017/1485.

6. TSOs exchanging balancing capacity for frequency restoration reserves and replacement reserves may develop a proposal for a methodology for calculating the probability of available cross-zonal capacity after intraday cross-zonal gate closure time. The methodology shall at least describe:

- (a) the procedures to notify to other TSOs in the LFC block;
- (b) the description of the process to perform the assessment for the relevant period for the exchange of balancing capacity;

- (c) the method to assess the risk of unavailability of cross-zonal capacity due to planned and unplanned outages and due to congestions;
 - (d) the method to assess the risk of insufficient reserve capacity due to unavailability of cross-zonal capacity;
 - (e) the requirements for a fall-back solution in case of unavailability of cross-zonal capacity or insufficient reserve capacity;
 - (f) the requirements for *ex-post* review and monitoring of risks;
 - (g) the rules in order to ensure the settlement pursuant to Title V.
7. TSOs shall not increase the reliability margin calculated pursuant to Regulation (EU) 2015/1222 due to the exchange of balancing capacity for frequency restoration reserves and replacement reserves.

Article 34

Transfer of balancing capacity

1. Within the geographical area in which the procurement of balancing capacity has taken place, the TSOs shall allow balancing service providers to transfer their obligations to provide balancing capacity. The concerned TSO or TSOs may request an exemption where contracting periods for balancing capacity pursuant to Article 32(2)(b) are strictly less than one week.
2. The transfer of balancing capacity shall be allowed at least until one hour before the start of the delivery day.
3. The transfer of balancing capacity shall be allowed if the following conditions are met:
 - (a) the receiving balancing service provider has passed the qualification process for the balancing capacity for which the transfer is performed;
 - (b) the transfer of balancing capacity is not expected to endanger operational security;
 - (c) the transfer of balancing capacity does not exceed the operational limits set out in Chapters 1 and 2 of Part IV Title VIII of Regulation (EU) 2017/1485.
4. In case the transfer of balancing capacity requires the use of cross-zonal capacity, such transfer shall only be allowed in case:
 - (a) the cross-zonal capacity required to perform the transfer is already available from previous allocation processes pursuant to Chapter 2 of Title IV;
 - (b) the cross-zonal capacity is available pursuant to the methodology for calculating the probability of available cross-zonal capacity after intraday cross-zonal gate closure time in accordance with Article 33(6).
5. If a TSO does not allow the transfer of balancing capacity, the concerned TSO shall explain the reason for the rejection to the balancing service providers involved.

CHAPTER 3

TSO-BSP model

Article 35

Exchange of balancing services

1. Two or more TSOs may at their initiative or at the request of their relevant regulatory authorities in accordance with Article 37 of Directive 2009/72/EC develop a proposal for the application of the TSO-BSP model.
2. The proposal for application of a TSO-BSP model shall include:
 - (a) a cost-benefit analysis performed pursuant to Article 61 that identifies the efficiencies of applying the TSO-BSP model for at least the scheduling area or scheduling areas of the TSOs involved;
 - (b) the requested application period;
 - (c) a description of the methodology for ensuring sufficient cross-zonal capacity in accordance with Article 33(6).

3. Where the TSO-BSP model applies, the respective TSOs and balancing service providers may be exempted from the application of the requirements in Article 16(2), Article 16(4), Article 16(5) and Article 29(9) for the relevant processes.
4. Where the TSO-BSP model applies, the involved TSOs shall agree on the technical and contractual requirements and on information exchanges for the activation of balancing energy bids. The contracting TSO and the balancing service provider shall establish contractual arrangements based on the TSO-BSP model.
5. The TSO-BSP model for the exchange of balancing energy from frequency restoration reserves may be applied only where the TSO-BSP model is also applied for the exchange of balancing capacity for frequency restoration reserves.
6. The TSO-BSP model for the exchange of balancing energy from replacement reserves may be applied where the TSO-BSP model is applied for the exchange of balancing capacity for replacement reserves or where one of the two involved TSOs does not operate the reserve replacement process as part of the load-frequency-control structure pursuant to Part IV of Regulation (EU) 2017/1485.
7. By four years after entry into force of this Regulation, all exchanges of balancing capacity shall be based on the TSO-TSO model. This requirement shall not apply to the TSO-BSP model for replacement reserves if one of the two involved TSOs does not operate the reserve replacement process as part of the load-frequency-control structure pursuant to Part IV of Regulation (EU) 2017/1485.

TITLE IV

CROSS-ZONAL CAPACITY FOR BALANCING SERVICES

CHAPTER 1

Exchange of balancing energy or imbalance netting process

Article 36

Use of cross-zonal capacity

1. All TSOs shall use the available cross-zonal capacity, computed according to paragraphs 2 and 3 of Article 37, for the exchange of balancing energy or for operating the imbalance netting process.
2. Two or more TSOs exchanging balancing capacity may use cross-zonal capacity for the exchange of balancing energy when cross-zonal capacity is:
 - (a) available pursuant to Article 33(6);
 - (b) released pursuant to paragraphs 8 and 9 of Article 38;
 - (c) allocated pursuant to Articles 40, 41 and 42.

Article 37

Cross-zonal capacity calculation

1. After the intraday-cross-zonal gate closure time, TSOs shall continuously update the availability of cross-zonal capacity for the exchange of balancing energy or for operating the imbalance netting process. Cross-zonal capacity shall be updated every time a portion of cross-zonal capacity has been used or when cross-zonal capacity has been recalculated.
2. Before the implementation of the capacity calculation methodology pursuant to paragraph 3, TSOs shall use the cross-zonal capacity remaining after the intraday cross-zonal gate closure time.
3. By five years after entry into force of this Regulation, all TSOs of a capacity calculation region shall develop a methodology for cross-zonal capacity calculation within the balancing timeframe for the exchange of balancing energy or for operating the imbalance netting process. Such methodology shall avoid market distortions and shall be consistent with the cross-zonal capacity calculation methodology applied in the intraday timeframe established under Regulation (EU) 2015/1222.

CHAPTER 2

Exchange of balancing capacity or sharing of reserves*Article 38***General requirements**

1. Two or more TSOs may at their initiative or at the request of their relevant regulatory authorities in accordance with Article 37 of Directive 2009/72/EC set up a proposal for the application of one of the following processes:

- (a) co-optimised allocation process pursuant to Article 40;
- (b) market-based allocation process pursuant to Article 41;
- (c) allocation process based on economic efficiency analysis pursuant to Article 42.

Cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves before the entry into force of this Regulation may continue to be used for that purpose until the expiry of the contracting period.

2. The proposal for the application of the allocation process shall include:

- (a) the bidding zone borders, the market timeframe, the duration of application and the methodology to be applied;
- (b) in case of allocation process based on economic efficiency analysis, the volume of allocated cross zonal capacity and the actual economic efficiency analysis justifying the efficiency of such allocation.

3. By five years after entry into force of this Regulation, all TSOs shall develop a proposal to harmonise the methodology for the allocation process of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves per timeframe pursuant to Article 40 and, where relevant, pursuant to Articles 41 and 42.

4. Cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves shall be used exclusively for frequency restoration reserves with manual activation, for frequency restoration reserves with automatic activation and for replacement reserves. The reliability margin calculated pursuant to Regulation (EU) 2015/1222 shall be used for operating and exchanging frequency containment reserves, except on Direct Current (‘DC’) interconnectors for which cross-zonal capacity for operating and exchanging frequency containment reserves may also be allocated in accordance with paragraph 1.

5. TSOs may allocate cross-zonal capacity for the exchange of balancing capacity or sharing of reserves only if cross-zonal capacity is calculated in accordance with the capacity calculation methodologies developed pursuant to Regulation (EU) 2015/1222 and (EU) 2016/1719.

6. TSOs shall include cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves as already allocated cross-zonal capacity in the calculations of cross-zonal capacity.

7. If physical transmission right holders use cross-zonal capacity for the exchange of balancing capacity, the capacity shall be considered as nominated solely for the purpose of excluding it from the application of the use-it-or-sell-it (‘UIOSI’) principle.

8. All TSOs exchanging balancing capacity or sharing of reserves shall regularly assess whether the cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves is still needed for that purpose. Where the allocation process based on economic efficiency analysis is applied, this assessment shall be done at least every year. When cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves is no longer needed, it shall be released as soon as possible and returned in the subsequent capacity allocation timeframes. Such cross-zonal capacity shall no longer be included as already allocated cross-zonal capacity in the calculations of cross-zonal capacity.

9. When cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves has not been used for the associated exchange of balancing energy, it shall be released for the exchange of balancing energy with shorter activation times or for operating the imbalance netting process.

*Article 39***Calculation of market value of cross-zonal capacity**

1. The market value of cross-zonal capacity for the exchange of energy and for the exchange of balancing capacity or sharing of reserves used in a co-optimised or market-based allocation process shall be based on the actual or forecasted market values of cross-zonal capacity.
2. The actual market value of cross-zonal capacity for the exchange of energy shall be calculated based on the bids of market participants in the day-ahead markets, and take into account, where relevant and possible, expected bids of market participants in the intraday markets.
3. The actual market value of cross-zonal capacity for the exchange of balancing capacity used in a co-optimised or a market-based allocation process shall be calculated based on balancing capacity bids submitted to the capacity procurement optimisation function pursuant to Article 33(3).
4. The actual market value of cross-zonal capacity for the sharing of reserves used in a co-optimised or a market-based allocation process shall be calculated based on the avoided costs of procuring balancing capacity.
5. The forecasted market value of cross-zonal capacity shall be based on one of the following alternative principles:
 - (a) the use of transparent market indicators that disclose the market value of cross-zonal capacity; or
 - (b) the use of a forecasting methodology enabling the accurate and reliable assessment of the market value of cross-zonal capacity.

The forecasted market value of cross-zonal capacity for the exchange of energy between bidding zones shall be calculated based on the expected differences in market prices of the day-ahead and, where relevant and possible, intraday markets between bidding zones. When calculating the forecasted market value, additional relevant factors influencing demand and generation patterns in the different bidding zones shall be taken duly into account.

6. The efficiency of the forecasting methodology pursuant to paragraph 5(b), including a comparison of the forecasted and actual market values of the cross-zonal capacity, may be reviewed by the relevant regulatory authorities. Where the contracting is done not more than two days in advance of the provision of the balancing capacity, the relevant regulatory authorities may, following this review, set a limit other than that specified in Article 41(2).

*Article 40***Co-optimised allocation process**

1. By two years after entry into force of this Regulation, all TSOs shall develop a proposal for a methodology for a co-optimised allocation process of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves. This methodology shall apply for the exchange of balancing capacity or sharing of reserves with a contracting period of not more than one day and where the contracting is done not more than one day in advance of the provision of the balancing capacity. The methodology shall include:
 - (a) the notification process for the use of the co-optimised allocation process;
 - (b) a detailed description of how cross-zonal capacity shall be allocated to bids for the exchange of energy and bids for the exchange of balancing capacity or sharing of reserves in a single optimisation process performed for both implicit and explicit auctions;
 - (c) a detailed description of the pricing method, the firmness regime and the sharing of congestion income for the cross-zonal capacity that has been allocated to bids for the exchange of balancing capacity or sharing of reserves via the co-optimised allocation process;
 - (d) the process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves.

2. This methodology shall be based on a comparison of the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves and the actual market value of cross-zonal capacity for the exchange of energy.
3. The pricing method, the firmness regime and the sharing of congestion income for the cross-zonal capacity that has been allocated to bids for the exchange of balancing capacity or sharing of reserves via the co-optimised allocation process shall ensure equal treatment with the cross-zonal capacity allocated to bids for the exchange of energy.
4. Cross-zonal capacity allocated to bids for the exchange of balancing capacity or sharing of reserves via the co-optimised allocation process shall be used only for the exchange of balancing capacity or sharing of reserves and associated exchange of balancing energy.

Article 41

Market-based allocation process

1. By two years after entry into force of this Regulation, all TSOs of a capacity calculation region may develop a proposal for a methodology for a market-based allocation process of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves. This methodology shall apply for the exchange of balancing capacity or sharing of reserves with a contracting period of not more than one day and where the contracting is done not more than one week in advance of the provision of the balancing capacity. The methodology shall include:
 - (a) the notification process for the use of the market-based allocation process;
 - (b) a detailed description of how to determine the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves, and the forecasted market value of cross-zonal capacity for the exchange of energy, and if applicable the actual market value of cross-zonal capacity for exchanges of energy and the forecasted market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves;
 - (c) a detailed description of the pricing method, the firmness regime and the sharing of congestion income for the cross-zonal capacity that has been allocated to bids for the exchange of balancing capacity or sharing of reserves via the market-based allocation process;
 - (d) the process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to paragraph 2.
2. Cross-zonal capacity allocated on a market-based process shall be limited to 10 % of the available capacity for the exchange of energy of the previous relevant calendar year between the respective bidding zones or, in case of new interconnectors, 10 % of the total installed technical capacity of those new interconnectors.

This volume limitation may not apply where the contracting is done not more than two days in advance of the provision of the balancing capacity or for bidding zone borders connected through DC interconnectors until the co-optimised allocation process is harmonised at Union level pursuant to Article 38(3).

3. This methodology shall be based on a comparison of the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves and the forecasted market value of cross-zonal capacity for the exchange of energy, or on a comparison of the forecasted market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves, and the actual market value of cross-zonal capacity for the exchange of energy.
4. The pricing method, the firmness regime and the sharing of congestion income for cross-zonal capacity that has been allocated for the exchange of balancing capacity or sharing of reserves via the market-based process shall ensure equal treatment with the cross-zonal capacity allocated for the exchange of energy.
5. Cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves via the market-based allocation process shall be used only for the exchange of balancing capacity or sharing of reserves and associated exchange of balancing energy.

*Article 42***Allocation process based on economic efficiency analysis**

1. By two years after entry into force of this Regulation, all TSOs of a capacity calculation region may develop a proposal for a methodology for the allocation of cross-zonal capacity based on an economic efficiency analysis. Such methodology shall apply for the exchange of balancing capacity or sharing of reserves with a contracting period of more than one day and where the contracting is done more than one week in advance of the provision of the balancing capacity. The methodology shall include:

- (a) the rules and principles for allocating cross-zonal capacity based on an economic efficiency analysis;
- (b) a detailed description of how to determine the forecasted market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves, and an assessment of the market value of cross-zonal capacity for the exchange of energy;
- (c) a detailed description of the pricing method, firmness regime and the sharing of congestion income for the cross-zonal capacity that has been allocated based on an economic efficiency analysis;
- (d) the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to paragraph 2.

2. The allocation of cross-zonal capacity based on an economic efficiency analysis shall be limited to 5 % of the available capacity for the exchange of energy of the previous relevant calendar year between the respective bidding zones or, in case of new interconnectors, 10 % of the total installed technical capacity of those new interconnectors. This volume limitation may not apply for bidding zone borders connected through DC interconnectors until the co-optimised or market-based allocation processes are harmonised at Union level pursuant to Article 38(3).

3. The methodology for the allocation of cross-zonal capacity based on an economic efficiency analysis shall be based on a comparison of the forecasted market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves, and the forecasted market value of cross-zonal capacity for the exchange of energy.

4. The pricing method, the firmness regime and the sharing of congestion income for the cross-zonal capacity that has been allocated for the exchange of balancing capacity or sharing of reserves based on an economic efficiency analysis shall ensure equal treatment with the cross-zonal capacity allocated for the exchange of energy.

5. TSOs referred to in paragraph 1 shall develop a proposal for a list of each individual allocation of cross-zonal capacity based on an economic efficiency analysis. Such list shall include:

- (a) the specification of the bidding zone border;
- (b) the volume of allocated cross-zonal capacity;
- (c) the period during which the cross-zonal capacity would be allocated for the exchange of balancing capacity or sharing of reserves;
- (d) the economic analysis justifying the efficiency of such allocation.

6. TSOs referred to in paragraph 1 shall reassess the value of the allocated cross-zonal capacity in the process of the procurement of balancing capacity and release the allocated cross-zonal capacity which is no longer beneficial for the exchange of balancing capacity or sharing of reserves.

*Article 43***Use of cross-zonal capacity by balancing service providers**

1. Balancing service providers which have a contract for balancing capacity with a TSO on the basis of a TSO-BSP model pursuant to Article 35 shall have the right to use cross-zonal capacity for the exchange of balancing capacity if they are holders of physical transmission rights.

2. Balancing service providers which use cross-zonal capacity for the exchange of balancing capacity on the basis of a TSO-BSP model pursuant to Article 35 shall nominate their physical transmission rights for the exchange of balancing capacity to the concerned TSOs. Such physical transmission rights shall provide the right to their holders to nominate the exchange of balancing energy to the concerned TSOs and shall therefore be excluded from the application of the UIOSI principle.

3. Cross-zonal capacity allocated for the exchange of balancing capacity in accordance with paragraph 2 shall be included as already allocated cross-zonal capacity in the calculations of cross-zonal capacity.

TITLE V

SETTLEMENT

CHAPTER 1

Settlement principles

Article 44

General principles

1. The settlement processes shall:
 - (a) establish adequate economic signals which reflect the imbalance situation;
 - (b) ensure that imbalances are settled at a price that reflects the real time value of energy;
 - (c) provide incentives to balance responsible parties to be in balance or help the system to restore its balance;
 - (d) facilitate harmonisation of imbalance settlement mechanisms;
 - (e) provide incentives to TSOs to fulfil their obligations pursuant to Article 127, Article 153, Article 157 and Article 160 of Regulation (EU) 2017/1485;
 - (f) avoid distorting incentives to balance responsible parties, balancing service providers and TSOs;
 - (g) support competition among market participants;
 - (h) provide incentives to balancing service providers to offer and deliver balancing services to the connecting TSO;
 - (i) ensure the financial neutrality of all TSOs.
2. Each relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC shall ensure that all TSOs under its competence do not incur economic gains or losses with regard to the financial outcome of the settlement pursuant to Chapters 2, 3 and 4 of this Title, over the regulatory period as defined by the relevant regulatory authority, and shall ensure that any positive or negative financial outcome as a result of the settlement pursuant to Chapters 2, 3 and 4 of this Title shall be passed on to network users in accordance with the applicable national rules.
3. Each TSO may develop a proposal for an additional settlement mechanism separate from the imbalance settlement, to settle the procurement costs of balancing capacity pursuant to Chapter 5 of this Title, administrative costs and other costs related to balancing. The additional settlement mechanism shall apply to balance responsible parties. This should be preferably achieved with the introduction of a shortage pricing function. If TSOs choose another mechanism, they should justify this in the proposal. Such a proposal shall be subject to approval by the relevant regulatory authority.
4. Each injection or withdrawal into or from a scheduling area of a TSO shall either be settled in accordance with Chapter 3 or Chapter 4 of Title V.

CHAPTER 2

Settlement of balancing energy

Article 45

Balancing energy calculation

1. As regards the settlement of balancing energy for at least the frequency restoration process and the reserve replacement process, each TSO shall establish a procedure for:
 - (a) the calculation of the activated volume of balancing energy based on requested or metered activation;
 - (b) claiming the recalculation of the activated volume of balancing energy.

2. Each TSO shall calculate the activated volume of balancing energy according to the procedures pursuant to paragraph 1(a) at least for:
 - (a) each imbalance settlement period;
 - (b) its imbalance areas;
 - (c) each direction, with a negative sign indicating relative withdrawal by the balancing service provider, and a positive sign indicating relative injection by the balancing service provider.
3. Each connecting TSO shall settle all activated volumes of balancing energy calculated pursuant to paragraph 2, with the concerned balancing service providers.

Article 46

Balancing energy for frequency containment process

1. Each connecting TSO may calculate and settle the activated volume of balancing energy for the frequency containment process with balancing service providers pursuant to paragraphs 1 and 2 of Article 45.
2. The price, be it positive, zero or negative, of the activated volume of balancing energy for the frequency containment process shall be defined for each direction as defined in Table 1:

Table 1

Payment for balancing energy

	Balancing energy price positive	Balancing energy price negative
Positive balancing energy	Payment from TSO to BSP	Payment from BSP to TSO
Negative balancing energy	Payment from BSP to TSO	Payment from TSO to BSP

Article 47

Balancing energy for frequency restoration process

1. Each connecting TSO shall calculate and settle the activated volume of balancing energy for the frequency restoration process with balancing service providers pursuant to paragraphs 1 and 2 of Article 45.
2. The price, be it positive, zero or negative, of the activated volume of balancing energy for the frequency restoration process shall be defined for each direction pursuant to Article 30 as defined in the Table 1.

Article 48

Balancing energy for reserve replacement process

1. Each connecting TSO shall calculate and settle the activated volume of balancing energy for the reserve replacement process with balancing service providers pursuant to paragraphs 1 and 2 of Article 45.
2. The price, be it positive, zero or negative, of the activated volume of balancing energy for reserve replacement process shall be defined for each direction pursuant to Article 30 as defined in the Table 1.

Article 49

Imbalance adjustment to the balance responsible party

1. Each TSO shall calculate an imbalance adjustment to be applied to the concerned balance responsible parties for each activated balancing energy bid.
2. For imbalance areas where several final positions for a single balance responsible party are calculated pursuant to Article 54(3), an imbalance adjustment may be calculated for each position.
3. For each imbalance adjustment, each TSO shall determine the activated volume of balancing energy calculated pursuant to Article 45 and any volume activated for purposes other than balancing.

CHAPTER 3

Settlement of the exchanges of energy between TSOs*Article 50***Intended exchanges of energy**

1. By one year after the entry into force of this Regulation, all TSOs shall develop a proposal for common settlement rules applicable to all intended exchanges of energy as a result of one or more of the following processes pursuant to Articles 146, 147 and 148 of Regulation (EU) 2017/1485, for each of the following:
 - (a) the reserve replacement process;
 - (b) the frequency restoration process with manual activation;
 - (c) the frequency restoration process with automatic activation;
 - (d) the imbalance netting process.
2. Each TSO-TSO settlement function shall perform the settlement in accordance with the settlement rules pursuant to paragraph 1.
3. By eighteen months after the entry into force of this Regulation, all TSOs intentionally exchanging energy within a synchronous area shall develop a proposal for common settlement rules applicable to intended exchanges of energy, as a result of one or both:
 - (a) the frequency containment process pursuant to Article 142 of Regulation (EU) 2017/1485;
 - (b) the ramping period pursuant to Article 136 of Regulation (EU) 2017/1485.
4. By eighteen months after the entry into force of this Regulation, all asynchronously connected TSOs intentionally exchanging energy between synchronous areas shall develop a proposal for common settlement rules applicable to intended exchanges of energy, as a result of one or both:
 - (a) frequency containment process for active power output on synchronous area level pursuant to Articles 172 and 173 of Regulation (EU) 2017/1485;
 - (b) ramping restrictions for active power output on synchronous area level pursuant to Article 137 of Regulation (EU) 2017/1485.
5. The common settlement rules in accordance with paragraph 1 shall at least contain the provisions that the intended exchange of energy is calculated on the basis of the following criteria:
 - (a) over periods agreed among relevant TSOs;
 - (b) per direction;
 - (c) as the integral of the calculated power interchange over the periods pursuant to paragraph 5 (a).
6. The common settlement rules of intended exchanges of energy in accordance with paragraphs 1(a), 1(b) and 1(c) shall take into account:
 - (a) all balancing energy prices established pursuant Article 30(1);
 - (b) the methodology for pricing of cross-zonal capacity used for the exchange of balancing energy pursuant Article 30(3).
7. The common settlement rules of intended exchanges of energy in accordance with paragraph 1(d) shall take into account the methodology for pricing of cross-zonal capacity used for operating the imbalance netting process pursuant Article 30(3).
8. All TSOs shall establish a coordinated mechanism for adjustments to settlements between all TSOs.

*Article 51***Unintended exchanges of energy**

1. By eighteen months after the entry into force of this Regulation, all TSOs of a synchronous area shall develop a proposal for common settlement rules applicable to all unintended exchanges of energy. The proposal shall include the following requirements:
 - (a) the price for unintended exchanges of energy withdrawn from the synchronous area shall reflect the prices for activated upward balancing energy for frequency restoration process or reserve replacement process for this synchronous area;

- (b) the price for unintended exchanges of energy injected into the synchronous area shall reflect the prices for activated downward balancing energy for frequency restoration process or reserve replacement process for this synchronous area.
- 2. By eighteen months after the entry into force of this Regulation, all asynchronously connected TSOs shall develop a proposal for common settlement rules applicable to all unintended exchanges of energy between asynchronously connected TSOs.
- 3. The proposals of common settlement rules of unintended exchanges of energy between TSOs shall ensure a fair and equal distribution of costs and benefits between them.
- 4. All TSOs shall establish a coordinated mechanism for adjustments to settlements between them.

CHAPTER 4

Imbalance settlement

Article 52

Imbalance settlement

- 1. Each TSO or, where relevant, third party shall settle within its scheduling area or scheduling areas when appropriate with each balance responsible party for each imbalance settlement period pursuant to Article 53 all calculated imbalances pursuant to Article 49 and Article 54 against the appropriate imbalance price calculated pursuant to Article 55.
- 2. By one year after entry into force of this Regulation, all TSOs shall develop a proposal to further specify and harmonise at least:
 - (a) the calculation of an imbalance adjustment pursuant to Article 49 and the calculation of a position, an imbalance and an allocated volume following one of the approaches pursuant to Article 54(3);
 - (b) the main components used for the calculation of the imbalance price for all imbalances pursuant to Article 55 including, where appropriate, the definition of the value of avoided activation of balancing energy from frequency restoration reserves or replacement reserves;
 - (c) the use of single imbalance pricing for all imbalances pursuant to Article 55, which defines a single price for positive imbalances and negative imbalances for each imbalance price area within an imbalance settlement period; and
 - (d) the definition of conditions and methodology for applying dual imbalance pricing for all imbalances pursuant to Article 55, which defines one price for positive imbalances and one price for negative imbalances for each imbalance price area within an imbalance settlement period, encompassing:
 - (i) conditions on when a TSO may propose to its relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC the application of dual pricing and which justification must be provided;
 - (ii) the methodology for applying dual pricing.
- 3. The proposal pursuant to paragraph 2 may distinguish between self-dispatching models and central dispatching models.
- 4. The proposal pursuant to paragraph 2 shall provide an implementation date no later than eighteen months after approval by all relevant regulatory authorities in accordance with Article 5(2).

Article 53

Imbalance settlement period

- 1. By three years after the entry into force of this Regulation, all TSOs shall apply the imbalance settlement period of 15 minutes in all scheduling areas while ensuring that all boundaries of market time unit shall coincide with boundaries of the imbalance settlement period.
- 2. The TSOs of a synchronous area may jointly request an exemption from the requirement laid down in paragraph 1.
- 3. Where the relevant regulatory authorities of a synchronous area grant an exemption from the requirement laid down in paragraph 1 upon a joint request of the TSOs in the concerned synchronous area or at their own initiative, they shall perform, in cooperation with the Agency and at least every three years, a cost-benefit analysis concerning the harmonisation of the imbalance settlement period within and between synchronous areas.

*Article 54***Imbalance calculation**

1. Each TSO shall calculate within its scheduling area or scheduling areas when appropriate the final position, the allocated volume, the imbalance adjustment and the imbalance:
 - (a) for each balance responsible party;
 - (b) for each imbalance settlement period;
 - (c) in each imbalance area.
2. The imbalance area shall be equal to the scheduling area, except in case of a central dispatching model where imbalance area may constitute a part of scheduling area.
3. Until the implementation of the proposal pursuant to Article 52(2), each TSO shall calculate the final position of a balance responsible party using one of the following approaches:
 - (a) balance responsible party has one single final position equal to the sum of its external commercial trade schedules and internal commercial trade schedules;
 - (b) balance responsible party has two final positions: the first is equal to the sum of its external commercial trade schedules and internal commercial trade schedules from generation, and the second is equal to the sum of its external commercial trade schedules and internal commercial trade schedules from consumption;
 - (c) in a central dispatching model, a balance responsible party can have several final positions per imbalance area equal to generation schedules of power generating facilities or consumption schedules of demand facilities.
4. Each TSO shall set up the rules for:
 - (a) the calculation of the final position;
 - (b) the determination of the allocated volume;
 - (c) the determination of the imbalance adjustment pursuant to Article 49;
 - (d) the calculation of the imbalance;
 - (e) claiming the recalculation of the imbalance by a balance responsible party.
5. Allocated volume shall not be calculated for a balance responsible party which does not cover injections or withdrawals.
6. An imbalance shall indicate the size and the direction of the settlement transaction between the balance responsible party and the TSO; an imbalance can have alternatively:
 - (a) a negative sign, indicating a balance responsible party's shortage;
 - (b) a positive sign, indicating a balance responsible party's surplus.

*Article 55***Imbalance price**

1. Each TSO shall set up rules to calculate the imbalance price, which can be positive, zero or negative, as defined in Table 2:

*Table 2***Payment for imbalance**

	Imbalance price positive	Imbalance price negative
Positive imbalance	Payment from TSO to BRP	Payment from BRP to TSO
Negative imbalance	Payment from BRP to TSO	Payment from TSO to BRP

2. The rules pursuant to paragraph 1 shall include a definition of the value of avoided activation of balancing energy from frequency restoration reserves or replacement reserves.
3. Each TSO shall determine the imbalance price for:
 - (a) each imbalance settlement period;
 - (b) its imbalance price areas;
 - (c) each imbalance direction.
4. The imbalance price for negative imbalance shall not be less than, alternatively:
 - (a) the weighted average price for positive activated balancing energy from frequency restoration reserves and replacement reserves;
 - (b) in the event that no activation of balancing energy in either direction has occurred during the imbalance settlement period, the value of the avoided activation of balancing energy from frequency restoration reserves or replacement reserves.
5. The imbalance price for positive imbalance shall not be greater than, alternatively:
 - (a) the weighted average price for negative activated balancing energy from frequency restoration reserves and replacement reserves;
 - (b) in the event that no activation of balancing energy in either direction has occurred during the imbalance settlement period, the value of the avoided activation of balancing energy from frequency restoration reserves or replacement reserves.
6. In the event that both positive and negative balancing energy from frequency restoration reserves or replacement reserves have been activated during the same imbalance settlement period, the imbalance settlement price shall be determined for positive imbalance and negative imbalance based on at least one of the principles pursuant to paragraphs 4 and 5.

CHAPTER 5

Settlement of balancing capacity

Article 56

Procurement within a scheduling area

1. Each TSO of a scheduling area using balancing capacity bids shall establish rules for the settlement of at least frequency restoration reserves and replacement reserves pursuant to the requirements set out in Article 32.
2. Each TSO of a scheduling area using balancing capacity bids shall settle at least all procured frequency restoration reserves and replacement reserves pursuant to the requirements set out in Article 32.

Article 57

Procurement outside a scheduling area

1. All TSOs exchanging balancing capacity shall establish rules for the settlement of procured balancing capacity pursuant to Article 33 and Article 35.
2. All TSOs exchanging balancing capacity shall jointly settle procured balancing capacity using the TSO-TSO settlement function pursuant to Article 33. TSOs exchanging balancing capacity based on a TSO-BSP model shall settle procured balancing capacity pursuant to Article 35.
3. All TSOs exchanging balancing capacity shall establish rules for the settlement of allocation of cross-zonal capacity pursuant to Chapter 2 of Title IV.
4. All TSOs exchanging balancing capacity shall settle the allocated cross-zonal capacity pursuant to Chapter 2 of Title IV.

TITLE VI

ALGORITHM*Article 58***Balancing algorithms**

1. In the proposals pursuant to Articles 19, 20 and 21, all TSOs shall develop algorithms to be operated by the activation optimisation functions for the activation of balancing energy bids. Those algorithms shall:
 - (a) respect the activation method of balancing energy bids pursuant to Article 29;
 - (b) respect the pricing method for balancing energy pursuant to Article 30;
 - (c) take into account the process descriptions for imbalance netting and cross-border activation pursuant to Part IV Title III of Regulation (EU) 2017/1485.
2. In the proposal pursuant to Article 22, all TSOs shall develop an algorithm to be operated by the imbalance netting process function. This algorithm shall minimise the counter activation of balancing resources by performing the imbalance netting process pursuant to Part IV of Regulation (EU) 2017/1485.
3. In the proposal pursuant to Article 33, two or more TSOs exchanging balancing capacity shall develop algorithms to be operated by the capacity procurement optimisation functions for the procurement of balancing capacity bids. Those algorithms shall:
 - (a) minimise the overall procurement costs of all jointly procured balancing capacity;
 - (b) if applicable, take into account the availability of cross-zonal capacity including possible costs for its provision.
4. All algorithms developed in accordance with this Article shall:
 - (a) respect operational security constraints;
 - (b) take into account technical and network constraints;
 - (c) if applicable, take into account the available cross-zonal capacity.

TITLE VII

REPORTING*Article 59***European report on integration of balancing markets**

1. ENTSO-E shall publish a European report focusing on monitoring, describing and analysing the implementation of this Regulation, as well as reporting on the progress made concerning the integration of balancing markets in Europe, respecting the confidentiality of information in accordance with Article 11.
2. The format of the report shall vary as follow:
 - (a) two years after entry into force of this Regulation and subsequently every second year a detailed report shall be published;
 - (b) three years after entry into force of this Regulation and subsequently every second year a shorter version of the report shall be published to review the progress made and update the performance indicators.
3. The report pursuant to paragraph 2(a) shall:
 - (a) describe and analyse the harmonisation and integration process as well as the progress made in terms of harmonisation and integration of balancing markets through the application of this Regulation;
 - (b) describe the status of implementation projects pursuant to this Regulation;
 - (c) assess the compatibility between the implementation projects and investigate any possible developments that pose a risk for future integration;
 - (d) analyse the development of the exchanges of balancing capacity and the sharing of reserves and describe possible barriers, prerequisites and actions to further enhance the exchange of balancing capacity and the sharing of reserves;

- (e) describe the existing and analyse the potential exchanges of balancing services;
 - (f) analyse the suitability of standard products with respect to the latest development and evolution of different balancing resources and propose possible improvements of standard products;
 - (g) assess the need for further harmonisation of standard products and possible effects of non-harmonisation on integration of balancing markets;
 - (h) assess the existence and justifications for specific products used by TSOs and their effect on the integration of balancing markets;
 - (i) assess the progress of harmonisation of the main features of imbalance settlement as well as the consequences and possible distortions due to non-harmonisation;
 - (j) report the results of the cost-benefit analyses pursuant to Article 61.
4. ENTSO-E shall set up performance indicators for balancing markets that will be used in the reports. These performance indicators shall reflect:
- (a) the availability of balancing energy bids, including the bids from balancing capacity;
 - (b) the monetary gains and savings due to imbalance netting, exchange of balancing services and sharing of reserves;
 - (c) the benefits from the use of standard products;
 - (d) the total cost of balancing;
 - (e) the economic efficiency and reliability of the balancing markets;
 - (f) the possible inefficiencies and distortions on balancing markets;
 - (g) the efficiency losses due to specific products;
 - (h) the volume and price of balancing energy used for balancing purposes, both available and activated, from standard products and from specific products;
 - (i) the imbalance prices and the system imbalances;
 - (j) the evolution of balancing service prices of the previous years;
 - (k) the comparison of expected and realised costs and benefits from all allocations of cross-zonal capacity for balancing purposes.
5. Before the submission of the final report, ENTSO-E shall prepare a proposal for a draft report. This proposal shall define the structure of the report, the content and performance indicators that will be used in the report. The proposal shall be delivered to the Agency which shall be entitled to require amendments within two months after the submission of the proposal.
6. The report pursuant to paragraph 2(a) shall also contain an executive summary in English of each TSO report on balancing pursuant to Article 60.
7. The reports shall provide disaggregated information and indicators for each scheduling area, each bidding zone border, or each LFC block.
8. ENTSO-E shall publish the reports on internet and submit it to the Agency no later than six months after the end of the year it refers to.
9. After the deadlines by which all TSOs shall use the European platforms pursuant to Articles 19(5), 20(6), 21(6) and 22(5), all TSOs shall review the content and conditions of publication of the reports. Based on the outcome of that review, ENTSO-E shall develop a proposal for a new structure and timing for the publication of the reports and submit it to the Agency. The Agency shall be entitled to require amendments within three months after the submission of the proposal.

Article 60

TSO report on balancing

1. At least once every two years, each TSO shall publish a report on balancing covering the previous two calendar years, respecting the confidentiality of information in accordance with Article 11.

2. The report on balancing shall:
 - (a) include information concerning the volumes of available, procured and used specific products, as well as justification of specific products subject to conditions pursuant to Article 26;
 - (b) provide the summary analysis of the dimensioning of reserve capacity including the justification and explanation for the calculated reserve capacity requirements;
 - (c) provide the summary analysis of the optimal provision of reserve capacity including the justification of the volume of balancing capacity;
 - (d) analyse the costs and benefits, and the possible inefficiencies and distortions of having specific products in terms of competition and market fragmentation, participation of demand response and renewable energy sources, integration of balancing markets and side-effects on other electricity markets;
 - (e) analyse the opportunities for the exchange of balancing capacity and sharing of reserves;
 - (f) provide an explanation and a justification for the procurement of balancing capacity without the exchange of balancing capacity or sharing of reserves;
 - (g) analyse the efficiency of the activation optimisation functions for the balancing energy from frequency restoration reserves and, if applicable, for the balancing energy from replacement reserves.
3. The report on balancing shall either be in English or at least contain an executive summary in English.
4. Based on previously published reports, the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC shall be entitled to require changes to the structure and content of the next TSO report on balancing.

TITLE VIII

COST-BENEFIT ANALYSIS

Article 61

Cost-benefit analysis

1. When TSOs are required to carry out a cost-benefit analysis pursuant to this Regulation, they shall establish the criteria and methodology for the cost-benefit analysis and submit them to the relevant regulatory authorities in accordance with Article 37 of Directive 2009/72/EC by six months before the start of the cost-benefit analysis. The relevant regulatory authorities shall be entitled to jointly require amendments to the criteria and methodology.
2. The cost-benefit analysis shall at least take into account:
 - (a) the technical feasibility;
 - (b) the economic efficiency;
 - (c) the impact on competition and integration of balancing markets;
 - (d) the costs and benefits of implementation;
 - (e) the impact on European and national balancing costs;
 - (f) the potential impact on European electricity market prices;
 - (g) the ability of TSOs and balancing responsible parties to fulfil their obligations;
 - (h) the impact on market parties in terms of additional technical or IT requirements assessed in cooperation with the affected stakeholders.
3. All concerned TSOs shall provide the results of the cost-benefit analysis to all relevant regulatory authorities, together with a justified proposal on how to address possible issues identified by the cost-benefit analysis.

TITLE IX

DEROGATIONS AND MONITORING*Article 62***Derogations**

1. A regulatory authority in accordance with Article 37 of Directive 2009/72/EC may, at the request of a TSO or at its own initiative, grant the relevant TSOs a derogation from one or more provisions of this Regulation in accordance with paragraphs 2 to 12.
2. A TSO may request a derogation from the following requirements:
 - (a) the deadlines by which a TSO shall use the European platforms pursuant to Articles 19(5), 20(6), 21(6) and 22(5);
 - (b) the definition of the integrated scheduling process gate closure time in a central dispatching model pursuant to Article 24(5) and the possibility to change the integrated scheduling process bids pursuant to Article 24(6);
 - (c) the maximum volume of cross-zonal capacity allocated on a market-based process pursuant to Article 41(2) or a process based on an economic efficiency analysis pursuant to Article 42(2);
 - (d) the harmonisation of the imbalance settlement period in Article 53(1);
 - (e) the implementation of the requirements pursuant to Articles 45, 46, 47, 48, 49, 50, 51, 54, 55, 56 and 57.
3. The derogation process shall be transparent, non-discriminatory, non-biased, well documented and based on a reasoned request.
4. TSOs shall file a written request for derogation to the relevant regulatory authority at the latest six months prior to the day of application of the provisions from which the derogation is requested.
5. The request for derogation shall include the following information:
 - (a) the provisions from which a derogation is requested;
 - (b) the requested derogation period;
 - (c) a detailed plan and timeline specifying how to address and ensure the implementation of the concerned provisions of this Regulation after expiration of the derogation period;
 - (d) an assessment of the consequences of requested derogation on adjacent markets;
 - (e) an assessment of the possible risks for the integration of balancing markets across Europe caused by the requested derogation.
6. The relevant regulatory authority shall adopt a decision concerning any request for derogation within six months from the day after it receives the request. That time limit may be extended by three months before its expiry where the relevant regulatory authority requires further information from the TSO requesting the derogation. The additional period shall begin when the complete information has been received.
7. The TSO requesting the derogation shall submit any additional information requested by the relevant regulatory authority within two months of such request. If the TSO does not supply the requested information within that time limit, the request for a derogation shall be deemed withdrawn unless, before its expiry, alternatively:
 - (a) the relevant regulatory authority decides to provide an extension;
 - (b) the TSO informs the relevant regulatory authority by means of a reasoned submission that the request for a derogation is complete.
8. When assessing the request for derogation or before granting a derogation at its own initiative, the relevant regulatory authority shall consider the following aspects:
 - (a) the difficulties related to the implementation of the concerned provision or provisions;
 - (b) the risks and the implications of the concerned provision or provisions, in terms of operational security;
 - (c) the actions taken to facilitate the implementation of the concerned provision or provisions;
 - (d) the impacts of non-implementation of the concerned provision or provisions, in terms of non-discrimination and competition with other European market participants, in particular as regards demand response and renewable energy sources;

- (e) the impacts on overall economic efficiency and smart grid infrastructure;
 - (f) the impacts on other scheduling areas and overall consequences on the European market integration process.
9. The relevant regulatory authority shall issue a reasoned decision concerning a request for a derogation or a derogation granted at its own initiative. Where the relevant regulatory authority grants a derogation, it shall specify its duration. The derogation may be granted only once and for a maximum period of two years, except for the derogations in paragraphs 2(c) and 2(d) which may be granted until 1 January 2025.
10. The relevant regulatory authority shall notify its decision to the TSO, the Agency and the European Commission. The decision shall also be published on its website.
11. The relevant regulatory authorities shall maintain a register of all derogations they have granted or refused and shall provide the Agency with an updated and consolidated register at least once every six months, a copy of which shall be given to ENTSO-E.
12. The register shall contain, in particular:
- (a) the provisions from which the derogation is granted or refused;
 - (b) the content of the derogation;
 - (c) the reasons for granting or refusing the derogation;
 - (d) the consequences resulting from granting the derogation.

Article 63

Monitoring

1. ENTSO-E shall monitor the implementation of this Regulation in accordance with Article 8(8) of Regulation (EC) No 714/2009. Monitoring of the implementation of this Regulation by ENTSO-E shall cover at least the following matters:
- (a) preparation of the European report on integration of balancing market pursuant to Article 59;
 - (b) preparation of a report on monitoring of the implementation of this Regulation including the effect on the harmonisation of applicable rules aimed at facilitating market integration.
2. ENTSO-E shall submit a monitoring plan on the reports to be prepared and any updates, to the Agency for an opinion by six months after entry into force of this Regulation.
3. The Agency, in cooperation with ENTSO-E, shall draw up by 12 months after the entry into force of this Regulation a list of the relevant information to be communicated by ENTSO-E to the Agency in accordance with Article 8(9) and 9(1) of Regulation (EC) No 714/2009. The list of relevant information may be subject to updates. ENTSO-E shall maintain a comprehensive, standardised format, digital data archive of the information required by the Agency.
4. All TSOs shall submit to ENTSO-E the information required to perform the tasks in accordance with paragraphs 1 and 3.
5. Market participants and other relevant organisations for the integration of electricity balancing markets shall, at the joint request of the Agency and ENTSO-E, submit to ENTSO-E the information required for monitoring in accordance with paragraphs 1 and 3, except for information already obtained by the relevant regulatory authorities in accordance with Article 37 of Directive 2009/72/EC, the Agency or ENTSO-E in the context of their respective implementation monitoring tasks.

TITLE X

TRANSITIONAL AND FINAL PROVISIONS

Article 64

Transitional provisions for Ireland and Northern Ireland

Except for the participation in the development of terms and conditions or methodologies, for which the respective deadlines shall apply, the requirements of this Regulation shall apply in Ireland and Northern Ireland from 31 December 2019.

*Article 65***Entry into force**

1. This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.
2. For Articles 14, 16, 17, 28, 32, 34 to 36, 44 to 49, and 54 to 57, this Regulation shall apply from one year after entry into force of this Regulation.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 23 November 2017.

For the Commission
The President
Jean-Claude JUNCKER

COMMISSION REGULATION (EU) 2017/2196
of 24 November 2017
establishing a network code on electricity emergency and restoration
(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to 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-border exchanges in electricity and repealing Regulation (EC) No 1228/2003 ⁽¹⁾, and in particular Article 6(11) thereof,

Whereas:

- (1) A fully functioning and interconnected internal energy market is crucial for maintaining security of energy supply, increasing competitiveness and ensuring that all consumers can purchase energy at affordable prices.
- (2) Regulation (EC) No 714/2009 sets out non-discriminatory rules governing access to the network for cross-border exchanges in electricity with a view to ensuring the proper functioning of the internal market in electricity.
- (3) Commission Regulation (EU) 2017/1485 ⁽²⁾ sets out harmonised rules on system operation for transmission system operators ('TSOs'), regional security coordinators ('RSCs'), distribution system operators ('DSOs') and significant grid users ('SGUs'). It identifies different critical system states (normal state, alert state, emergency state, blackout state and restoration). It also includes requirements and principles to ensure the conditions for maintaining operational security throughout the Union and promote the coordination of system operation, requirements and principles for operational planning and scheduling processes required to anticipate real-time operational security difficulties and requirements and principles for Union-wide load frequency control and reserves.
- (4) A common set of minimum requirements and principles needs to be developed for the procedures and actions to be carried out specifically when in the emergency, blackout and restoration states.
- (5) Even though each TSO is responsible for maintaining operational security in its control area, the secure and efficient operation of the Union's electricity system is a task shared between all the Union TSOs since all national systems are, to a certain extent, interconnected and a fault in one control area could affect other areas. The efficient operation of the Union's electricity system also requires a close collaboration and coordination between stakeholders.
- (6) It is therefore necessary to set out harmonised requirements concerning technical and organisational measures in order to prevent the propagation or deterioration of an incident in the national system and to avoid the spread of the disturbance and blackout state to other systems. It is also necessary to set out harmonised procedures that TSOs should implement in order to restore the alert or normal state after the spread of the disturbance or blackout state.
- (7) Each TSO should establish a system defence plan and a restoration plan, through a three steps approach: a design phase, consisting of defining the detailed content of the plan; an implementation phase, consisting in the development and installation of all necessary means and services for the activation of the plan; and an activation phase, consisting of operational use of one or more measure(s) from the plan.
- (8) The harmonisation of the requirements for the establishment by TSOs of their respective system defence plan and restoration plan should ensure the overall efficiency of those plans at Union level.

⁽¹⁾ OJ L 211, 14.8.2009, p. 15.

⁽²⁾ Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (OJ L 220, 25.8.2017, p. 1).

- (9) TSOs should ensure the continuity of energy transactions during emergency, blackout or restoration state and only suspend market activities and market's accompanying processes as a last resort. Clear, objective and harmonised conditions under which energy transactions could be suspended and subsequently restored should be established.
- (10) Each TSO should support any other TSO in emergency, blackout or restoration state, upon request, where such support does not lead the system of the requested TSO into emergency or blackout state.
- (11) In Member States where public communication systems are used, TSOs, DSOs, SGUs and restoration service providers should endeavour to obtain telecommunication priority status from their respective telecommunication provider.
- (12) On 20 July 2015, the Agency for the Cooperation of Energy Regulators ('the Agency') recommended the adoption by the Commission of the Network Code on Electricity Balancing, subject to the requirements contained in the recommendation of the Agency No 3/2015.
- (13) In addition to the general provisions of Regulation (EU) 2017/1485, specific requirements are needed to guarantee the information exchange and communication during the emergency, blackout or restoration states, as well as the availability of critical tools and facilities necessary to operate and restore the system.
- (14) This Regulation has been adopted on the basis of Regulation (EC) No 714/2009 which it supplements and of which it forms an integral part. References to Regulation (EC) No 714/2009 in other legal acts should be understood as also referring to this Regulation.
- (15) The measures provided for in this Regulation are in accordance with the opinion of the Committee referred to in Article 23(1) of Regulation (EC) No 714/2009,

HAS ADOPTED THIS REGULATION:

CHAPTER I

GENERAL PROVISIONS

Article 1

Subject matter

For the purposes of safeguarding operational security, preventing the propagation or deterioration of an incident to avoid a widespread disturbance and the blackout state as well to allow for the efficient and rapid restoration of the electricity system from the emergency or blackout states, this Regulation establishes a network code which lays down the requirements on:

- (a) the management by TSOs of the emergency, blackout and restoration states;
- (b) the coordination of system operation across the Union in the emergency, blackout and restoration states;
- (c) the simulations and tests to guarantee a reliable, efficient and fast restoration of the interconnected transmission systems to the normal state from the emergency or blackout states;
- (d) the tools and facilities needed to guarantee a reliable, efficient and fast restoration of the interconnected transmission systems to the normal state from the emergency or blackout states.

Article 2

Scope

1. This Regulation shall apply to TSOs, DSOs, SGUs, defence service providers, restoration service providers, balance responsible parties, balancing service providers, nominated electricity market operators ('NEMO') and other entities designated to execute market functions pursuant to Commission Regulation (EU) 2015/1222 ⁽¹⁾ and to Commission Regulation (EU) 2016/1719 ⁽²⁾.

2. In particular, this Regulation shall apply to the following SGUs:

- (a) existing and new power generating modules classified as type C and D in accordance with the criteria set out in Article 5 of Commission Regulation (EU) 2016/631 ⁽³⁾;

⁽¹⁾ Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (OJ L 197, 25.7.2015, p. 24).

⁽²⁾ Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation (OJ L 259, 27.9.2016, p. 42).

⁽³⁾ Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators (OJ L 112, 27.4.2016, p. 1).

- (b) existing and new power generating modules classified as type B in accordance with the criteria set out in Article 5 of Regulation (EU) 2016/631, where they are identified as SGUs in accordance with Article 11(4) and Article 23(4);
- (c) existing and new transmission-connected demand facilities;
- (d) existing and new transmission connected closed distribution systems;
- (e) providers of redispatching of power generating modules or demand facilities by means of aggregation and providers of active power reserve in accordance with Title 8 of Regulation (EU) 2017/1485; and
- (f) existing and new high voltage direct current ('HVDC') systems and direct current-connected power park modules in accordance with the criteria set out in Article 4(1) of Commission Regulation (EU) 2016/1447 ⁽¹⁾.

3. This Regulation shall apply to existing and new type A power generating modules, in accordance with the criteria set out in Article 5 of Regulation (EU) 2016/631, to existing and new type B power generating modules other than those referred to in paragraph 2(b), as well as to existing and new demand facilities, closed distribution systems and third parties providing demand response where they qualify as defence service providers or restoration service providers pursuant to Article 4(4).

4. Type A and type B power generating modules referred to in paragraph 3, demand facilities and closed distribution systems providing demand response may fulfil the requirements of this Regulation either directly or indirectly through a third party, under the terms and conditions set in accordance with Article 4(4).

5. This Regulation shall apply to energy storage units of a SGU, a defence service provider or a restoration service provider, which can be used to balance the system, provided that they are identified as such in the system defence plans, restoration plans or in the relevant service contract.

6. This Regulation shall apply to all transmission systems, distribution systems and interconnections in the Union except transmission systems and distribution systems or parts of the transmission systems and distribution systems of islands of Member States of which the systems are not operated synchronously with Continental Europe, Great Britain, Nordic, Ireland and Northern Ireland or Baltic synchronous area, provided that this non-synchronous operation does not result from a disturbance.

7. In Member States where more than one transmission system operator exists, this Regulation shall apply to all transmission system operators within that Member State. Where a transmission system operator does not have a function relevant to one or more obligations under this Regulation, Member States may provide that the responsibility for complying with those obligations is assigned to one or more different, specific transmission system operators.

8. The TSOs of Lithuania, Latvia and Estonia are, as long as and to the extent that they are operating in a synchronous mode in a synchronous area where not all countries are bound by Union legislation, exempted from the application of Articles 15, 29 and 33, unless otherwise provided for in a cooperation agreement with third country TSOs constituting the basis for their cooperation concerning secure system operation in accordance with Article 10.

Article 3

Definitions

For the purposes of this Regulation, the definitions provided for in Article 2 of Directive 2009/72/EC of the European Parliament and of the Council ⁽²⁾, Article 2 of Regulation (EC) No 714/2009, Article 2 of Commission Regulation (EU) No 543/2013 ⁽³⁾, Article 2 of Regulation (EU) 2015/1222, Article 2 of Regulation (EU) 2016/631, Article 2 of Commission Regulation (EU) 2016/1388 ⁽⁴⁾, Article 2 of Regulation (EU) 2016/1447 Article 2 of Regulation (EU) 2016/1719, and Article 2 of Regulation (EU) 2017/1485 shall apply.

⁽¹⁾ Commission Regulation (EU) 2016/1447 of 26 August 2016 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules (OJ L 241, 8.9.2016, p. 1).

⁽²⁾ Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (OJ L 211, 14.8.2009, p. 55).

⁽³⁾ Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and of the Council (OJ L 163, 15.6.2013, p. 1).

⁽⁴⁾ Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a network code on demand connection (OJ L 223, 18.8.2016, p. 10).

In addition, the following definitions shall apply:

- (1) 'defence service provider' means a legal entity with a legal or contractual obligation to provide a service contributing to one or several measures of the system defence plan;
- (2) 'restoration service provider' means a legal entity with a legal or contractual obligation to provide a service contributing to one or several measures of the restoration plan;
- (3) 'high priority significant grid user' means the significant grid user for which special conditions apply for disconnection and re-energisation;
- (4) 'netted demand' means the netted value of active power seen from a given point of the system, computed as (load — generation), generally expressed in kilowatts (kW) or megawatts (MW), at a given instant or averaged over any designated interval of time;
- (5) 'restoration plan' means all technical and organisational measures necessary for the restoration of the system back to normal state;
- (6) 're-energisation' means reconnecting generation and load to energise the parts of the system that have been disconnected;
- (7) 'top-down re-energisation strategy' means a strategy that requires the assistance of other TSOs to re-energise parts of the system of a TSO;
- (8) 'bottom-up re-energisation strategy' means a strategy where part of the system of a TSO can be re-energised without the assistance from other TSOs;
- (9) 'resynchronisation' means synchronising and connecting again two synchronised regions at the resynchronisation point;
- (10) 'frequency leader' means the TSO appointed and responsible for managing the system frequency within a synchronised region or a synchronous area in order to restore system frequency back to the nominal frequency;
- (11) 'synchronised region' means the fraction of a synchronous area covered by interconnected TSOs with a common system frequency and which is not synchronised with the rest of the synchronous area;
- (12) 'resynchronisation leader' means the TSO appointed and responsible for the resynchronisation of two synchronised regions;
- (13) 'resynchronisation point' means the device used to connect two synchronised regions, usually a circuit breaker.

Article 4

Regulatory aspects

1. When applying this Regulation, Member States, regulatory authorities, competent entities and system operators shall:

- (a) apply the principles of proportionality and non-discrimination;
- (b) ensure transparency;
- (c) apply the principle of optimisation between the highest overall efficiency and lowest total costs for all parties involved;
- (d) ensure that TSOs make use of market-based mechanisms as far as is possible to ensure network security and stability;
- (e) respect technical, legal, personal safety and security constraints;
- (f) respect the responsibility assigned to the relevant TSO in order to ensure system security, including as required by national legislation;
- (g) consult with relevant DSOs and take account of potential impacts on their system; and
- (h) take into consideration agreed European standards and technical specifications.

2. Each TSO shall submit the following proposals to the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC for approval:

- (a) the terms and conditions to act as defence service providers on a contractual basis in accordance with paragraph 4;

- (b) the terms and conditions to act as restoration service providers on a contractual basis in accordance with paragraph 4;
- (c) the list of SGUs responsible for implementing on their installations the measures that result from mandatory requirements set out in Regulations (EU) 2016/631, (EU) 2016/1388 and (EU) 2016/1447 and/or from national legislation and the list of the measures to be implemented by these SGUs, identified by the TSOs under Art. 11(4)(c) and 23(4)(c);
- (d) the list of high priority significant grid users referred to in Articles 11(4)(d) and 23(4)(d) or the principles applied to define those and the terms and conditions for disconnecting and re-energising the high priority grid users, unless defined by the national legislation of Member States.
- (e) the rules for suspension and restoration of market activities in accordance with Article 36(1);
- (f) specific rules for imbalance settlement and settlement of balancing energy in case of suspension of market activities, in accordance with Article 39(1);
- (g) the test plan in accordance with Article 43(2).

3. Where a Member State has so provided, the proposals referred to in points (a) to (d) and (g) of paragraph 2 may be submitted for approval to an entity other than the regulatory authority. Regulatory authorities and entities designated by the Member States pursuant to this paragraph shall decide on the proposals referred to in paragraph 2 within six months from the date of submission by the TSO.

4. The terms and conditions to act as defence service provider and as restoration service provider shall be established either in the national legal framework or on a contractual basis. If established on a contractual basis, each TSO shall develop by 18 December 2018 a proposal for the relevant terms and conditions, which shall define at least:

- (a) the characteristics of the service to be provided;
- (b) the possibility of and conditions for aggregation; and
- (c) for restoration service providers, the target geographical distribution of power sources with black start and island operation capabilities.

5. By 18 December 2018, each TSO shall notify the regulatory authority or the entity designated by the Member State the system defence plan designed pursuant to Article 11 and the restoration plan designed pursuant to Article 23, or at least the following elements of those plans:

- (a) the objectives of the system defence plan and the restoration plan, including the phenomena to be managed or the situations to be solved;
- (b) the conditions triggering the activation of the measures of the system defence plan and the restoration plan;
- (c) the rationale of each measure, explaining how it contributes to the objectives of the system defence plan and the restoration plan, and the party responsible for implementing those measures; and
- (d) the deadlines set out pursuant to Articles 11 and 23 for the implementation of the measures.

6. Where a TSO is required or permitted under this Regulation to specify, establish or agree on requirements, terms and conditions or methodologies that are not subject to approval in accordance with paragraph 2, Member States may require prior approval by the regulatory authority, the entity designated by the Member State or other competent authorities of the Member States of these requirements, terms and conditions or methodologies.

7. If a TSO deems an amendment to the documents, approved in accordance with paragraph 3, to be necessary, the requirements provided for in paragraphs 2 to 5 shall apply to the proposed amendment. TSOs proposing an amendment shall take into account the legitimate expectations, where necessary, of power generating facility owners, demand facility owners and other stakeholders based on the initially specified or agreed requirements or methodologies.

8. Any party can complain against a relevant system operator or TSO in relation to that relevant system operator's or TSO's obligations or decisions under this Regulation and may refer the complaint to the regulatory authority which, acting as dispute settlement authority, shall issue a decision within two months after receipt of the complaint. That period may be extended by a further two months where additional information is sought by the regulatory authority. That extended period may be further extended with the agreement of the complainant. The regulatory authority's decision shall be binding unless and until overruled on appeal.

*Article 5***Consultation and coordination**

1. Where this Regulation provides that a TSO shall consult concerned parties for actions it defines before real-time or in real-time, the following procedure shall apply:

- (a) the TSO shall liaise with at least the parties identified in the Articles of this Regulation requiring consultation;
- (b) the TSO shall explain the rationale and objective of the consultation and of the decision that it has to take;
- (c) the TSO shall collect from the parties referred to in point (a) any relevant information and their assessment;
- (d) the TSO shall duly take into account the views, situations and constraints of the parties consulted;
- (e) before taking a decision, the TSO shall provide an explanation to the parties consulted of the reasons for following or not their views.

2. Where this Regulation provides that a TSO shall coordinate the execution of a set of actions in real-time with several parties, the following procedure shall apply:

- (a) the TSO shall liaise at least with the parties identified in the Articles of this Regulation requiring real time coordination;
- (b) the TSO shall explain the rationale and objective of the coordination and of the actions to be taken;
- (c) the TSO shall make an initial proposal on actions to be taken by each party;
- (d) the TSO shall collect from the parties referred to in point (a) any relevant information and their assessment;
- (e) the TSO shall make a final proposal on actions to be taken by each party, duly taking into account the views, situations and constraints of the concerned parties and setting a deadline for parties to express their opposition to the actions proposed by the TSO;
- (f) where the concerned parties do not oppose executing the actions proposed by the TSO, each party, including the TSO, shall execute the actions in line with the proposal;
- (g) where one or more of the parties refuse the action proposed by the TSO within the set deadline, the TSO shall refer the action proposed to the relevant authority for decision, together with a justification of the rationale and objectives of the action proposed by the TSO and of the assessment and position of the parties;
- (h) if real-time referral to the relevant authority is not possible, the TSO shall initiate an equivalent action that has the least or no impact on the parties that refused to execute the action proposed.

3. A party may refuse to execute real time actions proposed by the TSO under the coordination procedure described in paragraph 2 if it justifies that the proposed action would lead to the violation of one or more technical, legal, personal safety or security constraint(s).

*Article 6***Regional coordination**

1. When designing its system defence plan pursuant to Article 11 and its restoration plan pursuant to Article 23 or when reviewing its system defence plan pursuant to Article 50 and its restoration plan pursuant to Article 51, each TSO shall ensure the consistency with the corresponding measures in the plans of TSOs within its synchronous area and in the plans of neighbouring TSOs belonging to another synchronous area of at least the following measures:

- (a) inter-TSO assistance and coordination in emergency state, pursuant to Article 14;
- (b) frequency management procedures, pursuant to Article 18 and Article 28, excluding the establishment of target frequency in case of bottom-up re-energisation strategy before any resynchronisation to the interconnected transmission system;
- (c) assistance for active power procedure, pursuant to Article 21;
- (d) top-down re-energisation strategy, pursuant to Article 27.

2. The consistency assessment of the system defence plan and the restoration plan in accordance with paragraph 1 shall include the following tasks:
 - (a) exchange of information and data related to the measures referred to in paragraph 1 among the TSOs concerned;
 - (b) identification of incompatibilities of measures referred to in paragraph 1, in the plans of the involved TSOs;
 - (c) identification of potential threats to operational security in the capacity calculation region. These threats include, inter alia, regional common mode failures with significant impact on the transmission systems of the involved TSOs;
 - (d) assessment of the effectiveness of measures referred to in paragraph 1 specified in the system defence plans and the restoration plans of the involved TSOs, to manage the potential threats referred to in point (c);
 - (e) consultation with RSCs to assess the consistency of measures referred to in paragraph 1 within the entire concerned synchronous area;
 - (f) identification of mitigation actions in case of incompatibilities in the system defence plans and the restoration plans of the involved TSOs or in case that measures are missing in the system defence plans and the restoration plans of the involved TSOs.
3. By 18 December 2018, each TSO shall transmit the measures referred to in paragraph 1 to the relevant RSC(s) set up pursuant to Article 77 of Regulation (EU) 2017/1485. Within 3 months from the submission of the measures, the RSC(s) shall produce a technical report on the consistency of the measures based on the criteria set out in paragraph 2. Each TSO shall ensure the availability of its own skilled experts to assist the RSC(s) in preparing this report.
4. The RSC(s) shall transmit without delay the technical report referred to in paragraph 3 to all the TSOs involved, which shall in turn transmit it to the relevant regulatory authorities, as well as to ENTSO for Electricity, for the purposes of Article 52.
5. All TSOs of each capacity calculation region shall agree on a threshold above which the impact of actions of one or more TSOs in the emergency, blackout or restoration states is considered significant for other TSOs within the capacity calculation region.

Article 7

Public consultation

1. The relevant TSOs shall consult stakeholders, including the competent authorities of each Member State, on proposals subject to approval in accordance with points (a), (b), (e), (f) and (g) of Article 4(2). The consultation shall last for a period of not less than one month.
2. The relevant TSOs shall duly take into account the views of the stakeholders resulting from the consultations prior to the submission of the draft proposal. In all cases, a sound justification for including or not including the views of the stakeholders shall be provided and published in a timely manner before, or simultaneously with, the publication of the proposal.

Article 8

Recovery of costs

1. The costs borne by system operators subject to network tariff regulation and stemming from the obligations laid down in this Regulation shall be assessed by the relevant regulatory authorities in accordance with Article 37 of Directive 2009/72/EC. Costs assessed as reasonable, efficient and proportionate shall be recovered through network tariffs or other appropriate mechanisms.
2. If requested by the relevant regulatory authorities, system operators referred to in paragraph 1 shall, within three months of the request, provide the information necessary to facilitate assessment of the costs incurred.

Article 9

Confidentiality obligations

1. Any confidential information received, exchanged or transmitted pursuant to this Regulation shall be subject to the conditions of professional secrecy laid down in paragraphs 2, 3 and 4.

2. The obligation of professional secrecy shall apply to any persons subject to the provisions of this Regulation.
3. Confidential information received by the persons referred to in paragraph 2 in the course of their duties may not be divulged to any other person or authority, without prejudice to cases covered by national legislation, the other provisions of this Regulation or other relevant Union legislation.
4. Without prejudice to cases covered by national or Union legislation, regulatory authorities, bodies or persons who receive confidential information pursuant to this Regulation may use it only for the purpose of carrying out their duties under this Regulation.

Article 10

Agreement with TSOs not bound by this Regulation

Where a synchronous area encompasses both Union and third country TSOs, by 18 June 2019, all Union TSOs in that synchronous area shall endeavour to conclude with the third country TSOs not bound by this Regulation an agreement setting the basis for their cooperation concerning secure system operation and setting out arrangements for the compliance of the third country TSOs with the obligations set in this Regulation.

CHAPTER II

SYSTEM DEFENCE PLAN

SECTION 1

General provisions

Article 11

Design of the system defence plan

1. By 18 December 2018, each TSO shall design a system defence plan in consultation with relevant DSOs, SGUs, national regulatory authorities, or entities referred to in Article 4(3), neighbouring TSOs and the other TSOs in its synchronous area.
2. When designing its system defence plan, each TSO shall take into account at least the following elements:
 - (a) the operational security limits set out in accordance with Article 25 of Regulation (EU) 2017/1485;
 - (b) the behaviour and capabilities of load and generation within the synchronous area;
 - (c) the specific needs of the high priority significant grid users listed pursuant to point (d) of paragraph 4; and
 - (d) the characteristics of its transmission system and of the underlying DSOs systems.
3. The system defence plan shall contain at least the following provisions:
 - (a) the conditions under which the system defence plan is activated, in accordance with Article 13;
 - (b) the system defence plan instructions to be issued by the TSO; and
 - (c) the measures subject to real-time consultation or coordination with the identified parties.
4. In particular, the system defence plan shall include the following elements:
 - (a) a list of the measures to be implemented by the TSO on its installations;
 - (b) a list of the measures to be implemented by DSOs and of the DSOs responsible for implementing those measures on their installations;
 - (c) a list of the SGUs responsible for implementing on their installations the measures that result from the mandatory requirements set out in Regulation (EU) 2016/631, (EU) 2016/1388 and (EU) 2016/1447 or from national legislation and a list of the measures to be implemented by those SGUs;
 - (d) a list of high priority significant grid users and the terms and conditions for their disconnection, and
 - (e) the implementation deadlines for each measure listed in the system defence plan.

5. The system defence plan shall include at least the following technical and organisational measures specified in Section 2 of Chapter II:

- (a) system protection schemes including at least:
 - (i) automatic under-frequency control scheme in accordance with Article 15;
 - (ii) automatic over-frequency control scheme in accordance with Article 16; and
 - (iii) automatic scheme against voltage collapse in accordance with Article 17.
- (b) system defence plan procedures, including at least:
 - (i) frequency deviation management procedure in accordance with Article 18;
 - (ii) voltage deviation management procedure in accordance with Article 19;
 - (iii) power flow management procedure in accordance with Article 20;
 - (iv) assistance for active power procedure in accordance with Article 21; and
 - (v) manual demand disconnection procedure in accordance with Article 22.

6. The measures contained in the system defence plan shall comply with the following principles:

- (a) their impact on the system users shall be minimal;
- (b) they shall be economically efficient;
- (c) only those measures that are necessary shall be activated; and
- (d) they shall not lead the TSO's transmission system or the interconnected transmission systems into emergency state or blackout state.

Article 12

Implementation of the system defence plan

1. By 18 December 2019 each TSO shall implement those measures of its system defence plan that are to be implemented on the transmission system. It shall maintain the implemented measures henceforth.

2. By 18 December 2018 each TSO shall notify the transmission connected DSOs of the measures, including the deadlines for implementation, which are to be implemented on:

- (a) the DSO's installations pursuant to Article 11(4); or
- (b) the installations of SGUs identified pursuant to Article 11(4) connected to their distribution systems; or
- (c) the installations of defence service providers connected to their distribution systems; or
- (d) the installations of DSOs connected to their distribution systems.

3. By 18 December 2018 each TSO shall notify the SGUs identified pursuant to point (c) of Article 11(4) or the defence service providers directly connected to its transmission system of the measures which are to be implemented on their installations, including the deadlines for the implementation.

4. When provided for in national legislation, the TSO shall notify directly SGUs identified pursuant to point (c) of Article 11(4), defence service providers or DSOs connected to distribution systems of the measures which are to be implemented on their installations, including the deadlines for their implementation. It shall inform the concerned DSO of this notification.

5. Where a TSO notifies a DSO in accordance with paragraph 2, the DSO shall notify in turn, without delay, the SGUs, the defence service providers and the DSOs connected to its distribution system of the measures of the system defence plan that they have to implement on their respective installations, including the deadlines for their implementation.

6. Each notified DSO, SGU and defence service provider shall:

- (a) implement the measures notified pursuant to this Article no later than 12 months from the date of notification;
- (b) confirm the implementation of the measures to the notifying system operator, who shall, when different from the TSO, notify the confirmation to the TSO; and
- (c) maintain the measures implemented on its installations.

*Article 13***Activation of the system defence plan**

1. Each TSO shall activate the procedures of its system defence plan pursuant to point (b) of Article 11(5) in coordination with DSOs and SGUs identified pursuant to Article 11(4) and with defence service providers.
2. In addition to the automatically activated schemes of the system defence plan, pursuant to point (a) of Article 11(5), each TSO shall activate a procedure of the system defence plan when:
 - (a) the system is in emergency state in accordance with the criteria set out in Article 18(3) of Regulation (EU) 2017/1485 and there are no remedial actions available to restore the system to the normal state; or
 - (b) based on the operational security analysis, the operational security of the transmission system requires the activation of a measure of the system defence plan pursuant to Article 11(5) in addition to the available remedial actions.
3. Each DSO and SGU identified pursuant to Article 11(4), as well as each defence service provider shall execute without undue delay the system defence plan instructions issued by the TSO pursuant to point (c) of Article 11(3), in accordance with the system defence plan procedures provided for in point (b) of Article 11(5).
4. Each TSO shall activate procedures of its system defence plan referred to in point (b) of Article 11(5) having a significant cross-border impact in coordination with the impacted TSOs.

*Article 14***Inter-TSO assistance and coordination in emergency state**

1. Upon request from a TSO in emergency state, each TSO shall provide through interconnectors any possible assistance to the requesting TSO, provided this does not cause its transmission system or the interconnected transmission systems to enter into emergency or blackout state.
2. When the assistance needs to be provided through direct current interconnectors, it may consist in carrying out the following actions, taking into account the technical characteristics and capability of HVDC system:
 - (a) manual regulation actions of the transmitted active power to help the TSO in emergency state to bring power flows within operational security limits or frequency of neighbouring synchronous area within system frequency limits for alert state defined pursuant to Article 18(2) of Regulation (EU) 2017/1485;
 - (b) automatic control functions of the transmitted active power based on the signals and criteria set out in Article 13 of Regulation (EU) 2016/1447;
 - (c) automatic frequency control pursuant to Articles 15 to 18 of Regulation (EU) 2016/1447 in case of islanded operation;
 - (d) voltage and reactive power control pursuant to Article 24 of Regulation (EU) 2016/1447, and
 - (e) any other appropriate action.
3. Each TSO may proceed to a manual disconnection of any transmission system element having a significant cross-border impact, including an interconnector, subject to the following requirements:
 - (a) the TSO shall coordinate with neighbouring TSOs; and
 - (b) this action shall not lead the remaining interconnected transmission system into emergency state or blackout state.
4. Notwithstanding paragraph 3, a TSO may manually disconnect any transmission system element having a significant cross-border impact, including an interconnector, without coordination, in exceptional circumstances implying a violation of the operational security limits, to prevent endangering personnel safety or damaging equipment. Within 30 days of the incident, the TSO shall prepare a report at least in English containing a detailed explanation of the rationale, implementation and impact of this action and submit it to the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC and neighbouring TSOs, and make it available to the significantly affected system users.

SECTION 2

Measures of the System Defence Plan

Article 15

Automatic under-frequency control scheme

1. The scheme for the automatic control of under-frequency of the system defence plan shall include a scheme for the automatic low frequency demand disconnection and the settings of the limited frequency sensitive mode-underfrequency in the TSO load frequency control (LFC) area.

2. In the design of its system defence plan, each TSO shall provide for the activation of the limited frequency sensitive mode-underfrequency prior to the activation of the scheme for the automatic low frequency demand disconnection, where the rate of change of frequency allows it.

3. Prior to the activation of the automatic low frequency demand disconnection scheme, each TSO and DSO identified pursuant to Article 11(4) shall foresee that energy storage units acting as load connected to its system:

- (a) automatically switch to generation mode within the time limit and at an active power set-point established by the TSO in the system defence plan; or
- (b) when the energy storage unit is not capable of switching within the time limit established by the TSO in the system defence plan, automatically disconnect the energy storage unit acting as load.

4. Each TSO shall establish in its system defence plan the frequency thresholds at which the automatic switching or disconnection of energy storage units shall occur. These frequency thresholds shall be lower or equal to the system frequency limit defined for the emergency state in Article 18(3) of Regulation (EU) 2017/1485 and higher than the frequency limit for demand disconnection starting mandatory level laid down in the Annex.

5. Each TSO shall design the scheme for the automatic low frequency demand disconnection in accordance with the parameters for shedding load in real-time laid down in the Annex. The scheme shall include the disconnection of demand at different frequencies, from a 'starting mandatory level' to a 'final mandatory level', within an implementation range whilst respecting a minimum number and maximum size of steps. The implementation range shall define the maximum admissible deviation of netted demand to be disconnected from the target netted demand to be disconnected at a given frequency, calculated through a linear interpolation between starting and final mandatory levels. The implementation range shall not allow the disconnection of less netted demand than the amount of netted demand to be disconnected at the starting mandatory level. A step cannot be considered as such if no netted demand is disconnected when this step is reached.

6. Each TSO or DSO shall install the relays necessary for low frequency demand disconnection taking into account at least load behaviour and dispersed generation.

7. When implementing the scheme for the automatic low frequency demand disconnection pursuant to the notification under Article 12(2), each TSO or DSO shall:

- (a) avoid setting an intentional time delay in addition to the operating time of the relays and circuit breakers;
- (b) minimise the disconnection of power generating modules, especially those providing inertia; and
- (c) limit the risk that the scheme leads to power flow deviations and voltage deviations outside operational security limits.

If a DSO cannot fulfil the requirements under points (b) and (c), it shall notify the TSO and propose which requirement shall apply. The TSO, in consultation with the DSO shall establish the applicable requirements based on a joint cost-benefit analysis.

8. The scheme for the automatic low frequency demand disconnection of the system defence plan may provide for netted demand disconnection based on frequency gradient provided that:

- (a) it is activated only:
 - (i) when the frequency deviation is higher than the maximum steady state frequency deviation and the frequency gradient is higher than the one produced by the reference incident;
 - (ii) until the frequency reaches the frequency of the demand disconnection starting mandatory level;

- (b) it complies with the Annex; and
- (c) it is necessary and justified in order to maintain efficiently the operational security.

9. In case the scheme for the automatic low frequency demand disconnection of the system defence plan includes netted demand disconnection based on frequency gradient, as described in paragraph 8, the TSO shall submit, within 30 days of the implementation, a report containing a detailed explanation of the rationale, implementation and impact of this measure to the national regulatory authority.

10. A TSO may include in the scheme for automatic low frequency demand disconnection of its system defence plan additional steps for netted demand disconnection below the final mandatory level of demand disconnection set out in the Annex.

11. Each TSO shall be entitled to implement additional system protection schemes that are triggered by a frequency smaller or equal to the frequency of the final mandatory level of demand disconnection and which aim at a faster restoration process. The TSO shall ensure that such additional schemes do not further deteriorate frequency.

Article 16

Automatic over-frequency control scheme

1. The scheme for automatic over-frequency control of the system defence plan shall lead to an automatic decrease of the total active power injected in each LFC area.

2. In consultation with the other TSOs of its synchronous area, each TSO shall set out the following parameters of its scheme for automatic over-frequency control:

- (a) the frequency thresholds for its activation; and
- (b) the reduction ratio of injection of active power.

3. Each TSO shall design its automatic over-frequency control scheme taking into account the capabilities of the power generating modules concerning the limited frequency sensitive mode — overfrequency and of the energy storage units, in its LFC area. If the limited frequency sensitive mode — overfrequency does not exist or is not sufficient to fulfil the requirements set out in points (a) and (b) of paragraph 2, each TSO shall set up in addition a step-wise linear disconnection of generation in its LFC area. The TSO shall establish the maximum size of the steps for disconnection of power generating modules and/or of HVDC systems in consultation with the other TSOs of its synchronous area.

Article 17

Automatic scheme against voltage collapse

1. The automatic scheme against voltage collapse of the system defence plan may include one or more of the following schemes, depending on the results of a TSO's assessment of system security:

- (a) a scheme for low voltage demand disconnection according to Article 19(2) of Regulation (EU) 2016/1388;
- (b) a blocking scheme for on load tap changer according to Article 19(3) of Regulation (EU) 2016/1388; and
- (c) system protection schemes for voltage management.

2. Unless the assessment pursuant to paragraph 1 demonstrates that implementing a blocking scheme for on load tap changer is not necessary to prevent a voltage collapse in the TSO control area, the TSO shall establish the conditions under which the on load tap changer shall block according to Article 19(3) of Regulation (EU) 2016/1388, including at least:

- (a) the blocking method (local or remote from control room);
- (b) the voltage level threshold at the connection point;
- (c) the flow direction of reactive power; and
- (d) the maximum lapse of time between the detection of the threshold and the blocking.

*Article 18***Frequency deviation management procedure**

1. The procedure for the management of frequency deviations of the system defence plan shall contain a set of measures to manage a frequency deviation outside the frequency limits defined for the alert state in Article 18(2) of Regulation (EU) 2017/1485. The frequency deviation management procedure shall be in line with the procedures set out for remedial actions which need to be managed in a coordinated way in accordance with Article 78(4) of Regulation (EU) 2017/1485 and shall fulfil at least the following requirements:

- (a) a decrease of generation shall be smaller than the decrease of load during under-frequency events; and
- (b) a decrease of generation shall be greater than the decrease of load during over-frequency events.

2. Each TSO shall adapt the operating mode of its LFC in order to prevent interference with manual activation or deactivation of active power as laid down in paragraphs 3 and 5.

3. Each TSO shall be entitled to establish an active power set-point that each SGU identified pursuant to point (c) of Article 11(4) shall maintain, provided that the set-point fulfils the technical constraints of the SGU. Each TSO shall be entitled to establish an active power set-point that each defence service provider shall maintain provided this measure applies to them pursuant to the terms and conditions referred to in Article 4(4) and the set-point respects the technical constraints of the defence service provider. The SGUs and defence service providers shall execute without undue delay the instructions given by the TSO directly or indirectly through DSOs and shall remain in that state until further instructions are issued. Where the instructions are given directly, the TSO shall inform the relevant DSOs without undue delay.

4. Each TSO shall be entitled to disconnect SGUs and defence service providers, directly or indirectly through DSOs. SGUs and defence service providers shall remain disconnected until further instructions are issued. Where SGUs are directly disconnected, the TSO shall inform the relevant DSOs without undue delay. Within 30 days of the incident, the TSO shall prepare a report containing a detailed explanation of the rationale, implementation and impact of this action and submit it to the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC as well as make it available to the significantly affected system users.

5. Prior to the activation of the automatic low frequency demand disconnection scheme set out in Article 15 and provided that the rate of change of frequency allows it, each TSO shall, directly or indirectly through DSOs, activate demand response from the relevant defence service providers and:

- (a) switch energy storage units acting as load to generation mode at an active power set-point established by the TSO in the system defence plan; or
- (b) when the energy storage unit is not capable of switching fast enough to stabilise frequency, manually disconnect the energy storage unit.

*Article 19***Voltage deviation management procedure**

1. The procedure for the management of voltage deviations of the system defence plan shall contain a set of measures to manage voltage deviations outside the operational security limits set out in Article 25 of Regulation (EU) 2017/1485.

2. Each TSO shall be entitled to establish a reactive power range or voltage range and instruct the DSOs and SGUs identified for this measure pursuant to Article 11(4) to maintain it, in accordance with Articles 28 and 29 of Regulation (EU) 2017/1485.

3. Upon request of neighbouring TSO in emergency state, each TSO shall make available all reactive power capabilities that do not lead its transmission system into emergency state or blackout state.

*Article 20***Power flow management procedure**

1. The procedure for power flow management of the system defence plan shall include a set of measures to manage power flow outside the operational security limits set out in Article 25 of Regulation (EU) 2017/1485.

2. Each TSO shall be entitled to establish an active power set-point that each SGU identified pursuant to point (c) Article 11(4) shall maintain provided that the set-point respects the technical constraints of the SGU. Each TSO shall be entitled to establish an active power set-point that each defence service provider shall maintain provided this measure applies to them pursuant to the terms and conditions referred to in Article 4(4) and the set-point respects the technical constraints of the defence service providers. The SGUs and defence service providers shall execute without undue delay the instructions given by the TSO directly or indirectly through DSOs and shall remain in that state until further instructions are issued. Where the instructions are given directly, the TSO shall inform the relevant DSOs without undue delay.

3. Each TSO shall be entitled to disconnect SGUs and defence service providers, directly or indirectly through DSOs. SGUs and defence service providers shall remain disconnected until further instructions are issued. Where SGU are directly disconnected, the TSO shall inform the relevant DSOs without undue delay. Within 30 days of the incident, the TSO shall prepare a report containing a detailed explanation of the rationale, implementation and impact of this action and submit it to the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC.

Article 21

Assistance for active power procedure

1. In case of absence of control area adequacy in the day-ahead or intraday timeframe, identified pursuant to paragraphs 1 and 2 of Article 107 of Regulation (EU) 2017/1485, and prior to any potential suspension of market activities pursuant to Article 35, a TSO shall be entitled to request assistance for active power from:

- (a) any balancing service provider, which, upon the TSO request, shall change its availability status to make available all its active power, provided it was not already activated through the balancing market, and conforming to its technical constraints;
- (b) any SGU connected in its LFC area, which does not already provide a balancing service to the TSO, and which, upon the TSO request, shall make available all its active power, conforming to its technical constraints; and
- (c) other TSOs that are in the normal or alert state.

2. A TSO may activate the assistance for active power from a balancing service provider or a SGU, under points (a) and (b) of paragraph 1, only if it has activated all balancing energy bids available, taking into account the available cross zonal capacity at the moment of absence of adequacy of the control area.

3. Each TSO who has been subject to a request for assistance for active power pursuant to paragraph 1(c) shall:

- (a) make available its unshared bids;
- (b) be entitled to activate the available balancing energy, in order to provide the corresponding power to the requesting TSO; and
- (c) be entitled to request the assistance for active power from its balancing service providers and from any SGU connected in its LFC area which does not already provide a balancing service to the TSO, in order to provide the corresponding assistance for active power to the requesting TSO.

4. When activating the active power requested pursuant to paragraph 1(c), the requesting and the requested TSOs shall be entitled to use:

- (a) available cross-zonal capacity in case the activation is made before the intraday cross-zonal gate closure time and if the provision of concerned cross-zonal capacities has not been suspended pursuant to Article 35;
- (b) additional capacity that may be available due to real-time status of the system in which case the requesting and the requested TSOs shall coordinate with other significantly affected TSOs in accordance with Article 6(5).

5. Once the requested and requesting TSOs have agreed on the conditions for the provision of assistance for active power, the agreed amount of active power and timeslot for the provision shall be firm, unless the transmission system of the TSO providing the assistance enters into the emergency or blackout state.

*Article 22***Manual demand disconnection procedure**

1. In addition to the measures set out in Articles 18 to 21, each TSO may establish an amount of netted demand to be manually disconnected, directly by the TSO or indirectly through DSOs, when necessary to prevent the propagation or worsening of an emergency state. Where demand is to be directly disconnected, the TSO shall inform the relevant DSOs without delay.
2. The TSO shall activate the manual disconnection of the netted demand referred to in paragraph 1 to:
 - (a) resolve overloads or under voltage situations; or
 - (b) resolve situations in which assistance for active power pursuant to Article 21 has been requested but is not sufficient to maintain adequacy in day-ahead and intraday timeframes in its control area, pursuant to Article 107 of Regulation (EU) 2017/1485, leading to a risk of frequency deterioration in the synchronous area.
3. The TSO shall notify DSOs of the amount of netted demand established pursuant to paragraph 1 to be disconnected on their distribution systems. Each DSO shall disconnect the notified amount of netted demand, without undue delay.
4. Within 30 days of the incident, the TSO shall prepare a report containing a detailed explanation of the rationale, implementation and impact of this action and submit it to the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC.

CHAPTER III

RESTORATION PLAN

SECTION 1

General provisions*Article 23***Design of the restoration plan**

1. By 18 December 2018, each TSO shall design a restoration plan in consultation with relevant DSOs, SGUs, national regulatory authorities or entities referred to in Article 4(3), neighbouring TSOs and the other TSOs in that synchronous area.
2. When designing its restoration plan, each TSO shall take into account, at least, the following elements:
 - (a) the behaviour and capabilities of load and generation;
 - (b) the specific needs of the high priority significant grid users listed pursuant to paragraph (4); and
 - (c) the characteristics of its network and of the underlying DSOs networks.
3. The restoration plan shall contain at least the following provisions:
 - (a) the conditions under which the restoration plan is activated, as provided for in Article 25;
 - (b) restoration plan instructions to be issued by the TSO; and
 - (c) measures subject to real-time consultation or coordination with identified parties.
4. In particular, the restoration plan shall include the following elements:
 - (a) a list of the measures to be implemented by the TSO on its installations;
 - (b) a list of the measures to be implemented by DSOs and of the DSOs responsible for implementing those measures on their installations;
 - (c) a list of the SGUs responsible for implementing on their installations the measures that result from mandatory requirements set out in Regulations (EU) 2016/631, (EU) 2016/1388 and (EU) 2016/1447 or from national legislation and a list of the measures to be implemented by those SGUs;
 - (d) the list of high priority significant grid users and the terms and conditions for their disconnection and re-energisation;

- (e) a list of substations which are essential for its restoration plan procedures;
 - (f) the number of power sources in the TSO's control area necessary to re-energise its system with bottom-up re-energisation strategy having black start capability, quick re-synchronisation capability (through houseload operation) and island operation capability; and
 - (g) the implementation deadlines for each listed measure.
5. The restoration plan shall include at least the following technical and organisational measures specified in Chapter III:
- (a) re-energisation procedure, in accordance with Section 2;
 - (b) frequency management procedure, in accordance with Section 3; and
 - (c) resynchronisation procedure, in accordance with Section 4.
6. The measures contained in the restoration plan shall comply with the following principles:
- (a) their impact on system users shall be minimal;
 - (b) they shall be economically efficient;
 - (c) only those measures that are necessary shall be activated; and
 - (d) they shall not lead the interconnected transmission systems into emergency state or blackout state.

Article 24

Implementation of the restoration plan

1. By 18 December 2019 each TSO shall implement those measures of its restoration plan that are to be implemented on the transmission system. It shall maintain the implemented measures henceforth.
2. By 18 December 2018 each TSO shall notify the transmission connected DSOs of the measures, including the deadlines for implementation, which are to be implemented on:
 - (a) the DSO's installations pursuant to Article 23(4); and
 - (b) the installations of SGUs identified pursuant to Article 23(4) and connected to their distribution systems; and
 - (c) the installations of restoration service providers connected to their distribution systems; and
 - (d) the installations of DSOs connected to their distribution systems.
3. By 18 December 2018 each TSO shall notify the SGUs identified pursuant to Article 23(4) and restoration service providers directly connected to its transmission system of the measures that are to be implemented on their installations, including the deadlines for implementation pursuant to point (g) of Article 23(4).
4. When provided for in national legislation, the TSO shall notify directly the SGUs identified pursuant to Article 23(4) and restoration service providers and DSOs connected to distribution systems and shall inform the concerned DSO of this notification.
5. Where a TSO notifies a DSO in accordance with paragraph 2, the DSO shall notify in turn, without delay, the SGUs, restoration service providers and DSOs connected to its distribution system of the measures of the restoration plan which they have to implement on their respective installations, including the deadlines for implementation, pursuant to point (g) of Article 23(4).
6. Each notified DSO, SGUs and restoration service provider shall:
 - (a) implement the measures notified no later than 12 months from the date of notification;
 - (b) confirm the implementation of the measures to the notifying system operator, who shall, when different from the TSO, notify the TSO; and
 - (c) maintain the measures implemented on its installations.

*Article 25***Activation of the restoration plan**

1. Each TSO shall activate the procedures of its restoration plan in coordination with the DSOs and SGUs identified pursuant to Article 23(4) and with restoration service providers in the following cases:
 - (a) when the system is in the emergency state in accordance with the criteria in Article 18(3) of Regulation (EU) 2017/1485, once the system is stabilised following activation of the measures of the system defence plan; or
 - (b) when the system is in the blackout state in accordance with the criteria in Article 18(4) of Regulation (EU) 2017/1485.
2. During system restoration, each TSO shall identify and monitor:
 - (a) the extent and borders of the synchronised region or synchronised regions to which its control area belongs;
 - (b) the TSOs with which it shares a synchronised region or synchronised regions; and
 - (c) the available active power reserves in its control area.
3. Each DSO and SGU identified pursuant to Article 23(4), as well as each restoration service provider shall execute without undue delay the restoration plan instructions issued by the TSO, pursuant to point (b) of Article 23(3) in accordance with the restoration plan procedures.
4. Each TSO shall activate those procedures of its restoration plan that have a significant cross-border impact in coordination with the impacted TSOs.

*SECTION 2***Re-energisation***Article 26***Re-energisation procedure**

1. The re-energisation procedure of the restoration plan shall contain a set of measures allowing the TSO to apply:
 - (a) a top-down re-energisation strategy; and
 - (b) a bottom-up re-energisation strategy.
2. Regarding the bottom-up re-energisation strategy, the re-energisation procedure shall contain at least measures for:
 - (a) managing voltage and frequency deviations due to re-energisation;
 - (b) monitoring and managing island operation; and
 - (c) resynchronising island operation areas.

*Article 27***Activation of the re-energisation procedure**

1. When activating the re-energisation procedure, each TSO shall set up the strategy to be applied, taking into account:
 - (a) the availability of power sources capable of re-energisation in its control area;
 - (b) the expected duration and risks of possible re-energisation strategies;
 - (c) the conditions of the power systems;
 - (d) the conditions of the directly connected systems, including at least the status of interconnectors;
 - (e) the high priority significant grid users listed pursuant to Article 23(4); and
 - (f) the possibility to combine top-down and bottom-up re-energisation strategies.

2. When applying a top-down re-energisation strategy, each TSO shall manage the connection of load and generation with the aim to regulate the frequency towards the nominal frequency with a maximum tolerance of the maximum steady-state frequency deviation. Each TSO shall apply the conditions for connection of load and generation defined by the frequency leader, where appointed in accordance with Article 29.
3. When applying a bottom-up re-energisation strategy, each TSO shall manage the connection of load and generation with the aim to regulate the frequency towards the target frequency established in accordance with point (c) of Article 28(3).
4. During re-energisation, the TSO shall, after consultation with DSOs, establish and notify the amount of netted demand to be reconnected on distribution networks. Each DSO shall reconnect the notified amount of netted demand, while respecting the block loading and taking into account the automatic re-connection of load and generation in its network.
5. Each TSO shall inform its neighbouring TSOs on its capability to support a top-down re-energisation strategy.
6. For the activation of a top-down re-energisation strategy, the TSO shall request neighbouring TSOs to support the re-energisation. This support may consist in assistance for active power, in accordance with paragraphs 3 to 5 of Article 21. The requested TSOs shall provide assistance for the re-energisation, unless it would lead their systems to the emergency or blackout states. In this case, the requesting TSO shall use the bottom-up re-energisation strategy.

SECTION 3

Frequency management

Article 28

Frequency management procedure

1. The frequency management procedure of the restoration plan shall contain a set of measures aiming at restoring system frequency back to the nominal frequency.
2. Each TSO shall activate its frequency management procedure:
 - (a) in preparation of the resynchronisation procedure, when a synchronous area is split in several synchronised regions;
 - (b) in case of frequency deviation in the synchronous area; or
 - (c) in case of re-energisation.
3. The frequency management procedure shall include at least:
 - (a) a list of actions regarding the setting of the load-frequency controller before the appointment of frequency leaders;
 - (b) the appointment of frequency leaders;
 - (c) the establishment of target frequency in case of bottom-up re-energisation strategy;
 - (d) frequency management after frequency deviation; and
 - (e) frequency management after synchronous area split.
 - (f) the determination of the amount of load and generation to be reconnected, taking into account the available active power reserves within the synchronised region in order to avoid major frequency deviations.

Article 29

Appointment of a frequency leader

1. During system restoration, when a synchronous area is split in several synchronised regions, the TSOs of each synchronised region shall appoint a frequency leader, in accordance with paragraph 3.
2. During system restoration, when a synchronous area is not split but the system frequency exceeds the frequency limits for the alert state as defined in Article 18(2) of Regulation (EU) 2017/1485, all TSOs of the synchronous area shall appoint a frequency leader, in accordance with paragraph 3.

3. The TSO with the highest real-time estimated K-factor shall be appointed as the frequency leader, unless the TSOs of the synchronised region, or of the synchronous area, agree to appoint another TSO as the frequency leader. In that case, the TSOs of the synchronised region, or of the synchronous area, shall consider the following criteria:

- (a) the amount of available active power reserves and especially frequency restoration reserves;
- (b) the capacities available on interconnectors;
- (c) the availability of frequency measurements of TSOs of the synchronised region or of the synchronous area; and
- (d) the availability of measurements on critical elements within the synchronised region or the synchronous area.

4. Notwithstanding paragraph 3, where the size of the synchronous area concerned and the real time situation allow it, the TSOs of the synchronous area may appoint a predetermined frequency leader.

5. The TSO appointed as frequency leader pursuant to paragraphs 1 and 2 shall inform the other TSOs of the synchronous area of its appointment without delay.

6. The appointed frequency leader shall act as such until:

- (a) another frequency leader is appointed for its synchronised region;
- (b) a new frequency leader is appointed as the result of resynchronisation of its synchronised region with another synchronised region; or
- (c) the synchronous area has been completely resynchronised, the system frequency is within the standard frequency range and the LFC operated by each TSO of the synchronous area is back to its normal operating mode in accordance with Article 18(1) of Regulation (EU) 2017/1485.

Article 30

Frequency management after frequency deviation

1. During system restoration, when a frequency leader has been appointed pursuant to Article 29(3), the TSOs of the synchronous area, other than the frequency leader, shall as a first measure suspend the manual activation of frequency restoration reserves and replacement reserves.

2. The frequency leader shall establish, after consultation with the other TSOs of the synchronous area, the operating mode to be applied on the LFC operated by each TSO of the synchronous area.

3. The frequency leader shall manage the manual activation of frequency restoration reserves and replacement reserves within the synchronous area, aiming at regulating the frequency of the synchronous area towards the nominal frequency and taking into account the operational security limits defined pursuant to Article 25 of Regulation (EU) 2017/1485. Upon request, each TSO of the synchronous area shall support the frequency leader.

Article 31

Frequency management after synchronous area split

1. During system restoration, when a frequency leader has been appointed pursuant to Article 29(3), the TSOs of each synchronised region, with the exception of the frequency leader, shall as a first measure suspend the manual activation of frequency restoration reserves and replacement reserves.

2. The frequency leader shall establish, after consultation with the other TSOs of the synchronised region, the operating mode to be applied on the LFC operated by each TSO of the synchronised region.

3. The frequency leader shall manage the manual activation of frequency restoration reserves and replacement reserves within the synchronised region, aiming at regulating the frequency of the synchronised region towards the target frequency established by the resynchronisation leader, if any, pursuant to point (a) of Article 34(1) and taking into account the operational security limits set out pursuant to Article 25 of Regulation (EU) 2017/1485. When no resynchronisation leader is appointed for the synchronised region, the frequency leader shall aim at regulating the frequency towards the nominal frequency. Upon request, each TSO of the synchronised region shall support the frequency leader.

SECTION 4

Resynchronisation

Article 32

Resynchronisation procedure

The resynchronisation procedure of the restoration plan shall include, at least:

- (a) the appointment of a resynchronisation leader;
- (b) the measures allowing the TSO to apply a resynchronisation strategy; and
- (c) the maximum limits for phase angle, frequency and voltage differences for connecting lines.

Article 33

Appointment of a resynchronisation leader

1. During system restoration, when two synchronised regions can be resynchronised without endangering the operational security of the transmission systems, the frequency leaders of these synchronised regions shall appoint a resynchronisation leader in consultation with at least the TSO(s) identified as the potential resynchronisation leader and in accordance with paragraph 2. Each frequency leader shall inform without delay the TSOs from its synchronised region of the appointed resynchronisation leader.

2. For each pair of synchronised regions to be resynchronised, the resynchronisation leader shall be the TSO that:

- (a) has in operation at least one substation equipped with a parallel switching device on the border between the two synchronised regions to be resynchronised;
- (b) has access to the frequency measurements from both synchronised regions;
- (c) has access to the voltage measurements on the substations between which potential resynchronisation points are located; and
- (d) is able to control the voltage of potential resynchronisation points.

3. Where more than one TSO fulfils the criteria under paragraph 2, the TSO with the highest number of potential resynchronisation points between the two synchronised regions shall be appointed as the resynchronisation leader, unless the frequency leaders of the two synchronised regions agree to appoint another TSO as resynchronisation leader.

4. The appointed resynchronisation leader shall act as such until:

- (a) another resynchronisation leader is appointed for the two synchronised regions; or
- (b) the two synchronised regions have been resynchronised, and all the steps in Article 34 have been completed.

Article 34

Resynchronisation strategy

1. Prior to the resynchronisation, the resynchronisation leader shall:

- (a) establish, in accordance with the maximum limits referred to in Article 32:
 - (i) the target value of the frequency for resynchronisation;
 - (ii) the maximum frequency difference between the two synchronised regions;
 - (iii) the maximum active and reactive power exchange; and
 - (iv) the operating mode to be applied on the LFC;
- (b) select the resynchronisation point, taking into account the operational security limits in the synchronised regions;
- (c) establish and prepare all necessary actions for the resynchronisation of the two synchronised regions at the resynchronisation point;
- (d) establish and prepare a subsequent set of actions to create additional connections between the synchronised regions; and
- (e) assess the readiness of the synchronised regions for resynchronisation, taking into account the conditions set out in point (a).

2. When carrying out the tasks enumerated in paragraph 1, the resynchronisation leader shall consult the frequency leaders of the involved synchronised regions and, for the tasks listed in points (b) to (e), it shall also consult the TSOs operating the substations used for resynchronisation.
3. Each frequency leader shall inform the TSOs within its synchronised region of the planned resynchronisation without undue delay.
4. When all conditions established in accordance with point (a) of paragraph 1 are fulfilled, the resynchronisation leader shall execute the resynchronisation by activating the actions established in accordance with point (c) and (d) of paragraph 1.

CHAPTER IV

MARKET INTERACTIONS

Article 35

Procedure for suspension of market activities

1. A TSO may temporarily suspend one or more market activities laid down in paragraph 2 where:
 - (a) the transmission system of the TSO is in blackout state; or
 - (b) the TSO has exhausted all options provided by the market and the continuation of market activities under the emergency state would deteriorate one or more of the conditions referred to in Article 18(3) of Regulation (EU) 2017/1485; or
 - (c) the continuation of market activities would decrease significantly the effectiveness of the restoration process to the normal or alert state; or
 - (d) tools and communication means necessary for the TSOs to facilitate market activities are not available.
2. The following market activities may be suspended pursuant to paragraph 1:
 - (a) the provision of cross zonal capacity for capacity allocation on the corresponding bidding zone borders for each market time unit where it is expected that the transmission system shall not be restored to the normal or alert state;
 - (b) the submission by a balancing service provider of balancing capacity and balancing energy bids;
 - (c) the provision by a balance responsible party of a balanced position at the end of the day-ahead timeframe if required by the terms and conditions related to balancing;
 - (d) the provision of modifications of the position of balance responsible parties;
 - (e) the provision of schedules referred to in Article 111(1) and (2) of Regulation (EU) 2017/1485, and
 - (f) other relevant market activities the suspension of which is deemed necessary to preserve and/or restore the system.
3. In case of suspension of market activities pursuant to paragraph 1, upon request of the TSO, each SGU shall operate, where technically possible, at an active power set-point established by the TSO.
4. When suspending market activities pursuant to paragraph 1, the TSO may fully or partially suspend the operation of its processes impacted by such suspension.
5. When suspending market activities pursuant to paragraph 1, the TSO shall coordinate at least with the following parties:
 - (a) the TSOs of the capacity calculation regions of which the TSO is a member of;
 - (b) the TSOs with which the TSO has arrangements for the coordination of balancing;
 - (c) the 'NEMO' and other entities assigned or delegated to execute market functions in accordance with Regulation (EU) 2015/1222 within its control area;
 - (d) the TSOs of a load-frequency control block of which the TSO is a member of; and
 - (e) the coordinated capacity calculator of the capacity calculation regions of which the TSO is a member of.
6. In case of suspension of market activities, each TSO shall launch the communication procedure set out in Article 38.

*Article 36***Rules for suspension and restoration of market activities**

1. By 18 December 2018, each TSO shall develop a proposal for rules concerning the suspension and restoration of market activities.
2. The TSO shall publish these rules on its website following their approval by the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC.
3. The rules for suspension and restoration of market activities shall be compatible to the extent possible with:
 - (a) the rules on provision of cross zonal capacity within the concerned capacity calculation regions;
 - (b) the rules for submission by balancing service providers of balancing capacity and balancing energy bids resulting from arrangements with other TSOs for the coordination of balancing;
 - (c) the rules for provision by balance responsible party of a balanced position at the end of day-ahead timeframe if required by the terms and conditions related to balancing;
 - (d) rules for provision of modifications of the position of balance responsible parties; and
 - (e) the rules for provision of schedules referred to in Article 111(1) and (2) of Regulation (EU) 2017/1485.
4. When developing the rules for suspension and restoration of market activities, each TSO shall convert the situations referred to in Article 35(1) into objectively defined parameters taking into account the following factors:
 - (a) the percentage of load disconnection in the LFC area of the TSO corresponding to:
 - (i) the inability of a significant share of balancing responsible parties to maintain their balance; or
 - (ii) the necessity for the TSO not to follow the usual balancing processes to perform an efficient re-energisation;
 - (b) the percentage of generation disconnection in the LFC area of the TSO corresponding to the inability of a significant share of balancing responsible parties to maintain their balance;
 - (c) the share and geographic distribution of unavailable transmission system elements corresponding to:
 - (i) the desynchronisation of a significant part of the LFC area rendering the usual balancing processes counterproductive; or
 - (ii) the reduction to zero of cross zonal capacity on a bidding zone border(s);
 - (d) the inability of the following affected entities to execute their market activities for reason(s) outside their control:
 - (i) balance responsible parties;
 - (ii) balancing service providers;
 - (iii) NEMOs and other entities assigned or delegated to execute market functions pursuant to Regulation (EU) 2015/1222;
 - (iv) transmission connected DSOs;
 - (e) the absence of properly functioning tools and communication means necessary to perform:
 - (i) the single day-ahead or intraday coupling or any explicit capacity allocation mechanism; or
 - (ii) the frequency restoration process; or
 - (iii) the reserve replacement process; or
 - (iv) the provision by balance responsible party of a balanced position in day ahead and the provision of change of its position; or
 - (v) the provision of schedules referred to in Article 111(1) and (2) of Regulation (EU) 2017/1485.
5. The rules for suspension and restoration of market activities shall define a time delay to be respected for each parameter defined pursuant to paragraph 4, prior to starting the procedure for suspension of market activities.

6. The concerned TSO shall assess in real-time the parameters defined pursuant to paragraph 4, on the basis of the information at its disposal.
7. By 18 December 2020, ENTSO for Electricity shall submit to the Agency a report assessing the level of harmonisation of the rules for suspension and restoration of market activities established by the TSOs and identifying, as appropriate, areas that require harmonisation.
8. By 18 June 2019, each TSO shall submit to ENTSO for Electricity the data required to prepare and submit the report in accordance with paragraph 7.

Article 37

Procedure for restoration of market activities

1. The concerned TSO, in coordination with the NEMO(s) active in its control area and with the neighbouring TSOs, shall launch the procedure for the restoration of market activities suspended pursuant to Article 35(1) when:
 - (a) the situation triggering the suspension has ended and no other situation referred to in Article 35(1) applies; and
 - (b) the entities referred to in Article 38(2) have been duly informed in advance in accordance with Article 38.
2. The concerned TSO, in coordination with neighbouring TSOs, shall launch the restoration of TSO processes impacted by the suspension of market activities when the conditions of paragraph 1 are fulfilled or before, if necessary to restore market activities.
3. The concerned NEMO(s), in coordination with TSOs and entities referred to in Article 35(5), shall launch the restoration of the relevant single day ahead and/or single intraday coupling processes as soon as the TSO(s) notifies that the TSOs' processes have been restored.
4. When the provision of cross zonal capacity has been suspended and subsequently restored, each concerned TSO shall update the cross zonal capacities for capacity allocation by using, from the following, the most feasible and efficient option for each market time unit:
 - (a) by using the latest available cross zonal capacities calculated by the coordinated capacity calculator;
 - (b) by launching the regional capacity calculation processes applicable in accordance with Articles 29 and 30 of Regulation (EU) 2015/1222; or,
 - (c) by determining, in coordination with TSOs of the capacity calculation region, cross zonal capacities based on the actual physical network conditions.
5. When part of the total coupled area where market activities have been suspended is back to the normal state or alert state, the NEMO(s) of this area shall be entitled to execute a market coupling in a part of the total coupled area, in consultation with the TSOs and entities referred to in Article 35(5), provided that the TSO has restored the capacity calculation process.
6. No later than 30 days after the market activities have been restored, the TSO(s) that suspended and restored market activities shall prepare a report at least in English containing a detailed explanation of the rationale, implementation and impact of the market suspension and a reference to the compliance with the rules for suspension and restoration of market activities and shall submit it to the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC, and make it available to the entities referred to in Article 38(2).
7. The regulatory authorities of the Member States or the Agency may issue a recommendation to the concerned TSO(s) to promote good practices and prevent similar incidents in the future.

Article 38

Communication procedure

1. The rules for suspension and restoration of market activities developed pursuant to Article 36 shall also contain a communication procedure detailing the tasks and actions expected from each party in its different roles during the suspension and restoration of market activities.

2. The communication procedure shall provide that information is sent, simultaneously, to the following entities:
 - (a) the parties referred to in Article 35(5);
 - (b) the balance responsible parties;
 - (c) the balancing service providers;
 - (d) the transmission connected DSOs; and
 - (e) the relevant regulatory authority of the concerned Member States in accordance with Article 37 of Directive 2009/72/EC.
3. The communication procedure shall include at least the following steps:
 - (a) the notification by the TSO that market activities have been suspended in accordance with Article 35;
 - (b) the notification by the TSO of best estimate for the time and date for transmission system restoration;
 - (c) the notification by the NEMO and other entities designated to execute market functions according to Regulation (EU) 2015/1222 and to Regulation (EU) 2016/1719 of the suspension of their activities, if any;
 - (d) the updates by the TSOs on the process for restoration of the transmission system;
 - (e) the notification by the entities referred to in points (a) to (d) of paragraph 2, that their market tools and communication systems are operational;
 - (f) the notification by the TSO(s) that the transmission system has been restored back to normal state or alert state;
 - (g) the notification by the NEMO and other entities assigned or delegated to execute market functions according to Regulation (EU) 2015/1222 of the best estimate for time and date when market activities will be restored; and
 - (h) the confirmation by the NEMO and other entities assigned or delegated to execute market functions according to Regulation (EU) 2015/1222 that market activities have been restored.
4. All notifications and updates by the TSO(s), the NEMO(s) and other entities assigned or delegated to execute market functions referred to in paragraph 3, shall be published on the websites of those entities. When notification or update on the website is not possible, the entity subject to the obligation to notify, shall inform via email, or via any other available means, at least those parties directly participating in the suspended market activities.
5. Notification pursuant to point (e) of paragraph 3 shall be done via email or via any other available means to the concerned TSO.

Article 39

Rules for settlement in case of suspension of market activities

1. By 18 December 2018, each TSO shall develop a proposal for rules for imbalance settlement and settlement of balancing capacity and balancing energy which shall be applicable for imbalance settlement periods during which the market activities were suspended. The TSO may propose the same rules it applies for normal operations.

The TSO shall publish these rules on its website following their approval by the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC.

A TSO may delegate the TSO's tasks referred to in this Article to one or more third parties, provided that the third party can carry out the respective function at least as effectively as the TSO(s). A Member State or, where applicable, a regulatory authority, may assign the tasks referred to in this Article to one or more third parties, provided that the third party can carry out the respective function at least as effectively as the TSO(s).

2. The rules referred to in paragraph 1 shall address the settlements of TSO's and third parties, where relevant, with balance responsible parties, and balancing services providers.

3. The rules developed in accordance with paragraph 1 shall:

- (a) ensure the financial neutrality of each TSO and relevant third party referred to in paragraph 1;
- (b) avoid distortions of incentives or counterproductive incentives to balance responsible parties, balance service providers and TSOs;

- (c) incentivise balance responsible parties to strive to be balanced or help the system to restore its balance;
- (d) avoid any financial penalties imposed on balance responsible parties and balancing service providers due to the execution of the actions requested by the TSO;
- (e) discourage TSOs from suspending market activities, unless strictly necessary, and incentivise TSOs to restore the market activities as soon as possible; and
- (f) incentivise balance service providers to offer services to the connecting TSO that helps restore the system to normal state.

CHAPTER V

INFORMATION EXCHANGE AND COMMUNICATION, TOOLS AND FACILITIES

Article 40

Information exchange

1. In addition to the provisions of Articles 40 to 53 of Regulation (EU) 2017/1485, each TSO, when in the emergency, blackout or restoration states, shall be entitled to gather the following information:
 - (a) from DSOs identified in accordance with Article 23(4), the necessary information about at least:
 - (i) the part of their network that is in island operation;
 - (ii) the ability to synchronise parts of their network that is in island operation; and
 - (iii) the capability to start island operation.
 - (b) from SGUs identified in accordance with Article 23(4) and restoration service providers, information about at least the following conditions:
 - (i) the current status of the installation;
 - (ii) the operational limits;
 - (iii) the full activation time and the time to increase generation; and
 - (iv) the time critical processes.
2. During the emergency, blackout or restoration states, each TSO shall provide in due time and for the purposes of system defence plan procedures and restoration plan procedures, the following information, where available to the TSO:
 - (a) to neighbouring TSOs, information about at least:
 - (i) the extent and borders of the synchronised region or synchronised regions to which its control area belongs;
 - (ii) the restrictions to operate the synchronised region;
 - (iii) the maximum duration and amount of active and reactive power that can be supplied via interconnectors; and
 - (iv) any other technical or organisational restrictions;
 - (b) to the frequency leader of its synchronised region, information about at least:
 - (i) the restrictions to maintain island operation;
 - (ii) the available additional load and generation; and
 - (iii) the availability of operational reserves;
 - (c) to transmission connected DSOs identified in accordance with Article 11(4) and 23(4), information about at least:
 - (i) the system state of its transmission system;
 - (ii) the limits of active and reactive power, block loading, tap and circuit breaker position at the connection points;

- (iii) the information on the current and planned status of power generating modules connected to the DSO, if not available to the DSO directly; and
 - (iv) all necessary information leading to further coordination with distribution connected parties;
- (d) to defence service providers, information about at least:
 - (i) the system state of its transmission system; and
 - (ii) the scheduled measures that require participation of the defence service providers;
- (e) to DSOs and SGUs identified pursuant to Article 23(4) and to restoration service providers, information about at least:
 - (i) the system state of its transmission system;
 - (ii) the ability and plans to re-energise couplings; and
 - (iii) the scheduled measures that require their participation.
- 3. TSOs in emergency, blackout or restoration state shall exchange among themselves information concerning, at least:
 - (a) the circumstances that led to the current system state of its transmission system, to the extent that they are known; and
 - (b) the potential problems making assistance for active power necessary.
- 4. A TSO in emergency, blackout or restoration state shall provide, in due time, information about the system state of its transmission system and, where available, additional information explaining the situation on the transmission system:
 - (a) to the NEMO(s), who shall make this information available to their market participants, as provided for in Article 38;
 - (b) to its relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC, or when explicitly provided for in national law, to the entities referred to in Article 4(3); and
 - (c) to any other relevant party, as appropriate.
- 5. TSOs shall inform each affected party about the test plan developed pursuant to Article 43(2) and (3).

Article 41

Communication systems

1. Each DSO and SGU identified in accordance with points (b) and (c) of Article 23(4), each restoration service provider and each TSO shall have a voice communication system in place with sufficient equipment redundancy and backup power supply sources to allow the exchange of the information needed for the restoration plan for at least 24 hours, in case of total absence of external electrical energy supply or in case of failure of any individual voice communication system equipment. Member States may require a minimum backup power capacity higher than 24 hours.
2. Each TSO shall establish, in consultation with the DSOs and SGUs identified in accordance with Article 23(4) and with restoration service providers, the technical requirements to be fulfilled by their voice communication systems as well as by the TSO's own voice communication system in order to allow their interoperability and to guarantee that the TSO's incoming call can be identified by the other party and answered immediately.
3. Each TSO shall establish, in consultation with its neighbouring TSOs and the other TSOs of its synchronous area, the technical requirements to be fulfilled by their voice communication systems as well as by the TSO's own voice communication system in order to allow their interoperability and to guarantee that the TSO's incoming call can be identified by the other party and answered immediately.
4. Notwithstanding paragraph 1, those SGUs identified in accordance with Article 23(4) that are type B power generating modules and those restoration service providers that are type A or B power generating modules, shall have the possibility to have only a data communication system, instead of a voice communication system, if agreed upon with the TSO. This data communication system shall fulfil the requirements laid down in paragraphs 1 and 2.
5. Member States may require that, in addition to the voice communication system, a complementary communication system be used to support the restoration plan; in that case, the complementary communication system shall fulfil the requirements laid down in paragraph 1.

*Article 42***Tools and facilities**

1. Each TSO shall make available critical tools and facilities referred to in Article 24 of Regulation (EU) 2017/1485 for at least 24 hours in case of loss of primary power supply.
2. Each DSO and SGU identified pursuant to Article 23(4) as well as restoration service provider shall make available critical tools and facilities referred to in Article 24 of Regulation (EU) 2017/1485 and used in the restoration plan for at least 24 hours in case of loss of primary power supply, as defined by the TSO.
3. Each TSO shall have at least one geographically separate backup control room. The backup control room shall include at least the critical tools and facilities referred to in Article 24 of Regulation (EU) 2017/1485. Each TSO shall arrange a backup power supply for its backup control room for at least 24 hours in case of loss of primary power supply.
4. Each TSO shall prepare a transfer procedure for moving functions from the main control room to the backup control room as quickly as possible, and in any case in a maximum time of three hours. The procedure shall include the operation of the system during the transfer.
5. Substations identified as essential for the restoration plan procedures pursuant to Article 23(4) shall be operational in case of loss of primary power supply for at least 24 hours. For substations in the synchronous area Ireland and Latvia, the duration of operation in case of loss of primary power supply may be lower than 24 hours and shall be approved by the regulatory authority or other competent authority of the Member State, on proposal of the TSO.

CHAPTER VI

COMPLIANCE AND REVIEW

SECTION 1

Compliance testing of TSO, DSO and SGU capabilities*Article 43***General principles**

1. Each TSO shall periodically assess the proper functioning of all equipment and capabilities considered in the system defence plan and the restoration plan. To this end, each TSO shall periodically verify the compliance of such equipment and capabilities, in accordance with paragraph 2 and with Article 41(2) of Regulation (EU) 2016/631, Article 35(2) of Regulation (EU) 2016/1388 and Article 69(1) and (2) of Regulation (EU) 2016/1447.
2. By 18 December 2019 each TSO shall define a test plan in consultation with the DSOs, the SGUs identified pursuant to Articles 11(4) and 23(4), the defence service providers and the restoration service providers. The test plan shall identify the equipment and capabilities relevant for the system defence plan and the restoration plan that have to be tested.
3. The test plan shall include the periodicity and conditions of the tests, following the minimum requirements outlined in Articles 44 to 47. The test plan shall follow the methodology laid down in Regulation (EU) 2016/631, Regulation (EU) 2016/1388 and Regulation (EU) 2016/1447 for the corresponding tested capability. For SGUs that are not subject to Regulation (EU) 2016/631, Regulation (EU) 2016/1388 and Regulation (EU) 2016/1447, the test plan shall follow the provisions of national law.
4. Each TSO, DSO, SGU, defence service provider and restoration service provider shall not endanger the operational security of the transmission system and of the interconnected transmission system during the test. The test shall be conducted in a way that minimises the impact on system users.
5. The test is deemed to be successful when it fulfils the conditions established by the relevant system operator pursuant to paragraph 3. As long as a test fails to fulfil these criteria, the TSO, DSO, SGU, defence service provider and restoration service provider shall repeat the test.

*Article 44***Compliance testing of power generating module capabilities**

1. Each restoration service provider which is a power generating module delivering black start service shall execute a black start capability test, at least every three years, following the methodology laid down in Article 45(5) of Regulation (EU) 2016/631.
2. Each restoration service provider which is a power generating module delivering a quick re-synchronisation service shall execute tripping to houseload test after any changes of equipment having an impact on its houseload operation capability, or after two unsuccessful consecutive tripping in real operation, following the methodology laid down in Article 45(6) of Regulation (EU) 2016/631.

*Article 45***Compliance testing of demand facilities providing demand side response**

1. Each defence service provider delivering demand response shall execute a demand modification test, after two consecutive unsuccessful responses in real operation or at least every year, following the methodology laid down in Article 41(1) of Regulation (EU) 2016/1388.
2. Each defence service provider delivering demand response low frequency demand disconnection shall execute a low frequency demand disconnection test within a period to be defined at national level and following the methodology laid down in Article 37(4) of Regulation (EU) 2016/1388 for transmission connected demand facilities or according to a similar methodology defined by the relevant system operator for other demand facilities.

*Article 46***Compliance testing of HVDC capabilities**

Each restoration service provider which is an HVDC system delivering a black start service shall execute a black start capability test, at least every three years, following the methodology laid down in Article 70(11) of Regulation (EU) 2016/1447.

*Article 47***Compliance testing of low frequency demand disconnection relays**

Each DSO and TSO shall execute testing on the low frequency demand disconnection relays implemented on its installations, within a period to be defined at national level and following the methodology laid down in Article 37(6) and Article 39(5) of Regulation (EU) 2016/1388.

*Article 48***Testing of communication systems**

1. Each DSO and SGU identified pursuant to Article 23(4), each TSO and each restoration service provider shall test the communication systems defined in Article 41, at least every year.
2. Each DSO and SGU identified pursuant to Article 23(4), each TSO and each restoration service provider shall test the backup power supply of their communication systems at least every five years.
3. By 18 December 2024 each TSO, in consultation with other TSOs, shall define a test plan for testing the inter-TSO communication.

*Article 49***Testing of tools and facilities**

1. Each TSO shall test the capability of main and backup power sources to supply its main and backup control rooms, provided for in Article 42, at least every year.

2. Each TSO shall test the functionality of critical tools and facilities referred to in Article 24 of Regulation (EU) 2017/1485, at least every three years, covering both main and backup tools and facilities. Where these tools and facilities involve DSOs or SGUs, these parties shall participate in this test.
3. Each TSO shall test the capability of backup power sources to supply essential services of the substations identified as essential for the restoration plan procedures pursuant to Article 23(4), at least every five years. When these substations are in distribution systems, DSOs shall execute this test.
4. Each TSO shall test the transfer procedure for moving from the main control room to the backup control room, provided for in Article 42(4), at least every year.

SECTION 2

Compliance testing and review of system defence plans and restoration plans

Article 50

Compliance testing and periodic review of the system defence plan

1. Each DSO concerned by the implementation of the low frequency demand disconnection on its installations shall update once a year the communication to the notifying system operator provided for in point (b) of Article 12(6). This communication shall include the frequency settings at which netted demand disconnection is initiated and the percentage of netted demand disconnected at every such setting.
2. Each TSO shall monitor the proper implementation of the low frequency demand disconnection on the basis of the yearly written communication referred to in paragraph 1 and on the basis of implementation details of TSOs' installations where applicable.
3. Each TSO shall review, at least every five years, its complete system defence plan to assess its effectiveness. The TSO shall in this review take into account at least:
 - (a) the development and evolution of its network since the last review or first design;
 - (b) the capabilities of new equipment installed on the transmission and distribution systems since the last review or first design;
 - (c) the SGUs commissioned since the last review or first design, their capabilities and relevant services offered;
 - (d) the tests carried out and the analysis of system incidents pursuant to Article 56(5) of Regulation (EU) 2017/1485; and
 - (e) the operational data collected during normal operation and after disturbance.
4. Each TSO shall review the relevant measures of its system defence plan in accordance with paragraph 3 before any substantial change in the configuration of the grid.
5. When the TSO identifies the need to adapt the system defence plan, it shall amend its system defence plan and implement these amendments in accordance with points (c) and (d) of Article 4(2) and Articles 11 and 12.

Article 51

Compliance testing and periodic review of the restoration plan

1. Each TSO shall review the measures of its restoration plan using computer simulation tests, using data from the DSOs identified pursuant to Article 23(4) and the restoration service providers, at least every five years. The TSO shall define these simulation tests in a dedicated testing procedure covering at least:
 - (a) the energising restoration path from restoration service providers with black start or island operation capabilities;
 - (b) the supply of power generating modules main auxiliaries;
 - (c) the demand reconnection process; and
 - (d) the process for resynchronisation of networks in island operation.

2. In addition, where deemed necessary by the TSO for the effectiveness of the restoration plan, each TSO shall execute operational testing of parts of the restoration plan, in coordination with the DSOs identified pursuant to Article 23(4) and the restoration service providers. The TSO shall set out, in consultation with the DSOs and restoration service providers, those operational tests in a dedicated testing procedure.
3. Each TSO shall review its restoration plan to assess its effectiveness, at least every five years.
4. Each TSO shall review the relevant measures of its restoration plan in accordance with paragraph 1 and review their effectiveness before any substantial change in the configuration of the grid.
5. When the TSO identifies the need to adapt the restoration plan, it shall amend its restoration plan and implement these amendments in accordance with points (c) and (d) of Article 4(2) and Articles 23 and 24.

CHAPTER VII

IMPLEMENTATION

Article 52

Monitoring

1. ENTSO for Electricity shall monitor the implementation of this Regulation in accordance with Article 8(8) of Regulation (EC) No 714/2009. Monitoring shall cover in particular the following matters:
 - (a) identification of any divergences in the national implementation of this Regulation for the items listed in Article 4(2);
 - (b) consistency assessment of system defence plans and restoration plans carried out by TSOs in accordance with Article 6;
 - (c) thresholds above which the impact of actions of one or more TSOs in the emergency, blackout or restoration states is considered significant for other TSOs within the capacity calculation region in accordance with Article 6;
 - (d) the level of harmonisation of the rules for suspension and restoration of market activities established by the TSOs in accordance with Article 36(1) and for the purposes of the report provided for in Article 36(7);
 - (e) the level of harmonisation of the rules for imbalance settlement and settlement of balancing energy in case of market suspension, referred to in Article 39.
2. The Agency, in cooperation with ENTSO for Electricity, shall produce by 18 December 2018 a list of the relevant information to be communicated by ENTSO for Electricity to the Agency in accordance with Articles 8(9) and 9(1) of Regulation (EC) No 714/2009. The list of relevant information may be subject to updates. ENTSO for Electricity shall maintain a comprehensive, standardised format, digital data archive of the information required by the Agency.
3. Relevant TSOs shall submit to ENTSO for Electricity the information required to perform the tasks referred to in paragraphs 1 and 2.
4. Following a request of the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC, DSOs and the entities pursuant to Article 39(1) shall provide TSOs with the information under paragraph 2 unless that information is already available to the regulatory authorities, TSOs, the Agency or ENTSO for Electricity in relation to their respective implementation monitoring tasks, with the objective of avoiding duplication of information.

Article 53

Stakeholder involvement

The Agency, in close cooperation with ENTSO for Electricity, shall organise stakeholder involvement regarding the implementation of this Regulation. Such involvement shall include regular meetings with stakeholders to identify problems and propose improvements related to the requirements of this Regulation.

CHAPTER VIII

FINAL PROVISIONS

*Article 54***Amendments to contracts and general terms and conditions**

All relevant clauses in contracts and general terms and conditions of TSOs, DSOs and SGUs relating to system operation shall comply with the requirements of this Regulation. To that effect, those contracts and general terms and conditions shall be modified accordingly.

*Article 55***Entry into force**

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Article 15(5) to (8), Article 41 and Article 42(1), (2) and (5) shall apply from 18 December 2022.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 24 November 2017.

For the Commission
The President
Jean-Claude JUNCKER

ANNEX

Automatic low frequency demand disconnection scheme characteristics:

Parameter	Values SA Continental Europe	Values SA Nordic	Values SA Great Britain	Values SA Ireland	Measuring Unit
Demand disconnection starting mandatory level: Frequency	49	48,7 – 48,8	48,8	48,85	Hz
Demand disconnection starting mandatory level: Demand to be disconnected	5	5	5	6	% of the Total Load at national level
Demand disconnection final mandatory level: Frequency	48	48	48	48,5	Hz
Demand disconnection final mandatory level: Cumulative Demand to be disconnected	45	30	50	60	% of the Total Load at national level
Implementation range	± 7	± 10	± 10	± 7	% of the Total Load at national level, for a given Frequency
Minimum number of steps to reach the final mandatory level	6	2	4	6	Number of steps
Maximum Demand disconnection for each step	10	15	10	12	% of the Total Load at national level, for a given step

COMMISSION IMPLEMENTING REGULATION (EU) 2017/2197**of 27 November 2017****on the reimbursement, in accordance with Article 26(5) of Regulation (EU) No 1306/2013 of the European Parliament and of the Council, of the appropriations carried over from financial year 2017**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 1306/2013 of the European Parliament and of the Council of 17 December 2013 on the financing, management and monitoring of the common agricultural policy and repealing Council Regulations (EEC) No 352/78, (EC) No 165/94, (EC) No 2799/98, (EC) No 814/2000, (EC) No 1290/2005 and (EC) No 485/2008 ⁽¹⁾, and in particular Article 26(6) thereof,

After consulting the Committee on the Agricultural Funds,

Whereas:

- (1) In accordance with Article 169(3) of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council ⁽²⁾ non-committed appropriations relating to the actions financed by the European Agricultural Guarantee Fund (EAGF) as referred to in Article 4(1) of Regulation (EU) No 1306/2013 may be carried over to the following financial year. Such carryover is limited to 2 % of the initial appropriations and to the amount of the adjustment of direct payments as referred to in Article 8 of Regulation (EU) No 1307/2013 of the European Parliament and of the Council ⁽³⁾ which was applied during the preceding financial year. It may lead to an additional payment to the final recipients who were subject to that adjustment.
- (2) In accordance with Article 26(5) of Regulation (EU) No 1306/2013, by way of derogation from Article 169(3) of Regulation (EU, Euratom) No 966/2012, Member States are to reimburse the carryover referred to in Article 169(3) of Regulation (EU, Euratom) No 966/2012 to the final recipients who are subject to the adjustment rate in the financial year to which the appropriations are carried over. That reimbursement only applies to final beneficiaries in those Member States where financial discipline applied ⁽⁴⁾ in the preceding financial year.
- (3) When setting the amount of the carryover to be reimbursed, in accordance with Article 26(7) of Regulation (EU) No 1306/2013 the amounts of the reserve for crises in the agricultural sector referred to in Article 25 of that Regulation, not made available for crisis measures by the end of the financial year, are to be taken into account.
- (4) In accordance with Article 1(1) of Commission Implementing Regulation (EU) 2016/1948 ⁽⁵⁾, financial discipline is applied to direct payments in respect of calendar year 2016 to establish the crisis reserve of EUR 450,5 million. The crisis reserve has not been called on in financial year 2017.
- (5) In order to ensure that the reimbursement to the final recipients of unused appropriations as a result of the application of financial discipline remains proportionate to the amount of the financial discipline adjustment, it is appropriate that the Commission determines the amounts available to the Member States for the reimbursement. However, in the case of Romania, the detailed declaration of expenditure does not fully take into account the threshold of EUR 2 000 that applies to financial discipline in accordance with Article 8(1) of Regulation (EU) No 1307/2013. Therefore, with a view to sound financial management, at this stage no amount should be made available to Romania for reimbursement.

⁽¹⁾ OJ L 347, 20.12.2013, p. 549.

⁽²⁾ Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002 (OJ L 298, 26.10.2012, p. 1).

⁽³⁾ Regulation (EU) No 1307/2013 of the European Parliament and of the Council of 17 December 2013 establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy and repealing Council Regulation (EC) No 637/2008 and Council Regulation (EC) No 73/2009 (OJ L 347, 20.12.2013, p. 608).

⁽⁴⁾ Financial discipline does not apply in financial year 2017 in Croatia in accordance with Article 8(2) of Regulation (EU) No 1307/2013.

⁽⁵⁾ Commission Implementing Regulation (EU) 2016/1948 of 7 November 2016 adapting the adjustment rate for direct payments provided for in Regulation (EU) No 1306/2013 of the European Parliament and of the Council in respect of the calendar year 2016 and repealing Commission Implementing Regulation (EU) 2016/1153 (OJ L 300, 8.11.2016, p. 10).

- (6) To avoid compelling Member States to make an additional payment for that reimbursement, this Regulation needs to apply from 1 December 2017. Consequently, the amounts established by this Regulation are definitive and apply, without prejudice to the application of reductions in accordance with Article 41 of Regulation (EU) No 1306/2013, to any other corrections taken into account in the monthly payment decision concerning the expenditure effected by the paying agencies of the Member States for October 2017, in accordance with Article 18(3) of Regulation (EU) No 1306/2013 and to any deductions and supplementary payments to be made in accordance with Article 18(4) of that Regulation or to any decisions which will be taken within the framework of the clearance of accounts procedure.
- (7) In accordance with Article 169(3) of Regulation (EU, Euratom) No 966/2012 the non-committed appropriations may be carried over to the following financial year only. It is therefore appropriate for the Commission to determine eligibility dates for the expenditure of the Member States in relation to the reimbursement in accordance with Article 26(5) of Regulation (EU) No 1306/2013, taking into account the agricultural financial year as defined in Article 39 of that Regulation.
- (8) In order to take into account the short time span between the communication of the execution of 2017 EAGF appropriations under shared management for the period from 16 October 2016 to 15 October 2017 by the Member States and the need to apply this Regulation from 1 December 2017, this Regulation should enter into force on the date of its publication in the *Official Journal of the European Union*,

HAS ADOPTED THIS REGULATION:

Article 1

The amounts of the appropriations that will be carried over from financial year 2017 in accordance with Article 169(3) of Regulation (EU, Euratom) No 966/2012 and that in accordance with Article 26(5) of Regulation (EU) No 1306/2013 are made available to the Member States for the reimbursement to the final recipients who are subject to the adjustment rate in financial year 2018, are laid down in the Annex to this Regulation.

The amounts that will be carried over are subject to the carryover decision of the Commission in accordance with the fifth subparagraph of Article 169(3) of Regulation (EU, Euratom) No 966/2012.

Article 2

Member States' expenditure in relation to the reimbursement of the appropriations carried over shall only be eligible for Union financing if the relevant amounts have been paid to the beneficiaries before 16 October 2018.

Article 3

This Regulation shall enter into force on the day of its publication in the *Official Journal of the European Union*.

It shall apply from 1 December 2017.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 27 November 2017.

*For the Commission,
On behalf of the President,
Jerzy PLEWA
Director-General*

ANNEX

Amounts available for reimbursement of appropriations carried over*(amounts in EUR)*

Belgium	6 129 769
Bulgaria	7 720 511
Czech Republic	10 764 025
Denmark	10 476 968
Germany	58 035 302
Estonia	1 288 878
Ireland	13 229 176
Greece	16 182 344
Spain	54 860 187
France	89 884 134
Italy	37 765 185
Cyprus	355 813
Latvia	1 952 848
Lithuania	3 923 157
Luxembourg	406 406
Hungary	14 828 231
Malta	33 643
Netherlands	8 821 818
Austria	6 908 717
Poland	24 870 087
Portugal	6 699 290
Slovenia	931 120
Slovakia	5 554 196
Finland	5 885 783
Sweden	7 897 927
United Kingdom	37 930 754

DECISIONS

COMMISSION IMPLEMENTING DECISION (EU) 2017/2198

of 27 November 2017

concerning certain interim protective measures relating to African swine fever in Poland

(notified under document C(2017) 8039)

(Only the Polish text is authentic)

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Council Directive 89/662/EEC of 11 December 1989 concerning veterinary checks in intra-Community trade with a view to the completion of the internal market ⁽¹⁾, and in particular Article 9(3) thereof,

Having regard to Council Directive 90/425/EEC of 26 June 1990 concerning veterinary and zootechnical checks applicable in intra-Community trade in certain live animals and products with a view to the completion of the internal market ⁽²⁾, and in particular Article 10(3) thereof,

Whereas:

- (1) African swine fever is an infectious viral disease affecting domestic and feral pig populations and can have a severe impact on the profitability of pig farming causing disturbance to trade within the Union and exports to third countries.
- (2) In the event of an outbreak of African swine fever, there is a risk that the disease agent may spread to other pig holdings and to feral pigs. As a result, it may spread from one Member State to another Member State and to third countries through trade in live pigs or their products.
- (3) Council Directive 2002/60/EC ⁽³⁾ lays down minimum measures to be applied within the Union for the control of African swine fever. Article 15 of Directive 2002/60/EC provides for the establishment of an infected area following the confirmation of one or more cases of African swine fever in feral pigs.
- (4) Poland has informed the Commission of the up-to-date African swine fever situation on its territory, and in accordance with Article 15 of Directive 2002/60/EC, it has established an infected area where the measures referred to in Article 15 of that Directive are applied.
- (5) In order to prevent any unnecessary disturbance to trade within the Union and to avoid unjustified barriers to trade by third countries, it is necessary to identify at Union level the infected area for African swine fever in Poland in collaboration with that Member State.
- (6) Accordingly, pending the meeting of the Standing Committee on Plants, Animals, Food and Feed, the infected area in Poland should be listed in the Annex to this Decision and the duration of that regionalisation fixed.
- (7) This Decision is to be reviewed at the next meeting of the Standing Committee on Plants, Animals, Food and Feed,

⁽¹⁾ OJ L 395, 30.12.1989, p. 13.

⁽²⁾ OJ L 224, 18.8.1990, p. 29.

⁽³⁾ Council Directive 2002/60/EC of 27 June 2002 laying down specific provisions for the control of African swine fever and amending Directive 92/119/EEC as regards Teschen disease and African swine fever (OJ L 192, 20.7.2002, p. 27).

HAS ADOPTED THIS DECISION:

Article 1

Poland shall ensure that the infected area established in accordance with Article 15 of Directive 2002/60/EC comprises at least the areas listed as the infected area in the Annex to this Decision.

Article 2

This Decision shall apply until 15 December 2017.

Article 3

This Decision is addressed to the Republic of Poland.

Done at Brussels, 27 November 2017.

For the Commission
Vytenis ANDRIUKAITIS
Member of the Commission

ANNEX

Areas established as Infected Area in Poland as referred to in Article 1	Date until applicable
Gminy of Leoncin, Leszno, Stare Babice, Izabelin, Czosnow, Lomianki (obszar wiejski) and Lomianki (miasto)	15 December 2017

DECISION (EU) 2017/2199 OF THE EUROPEAN CENTRAL BANK
of 20 November 2017
amending Decision ECB/2014/40 on the implementation of the third covered bond purchase
programme (ECB/2017/37)

THE GOVERNING COUNCIL OF THE EUROPEAN CENTRAL BANK,

Having regard to the Treaty on the Functioning of the European Union and in particular the first indent of Article 127(2) thereof,

Having regard to the Statute of the European System of Central Banks and of the European Central Bank, and in particular the second subparagraph of Article 12.1 in conjunction with the first indent of Article 3.1, and Article 18.1 thereof,

Whereas:

- (1) Decision ECB/2014/40 ⁽¹⁾ established the third covered bond purchase programme (hereinafter the 'CBPP3'). Alongside the asset-backed securities purchase programme, the secondary markets public sector asset purchase programme and the corporate sector purchase programme, the CBPP3 is part of the expanded asset purchase programme (APP). The APP aims to further enhance the transmission of monetary policy, facilitate the provision of credit to the euro area economy, ease borrowing conditions for households and firms and contribute to returning inflation rates to levels below but close to 2 % over the medium term, consistent with the primary objective of the European Central Bank (ECB) of maintaining price stability.
- (2) The Governing Council decided on 4 October 2017 to further refine the rules applicable to the eligibility for purchase under the CBPP3 of covered bonds that are commonly referred to as conditional pass-through covered bonds, in view of the potentially higher risks to which they expose the Eurosystem.
- (3) Therefore, Decision ECB/2014/40 should be amended accordingly,

HAS ADOPTED THIS DECISION:

Article 1

Amendment

In Article 2 of Decision ECB/2014/40, the following point 9 is added:

- '9. Covered bonds shall be excluded from purchases under the CBPP3 where both: (a) they have a conditional pass-through structure, whereby pre-defined events lead to an extension of the bond's maturity and a switch to a payment structure dependent primarily on cash flows generated by the assets in the underlying cover pool; and (b) they are issued by an entity with a first-best issuer rating below CQS3.'

Article 2

Entry into force

This Decision shall enter into force on 1 February 2018.

Done at Frankfurt am Main, 20 November 2017.

For the Governing Council of the ECB

The President of the ECB

Mario DRAGHI

⁽¹⁾ Decision ECB/2014/40 of 15 October 2014 on the implementation of the third covered bond purchase programme (OJ L 335, 22.11.2014, p. 22).

