

Consultation Load Frequency Control & Reserves

Start date

Title	Article	Paragraph	Initial version	Proposed version	Justification text
0	0	0	(3) Transmission System Operators (TSOs) are according to Article 12 of Directive 2009/72/EC responsible for providing and operating high and extra-high voltage networks for long-distance transmission of electricity. Besides this transmission and supply task it is also the TSOs' responsibility to ensure the Operational Security of their LFC Areas and together in the whole Synchronous Areas and the European Union, with a high level of reliability and quality	(3) Transmission System Operators (TSOs) are according to Article 12 of Directive 2009/72/EC responsible for providing and operating high and extra-high voltage networks for long-distance transmission of electricity. It is also the TSOs' responsibility to ensure the Operational Security of their LFC Areas and together in the whole Synchronous Areas and the European Union, with a high level of reliability and quality	TSOs do not have supply tasks.
0	0	0	(4) One of the most critical processes to ensure the Transmission System Operational Security with a high level of reliability and quality is the Load-Frequency Control (LFC). Effective Load-Frequency Control can be made possible only if there is an obligation for the TSOs, Reserve Connecting Distribution System Operators (DSOs), Providers' Power Generating Facilities and Demand Facilities to cooperate and to meet the relevant minimum technical requirements for the operation of the interconnected Transmission Systems as one entity;	(4) One of the most critical processes to ensure the Transmission System Operational Security with a high level of reliability and quality is the Load-Frequency Control (LFC). Effective Load-Frequency Control can be made possible only if there is an obligation for the TSOs, Reserve Connecting Distribution System Operators (DSOs), Providers' Power Generating Facilities and Demand Facilities to cooperate in order to meet the relevant minimum technical requirements for the operation of the interconnected Transmission Systems	One entity is not appropriate. TSOs and system users must have arms length commercially based relationships.
0	0	0	(8) In terms of LFC structure and operational rules, this Network Code introduces rules regarding FCR, FRR and RR control processes that shall set a basis for an efficient and effective Load-Frequency Control in the European Union. FCR shall aim at containing the frequency drop after an incident within a pre-defined range. FRR shall aim at restoring the frequency to its Nominal Frequency of 50 Hz. RR replace the activated reserves to restore the available reserves in the system or for economic optimisation;	(8) In terms of LFC structure and operational rules, this Network Code introduces rules regarding FCR, FRR and RR control processes that shall set a basis for an efficient and effective Load-Frequency Control in the European Union. FCR shall aim at containing the frequency drop after an incident within a pre-defined range. FRR shall aim at restoring the frequency to its Nominal Frequency of 50 Hz. RR replace the activated reserves to restore the available reserves in the system	Economic optimisation must not be the objective of using RR. This invites TSOs to use these in the pre gate closure phase. It is the mainly the job of the market to optimise.

0	0	0	(9) The establishment of Load-Frequency Control Structure shall allow the efficient and effective load-frequency control in each Synchronous Area. The frequency quality target is defined at the level of the Synchronous Area, as the frequency is common parameter for a whole Synchronous Area. The Synchronous Area comprises of one or, in case of large Synchronous Area, more LFC Blocks. The frequency restoration quality is defined at the level of the LFC Block. In order to achieve maximum efficiency each LFC Block comprises of one or more LFC Areas. This control structure design allows to establish clear rules for TSO responsibilities and to create incentives for cooperation at LFC Block or Synchronous Area level. The choice of Load-Frequency Control Structure per Synchronous Area should be based on the number of TSOs involved and on the level of complexity congestion management on the transmission system;	(9) The establishment of Load-Frequency Control Structure shall allow the efficient and effective load-frequency control in each Synchronous Area. The frequency quality target is defined at the level of the Synchronous Area, as the frequency is common parameter for a whole Synchronous Area. The Synchronous Area comprises of one or, in case of large Synchronous Area, more LFC Blocks. The frequency restoration quality is defined at the level of the LFC Block. In order to achieve maximum efficiency each LFC Block comprises of one or more LFC Areas. This control structure design allows to establish clear rules for TSO responsibilities and to create incentives for cooperation at LFC Block or Synchronous Area level. The choice of Load-Frequency Control Structure per Synchronous Area should be based on the number of TSOs involved and on the level of complexity congestion management on the transmission system. A process for reviewing the delimitation of these areas is established in this network code;	The network code needs scope to reassess and review the LFC control structure.
1	1	1	This Network Code defines the requirements and principles for load-frequency control and reserves applicable to all TSOs, Reserve Connecting DSOs and Providers.	This Network Code defines the requirements and principles for load-frequency control and reserves applicable to all TSOs, Reserve Connecting DSOs and Balancing Service Providers.	The article should be more specific.
1	1	2	This Network Code aims at: a) achieving and maintaining a satisfactory level of frequency quality and efficient utilisation of the power system and resources; b) ensuring coherent and coordinated behaviour of the transmission networks and power systems in real-time operation; c) determining common requirements and principles for FCR, FRR and RR; determining common requirements for cross-border exchange, sharing and activation of reserves	This Network Code aims at: a) achieving and maintaining a satisfactory level of frequency quality and an efficient process for load frequency control; b) ensuring coherent and coordinated behaviour of the transmission networks and power systems in real-time operation; c) determining common requirements and principles for FCR, FRR and RR; determining common requirements for cross-border exchange, sharing and activation of reserves	The Network Code should not have a general objective of efficient utilisation of of resources. It is for the market to determine this.
1	2	2	Available Transmission Capacity (ATC) means the transmission capacity which can be used for Imbalance Netting Power, Frequency Restoration Power and Replacement Power interchange without endangering the Operational Security;	Physical Available Cross-Border Capacity means the transmission capacity which can be used after intraday gate closure for Imbalance Netting Power, Frequency Restoration Power and Replacement Power exchange without endangering Operational Security;	Available Transmission Capacity (ATC) name is confusing with the current commercial Available Transmission Capacity (ATC) name. We would prefer to refer to another term.
1	2	2	[NEW DEFINITION: FCR Capacity]	FCR Capacity shall cover not more than the Reference Incident of the Synchronous area	No definition of FCR Capacity whereas it is used in Article 27 §1
1	2	2	[NEW DEFINITION: FCR Exhaustion]	to be defined	No definition of FCR Exhaustion whereas it is used in Article 12 §3

1	2	2	[NEW DEFINITION: Network Splitting]	to be defined	No definition of Network Splitting whereas it is used in Article 35 §2
1	2	2	[NEW DEFINITION: System Imbalances]	to be defined	No definition of System Imbalances whereas it is used in Article 33 §3
1	2	2	Normal Synchronous Area State means the Synchronous Area alert state; active if neither Elevated Synchronous Area State nor High Synchronous Area State are active;	Normal State means the System State where the system is within Operational Security limits in the N-Situation and after the occurrence of any Contingency from the Contingency List, taking into account the effect of the available Remedial Actions;	As defined in the network code on Operational Security.
1	2	2	Provider means an entity operating a Reserve Providing Unit or a Reserve Providing Group;	Balancing Services Provider (BSP) means an entity providing FCR, FRR or RR, or balancing energy, to the system operator	Definition should be more specific and consistent with the network code on Electricity Balancing.
1	2	2	Replacement Reserves (RR) means the reserves used to restore/support the required level of FRR to be prepared for further system imbalances. This category includes operating reserves with activation time from Time to Restore Frequency up to hours;	Replacement Reserves (RR) means the reserves used to restore/support the required level of FRR to be prepared for further system imbalances.	The RR definition must be consistent with FCR and FRR definitions. Activation timing should be defined within the code under the appropriate chapter.
1	2	2	Synchronous Area means an area covered by interconnected TSOs with a common System Frequency in a steady operational state such as the Synchronous Areas Continental Europe (CE), Cyprus (CY), Great Britain (GB), Ireland (IRE) and Northern Europe (NE) and the power systems of Lithuania, Latvia and Estonia (Baltic) as a part of a synchronous area;	Synchronous Area means an area covered by interconnected TSOs with a common System Frequency in a steady operational state such as the Synchronous Areas Continental Europe (CE), Cyprus (CY), Great Britain (GB), Ireland (IRE) and Nordic Area and the power systems of Lithuania, Latvia and Estonia (Baltic) as a part of a synchronous area;	The term Northern Europe (NE) should be consistent with the term Nordic Area used in the code on requirements for grid generators
1	2	2	Frequency Containment Reserves (FCR) means the Operational reserves activated to contain System Frequency after the occurrence of an imbalance;	Frequency Containment Reserves (FCR) means the Operational reserves activated to contain System Frequency after the occurrence of an imbalance within a PTU\settlement period and with an activation time between instantaneous and xxx;	Original definition too vague. Must be clear about how\when the reserve is being activated.
1	2	2	Frequency Restoration Reserves (FRR) means the Operational Reserves activated to restore System Frequency to the Nominal Frequency and for Synchronous Area consisting of more than one LFC Area power balance to the scheduled value;	Frequency Restoration Reserves (FRR) means the Operational Reserves activated to restore System Frequency to the Nominal Frequency within a PTU\settlement period and for Synchronous Area consisting of more than one LFC Area power balance to the scheduled value, with an activation time between that for FCR and 15 minutes;	Original definition too vague. Must be clear about how\when the reserve is being activated.
1	2	2	Operational Reserves means the spinning and non-spinning reserves that are accessible to at least one TSO;	Operational Reserves means the spinning and non-spinning reserves that are accessible to at least one TSO and are included in the categories FCR, FRR and RR;	Just to make clearer that the categories include all the Operational Reserves.

1	2	2	High Synchronous Area State means the Synchronous Area alert state; active if the 1 Minute Moving Average of the Frequency Deviation is above 90 % of the Maximum Steady State Frequency Deviation for at least one third of the Time to Restore Frequency;	High Synchronous Area Alert State means the Synchronous Area alert state; active if the system is in an Alert State as defined in OS network code and the 1 Minute Moving Average of the Frequency Deviation is above 90 % of the Maximum Steady State Frequency Deviation for at least one third of the Time to Restore Frequency;	Consistency with OS network code is needed.
1	2	2	Elevated Synchronous Area State means the Synchronous Area alert state; active if High Synchronous Area State is not active and the 1 Minute Moving Average of the Frequency Deviation is outside 75 % of the Maximum Steady State Frequency Deviation for at least the Time to Restore Frequency;	Elevated Synchronous Area Alert State means the Synchronous Area alert state; active if the synchronous area is in an Alert State as defined in the OS NC and High Synchronous Area State is not active and the 1 Minute Moving Average of the Frequency Deviation is outside 75 % of the Maximum Steady State Frequency Deviation for at least the Time to Restore Frequency;	Consistency with OS network code is needed.
1	2	2	Imbalance netting process means a process agreed between TSOs of two or more LFC areas within one or more synchronous areas that allows for avoidance of simultaneous FRR activation in opposite directions by taking into account the respective Frequency Restoration Control Errors as well as activated FRR and correcting the input of the involved FRPs accordingly	Imbalance netting process means a process agreed between TSOs of two or more LFC areas within one or more synchronous areas that allows for avoidance of simultaneous FRR, RR or balancing energy activation in opposite directions by taking into account the respective Frequency Restoration Control Errors as well as activated FRR, RR or balancing energy and correcting the input of the involved FRPs accordingly	The netting process needs to be defined more generally for use in the Balancing code.
1	2	2	Exchange of reserves means a concept for reserves connected in one LFC Area, LFC Block or Synchronous Area but exclusively taken into account in the Dimensioning process by to a single TSO responsible for another LFC Area, LFC Block or Synchronous Area.	Exchange of reserves means a situation where reserves connected in one LFC Area, LFC Block or Synchronous Area are procured by a TSO responsible for another LFC Area, LFC Block or Synchronous Area.	Exchange is not relevant to the Diminsenioning process. It should also imply a commercial transaction between TSO and provider
1	3	1	The requirements established in this Network Code and their applications are based on the principle of non-discrimination and transparency as well as the principle of optimisation between the highest overall efficiency and lowest total cost for all involved parties.	The requirements established in this Network Code and their applications are based on the principle of non-discrimination and transparency. [or delete]	A general principle of optimisation is not suitable for this network code - or any individual NC. Indeed these overarching principles are in the Regulation from which these NCs are derived.
1	3	2	Notwithstanding the above, the application of the principle of non-discrimination and the principle of optimisation between the highest overall efficiency and lowest total costs while maintaining Operational Security as the highest priority for all involved parties shall be balanced with the aim of achieving the maximum transparency in issues of interest for the market and the assignment to the real originator of the costs.	Notwithstanding the above, the application of the principle of non-discrimination shall be balanced with the aim of achieving the maximum transparency in issues of interest for the market and the assignment to the real originator of the costs. [or delete]	A general principle of optimisation is not suitable for this network code - or any individual NC. Indeed these overarching principles are in the Regulation from which these NCs are derived.

1	3	3	<p>Where reference is made to this paragraph, the TSO shall, after consultation with its national regulatory authority, establish the terms and conditions or actions necessary to ensure Operational Security in accordance with the principles of transparency, proportionality and non-discrimination. The establishment of these terms and conditions or actions necessary to ensure Operational Security shall be performed in compliance with and respecting the TSO's responsibility to ensure system security according to national legislation.</p>	<p>1. The items specified in paragraphs [] shall be treated in a manner consistent with Article 37 of Directive 2009/72/EC. 2. The following shall be subject to agreement by all TSOs at EU level: Imbalance netting process (Article 22) Cross border FRR activation in accordance with Article 23, cross border RR activation in accordance with Article 24, , RR operation in accordance with Article 34bis. General Principles for FRR\RR exchange in accordance with Article 37.3 and Article 38.4, exchange between synch areas (Articles 44, 46 and 48), sharing FCR between sych areas (Article 45) 3. The following shall be subject to agreement between all TSOs within a synchronous area: quality target parameters in accordance with Article 9, control area parameters in accordance with Article 10.1, data collection in accordance with Article 11, Freq. quality criteria (Article 12), Appointment of monitor (Article 13) LFC structure (Article 16, 18) Freq. containment process (Article 19), FRR process (Article 20), RR process (Article 21), FCR dimensioning (27), FCR minimum requirements (Article 28), FRR minimum requirements (Article 31), FRR operation in accordance with Article 32.2, FCR threshold (Article 35), 4. The following shall be subject to agreement between all TSOs in an LFC block: control area parameters (Article 10.4), Freq. quality criteria (Article 12 2b), Appointment of monitor (Article 14), FCR monitoring areas (Article 20.6) FRR dimensioning (Article 30), , FRR operation (Article 32.5) RR dimensioning (Article 33), RR minimum requirements (Article 34). limits on FRR/RR exchange (Articles 39, 41), Conditions for sharing FRR\RR (Article 42).</p>	<p>Article 3 §3 on regulatory approvals should follow the same structure as the article on regulatory approvals in the network code on Capacity Allocation and Congestion Management. Transparency in the regulatory approvals is key for market participants. Also add a paragraph with articles subject to public consultation and cost-benefit analysis (CBA) to be done.</p>
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1	6	1	No later than 12 months after entering into force of this Network Code all TSOs except the TSOs of the power systems of Lithuania, Latvia and Estonia within a Synchronous Area shall implement a Synchronous Area Agreement to ensure, that TSOs with no legal obligation to respect this Network Code, belonging to the Synchronous Area, also cooperate to fulfil the requirements.	Delete	Article 6 is not legally binding.
1	6	2	No later than 12 months after entering into force of this Network Code the TSOs of the power systems of Lithuania, Latvia and Estonia shall endeavour to implement a Synchronous Area Agreement including the requirements of this NC.	Delete	Article 6 is not legally binding. .
1	7	1	Where the TSOs of a Synchronous Area are required to adopt a decision in accordance with this Network Code, all TSOs of a Synchronous Area shall cooperate loyally to adopt the decision.	delete	It should be covered in the revised Article 3(3).

1	7	2	Where the TSOs of a Synchronous Area are required to adopt a decision in accordance with this Network Code, ENTSO-E shall facilitate the adoption of decisions.	delete	It should be covered in the revised Article 3(3).
2	8	1	All TSOs of a Synchronous Area shall define or amend the definition of: a) the Frequency Quality Target Parameters and the Frequency Quality Defining Parameters in accordance with Article 9; b) the Frequency Restoration Control Error Target Parameters and the Frequency Restoration Control Error Defining Parameters for each LFC Block in accordance with Article 10; c) the Data Collection and Delivery Process in accordance with Article 11; d) the Criteria Application Process in accordance with Article 12; e) the Frequency Quality Evaluation Criteria in accordance with Article 12; and f) the publication of results in accordance with Chapter 10.	Within XXX months from the entry into force of this network allTSOs of a synchronous area shall defined the following Quality Target Parameters: a) the Frequency Quality Target Parameters and the Frequency Quality Defining Parameters in accordance with Article 9; b) the Frequency Restoration Control Error Target Parameters and the Frequency Restoration Control Error Defining Parameters for each LFC Block in accordance with Article 10; c) the Data Collection and Delivery Process in accordance with Article 11; d) the Criteria Application Process in accordance with Article 12; e) the Frequency Quality Evaluation Criteria in accordance with Article 12; and f) the publication of results in accordance with Chapter 10. Regulators shall approve the definition in line with the (revised) Article 3(3).	This should follow the CACM process, including for any amendments. There should be regulatory scrutiny of these decisions to avoid uncertainty.
2	8	2	[NEW PARAGRAPH]	Unless in an emergency situation as defined in the Operational Security network code, TSO shall only use the Operational Reserve products FCR, FRR, RR to meet the requirements on Articles 9 and 10.	In order to avoid other ad hoc constraints and interventions
2	9	1	TSOs of a Synchronous Area shall use the following Frequency Quality Defining Parameters: a) Nominal Frequency b) Standard Frequency Range; c) Maximum Instantaneous Frequency Deviation; d) Maximum Steady-State Frequency Deviation; e) Time to Restore Frequency; and f) Time to Recover Frequency; and g) Frequency Range within Time to Restore Frequency	TSOs of a Synchronous Area shall use the following Frequency Quality Defining Parameters: a) Nominal Frequency; b) Standard Frequency Range; c) Maximum Instantaneous Frequency Deviation; d) Maximum Steady-State Frequency Deviation; e) Time to Restore Frequency; and f) Time to Recover Frequency; and g) Frequency Range within Time to Restore Frequency; h) Frequency Standard Deviation.	Add Frequency Standard Deviation because it is a very strong parameter to assess the frequency. Then, definition for Table 2 for CE does not make sense. Moreover article 12 §2 a) ii) provides to have this paramter monitored.

2	9	3	Table2: Frequency Quality Target Parameters of the Synchronous Area	Add following parameters in Table 2: - Maximum Deviation from the Frequency Quality Defining Parameters described in Table 1; - Maximum Frequency Standard Deviation.	The requirement set up in the Table 2 (maximum number of minutes outside the Standard Frequency Range) is limited only in time. A limit for the amplitude of the deviation outside the parameters described in Table 1 is not included. Moreover, there is no reference to the current criteria use by TSOs (Frequency Standard Deviation).
2	9	4	While respecting the provisions of Article 3(3), the TSOs of a Synchronous Area shall agree on a common proposal for setting or changing the value of each Frequency Quality Defining Parameter and each Frequency Quality Target Parameters at least every five years taking into account factors including, but not limited to:	TSOs of a Synchronous Area shall agree on a common proposal for setting or changing the value of each Frequency Quality Defining Parameter and each Frequency Quality Target Parameters at least every five years taking into account factors including, but not limited to:	Amendment process needs to be in line with the CACM process and have regulatory scrutiny.
2	10	1	The TSOs of a Synchronous Area shall define and use the following Frequency Restoration Control Error Defining Parameters for each LFC Block of a Synchronous Area for the next year with the goal of respecting the provisions of 0: a) Level 1 Frequency Restoration Control Error Range and b) Level 2 Frequency Restoration Control Error Range ; The TSOs of a Synchronous Area with more than one LFC Block shall ensure that the Level 1 Frequency Restoration Control Error Ranges and the Level 2 Frequency Restoration Control Error Ranges of the LFC Blocks of this Synchronous Area are proportional to the square root of the Initial FCR Obligations of the LFC Blocks.	Within XXX months of the entry into force of this code and thereafter on an annual basis the TSOs of a Synchronous Area shall define and use the following Frequency Restoration Control Error Target Parameters for each LFC Block of a Synchronous Area for the next year with the goal of respecting the provisions of article 10 §3 a) and b): a) Level 1 Frequency Restoration Control Error Range and b) Level 2 Frequency Restoration Control Error Range ; The TSOs of a Synchronous Area with more than one LFC Block shall ensure that the Level 1 Frequency Restoration Control Error Ranges and the Level 2 Frequency Restoration Control Error Ranges of the LFC Blocks of this Synchronous Area are proportional to the square root of the Initial FCR Obligations of the LFC Blocks. while respecting the provisions of [revised] Article 3(3)	Typo Error and link to below chapters
2	10	2	The TSOs of a Synchronous Area shall agree on setting the value of the Frequency Quality Target Parameters for each LFC Block of the Synchronous Area at least every year.	The TSOs of a Synchronous Area shall agree on setting the value of the Frequency Restoration Control Error Target Parameters for each LFC Block of the Synchronous Area at least every year, while respecting the provisions of [revised] Article 3(3),	Typo Error and Natioanl Regulatory Approvals

2	10	4	Where a Control Block consists of more than one LFC Area, all TSOs of the LFC Block shall define in a TSO multi-party agreement the Frequency Restoration Control Error Defining Parameters and Frequency Restoration Control Error Target Parameters for each LFC Area complying with Article 10(1) and Article 10(2).	Where a LFC Control Block consists of more than one LFC Area, all TSOs of the LFC Block shall, within XXX months of the entry into force of this code define the Frequency Restoration Control Error Target Parameters for each LFC Area complying with Article 10(1) and Article 10(2) and in line with the process in [revised] Article 3(3).	Control Block is not defined in the code. It would be better to replace it by LFC Control Block in order to be consistent. Also multi-party agreement should be publicly available and under NRA approval and market parties consultation. Finally typo error on Frequency Restoration Control Error Defining Parameters
2	12	3	The TSOs of a Synchronous Area shall define in a Synchronous Area Agreement a common methodology to assess the risk and the evolution of the risk of FCR Exhaustion of the Synchronous Area. This methodology shall be performed at least on an annual basis and shall be based at least on historical System Frequency data. The TSOs of a Synchronous Area shall provide the required input data for this analysis.	While respecting the provisions of [revised] Article 3(3), the TSOs of a Synchronous Area shall define in a Synchronous Area Agreement a common methodology to assess the risk and the evolution of the risk of FCR Exhaustion of the Synchronous Area. This methodology shall be performed at least on an annual basis and shall be based at least on historical System Frequency data. The TSOs of a Synchronous Area shall provide the required input data for this analysis.	Common methodology should be publicly available and under NRA approval and market parties consultation
2	13	1	All TSOs of a Synchronous Area shall appoint in a Synchronous Area Agreement one TSO of this Synchronous Area or the relevant body of ENTSO-E as the Synchronous Area Monitor.	All TSOs of a Synchronous Area shall appoint in a Synchronous Area Agreement one TSO of this Synchronous as the Synchronous Area Monitor.	No role is defined for ENTSO-E, otherwise it should be the Synchronous Area Monitor for all TSOs
2	14	1	All TSOs of a LFC Block shall appoint in a multi-party agreement a TSO of this LFC Block as LFC Block Monitor for the LFC Block.	While respecting the provisions of [revised] Article 3(3), all TSOs of a LFC Block shall appoint in a publicly available on website ENTSO-E multi-party agreement a TSO of this LFC Block as LFC Block Monitor for the LFC Block.	Any multi-party agreement should be publicly available and under NRA approval and market parties consultation
2	15	1	If the values calculated for the measurement period of the Frequency Quality Target Parameters or the Frequency Restoration Control Error Target Parameters are respectively outside the set targets for the Synchronous Area or for the Control Block, all TSOs of the relevant Synchronous Area or of the relevant Control Block shall address to ACER and / or to NRAs a proposal which addresses the deficiency, this may include a modification to the rules including balancing markets and / or ancillary services markets and / or the rules for the behaviour of market participants in order to respect the established Frequency Quality Target Parameter values.	If the values calculated for the measurement period of the Frequency Quality Target Parameters or the Frequency Restoration Control Error Target Parameters are respectively outside the set targets for the Synchronous Area or for the Control Block, all TSOs of the relevant Synchronous Area or of the relevant Control Block shall address to ACER and / or to NRAs a proposal which addresses the deficiency.	Wrong reference to ancillary services markets which was not defined neither described in this code. It should be left for the network code on electricity balancing. Wrong reference to rules for the behaviour market participants. It should be left to competition law

2	15	2	If the value of the Frequency Quality Target Parameter is not met for the Synchronous Area or there is a justified expected risk that the Frequency Quality Target Parameter will not be met, each TSO of the affected Synchronous Area shall have the right to establish actions to improve System Frequency quality while respecting the provisions of Article 3(3). These actions shall include restrictions on the rate of change of active power output or input to Generating Units, Demand Facilities, HVDC Interconnectors connected to the TSO network.	Delete	TSOs must not impose arbitrary restrictions on market participants unless it is an Operational Security issue and then it should be in the Operational Security or Emergency network code.
2	15	3	If the value of any of the Frequency Restoration Control Error Target Parameters is not met for the LFC Block or there is a justified expected risk that any of the Frequency Restoration Control Error Target Parameters will not be met, each TSO of the affected LFC Block shall have the right to establish actions to improve Frequency Restoration Control Error quality while respecting the provisions of Article 3(3). These actions shall include restrictions on the rate of change of active power output or input to Generating Units, Demand Facilities and HVDC Interconnectors connected to the TSO.	Delete	TSOs must not impose arbitrary restrictions on market participants unless it is an Operational Security issue and then it should be in the Operational Security or Emergency network code.
3	16	1	All TSOs of a Synchronous Area shall define, in a synchronous area agreement,	Within xxx months of the entry into force of the code, all TSOs of a Synchronous Area shall define, in a synchronous area agreement a load Frequency control structure for the Synchronous Area while respecting the provisions of [revised] Article 3(3)...	Any multi-party agreement should be publicly available and under NRA approval and market parties consultation
3	17	1	The Process Activation Structure shall include: a) a FCP according to Article 19; and b) a FRP according to Article 20.	1. The Process Activation Structure shall include: a) a FCP according to Article 19; and b) a FRP according to Article 20. c) a RRP according to Article 21; d) an Imbalance Netting Process according to Article 22; e) a Cross-Border FRR Activation Process according to Article 23; f) a Cross-Border RR Activation Process according to Article 24; and g) a Time Control Process	The list of process activation structure shall include the elements in Article 17 §2. Reference to "may include" should be avoided. The network code should be constraining.
3	17	2	The list of process activation structure shall include the elements in Article 17 §2. Reference to "may include" should be avoided. The network code should be constraining.	delete	It should be included in Article 17 §1

3	18	1	<p>When defining the Process Responsibility Structure, all TSOs of a Synchronous Area shall take into account at least the following criteria:</p> <ul style="list-style-type: none"> a) size and the total inertia and synthetic inertia of the Synchronous Area; b) grid structure and/or network topology; and c) Load, Generation and HVDC Behaviour. <p>In addition the TSOs of a Synchronous Area shall ensure that:</p> <ul style="list-style-type: none"> d) the Synchronous Area consists of at least one Monitoring Area, one LFC Area and one LFC Block e) the community of all Monitoring Areas is congruent to the Synchronous Area f) the community of all LFC Areas is congruent to the Synchronous Area g) the community of all LFC Block is congruent to the Synchronous Area h) a Monitoring Area is part of one and only one LFC Area i) a LFC Area is part of one and only one LFC Block j) a LFC Block is part of one and only one Synchronous Area k) a LFC Area is congruent to one or more Monitoring Areas l) a LFC Block is congruent to one or more LFC Area Synchronous Area is congruent to one or more LFC Blocks 	<p>Within XXX months of the entry into force, all TSOs of a Synchronous Area shall define a process Responsibility Structure that takes into account at least the following criteria:</p> <ul style="list-style-type: none"> a) size and the total inertia and synthetic inertia of the Synchronous Area; b) grid structure and/or network topology; and c) Load, Generation and HVDC. <p>In addition the TSOs of a Synchronous Area shall ensure that:</p> <ul style="list-style-type: none"> d) the Synchronous Area consists of at least one Monitoring Area, one LFC Area and one LFC Block e) the community of all Monitoring Areas is congruent to the Synchronous Area f) the community of all LFC Areas is congruent to the Synchronous Area g) the community of all LFC Block is congruent to the Synchronous Area h) a Monitoring Area is part of one and only one LFC Area i) a LFC Area is part of one and only one LFC Block j) a LFC Block is part of one and only one Synchronous Area k) a LFC Area is congruent to one or more Monitoring Areas l) a LFC Block is congruent to one or more LFC Area Synchronous Area is congruent to one or more LFC Blocks. <p>On the ENTSO-E website, TSOs shall publish and keep up to date a clear overview of all LFC Areas, LFC Blocks, Monitoring Areas and Synchronous Areas. Also to follow the Article 3(3) process.</p>	<p>Term behaviour not defined in the definitions of the network code. Also transparency is needed on what are the various zones.</p>
3	18	1 bis [NEW PARAGRAPH]		<p>Within 24 months after the adoption of this Network Code LFC, all TSOs shall provide a proposal for a gradual review of the existing structure in order to limit the number of divisions in LFC Area, LFC Block and Monitoring Areas. The merging process of all said areas shall be structured to bring Bidding Zones, as defined under the Network Code CACM, as their core geographical feature. This merging process shall be consulted upon and approved by NRAs.</p>	<p>An amendment process is needed in line with the CACM process and have regulatory scrutiny.</p>
3	18	4	<p>All TSOs of a LFC Block shall:</p> <ul style="list-style-type: none"> a) endeavour to fulfil the Frequency Restoration Control Error Target Parameters of the LFC Block as defined in Article 10; and b) comply with FRR Dimensioning Rules established in Article 30 and RR Dimensioning Rules established in Article 33. 	<p>All TSOs of a LFC Block shall:</p> <ul style="list-style-type: none"> a) fulfil the Frequency Restoration Control Error Target Parameters of the LFC Block as defined in Article 10; and b) comply with FRR Dimensioning Rules established in Article 30 and RR Dimensioning Rules established in Article 33. 	<p>Delete endeavour. Network code should be constraining.</p>

3	18	7	All TSOs of a Monitoring Area shall agree in a TSO multi-party agreement on the specific allocation of responsibilities between TSOs within the Monitoring Area for the implementation of the obligations established in Article 18(3). All TSOs of a LFC Area, LFC Block and Synchronous Area shall agree on similar multi-party agreement for the implementation of the obligations established in Article 18 (4) to Article 18(5).	delete	Delete and replace with the Article 3(3) process in Article 1.
3	20	1	The FRP shall be designed to a) regulate the Frequency Restoration Control Error to zero within the Time To Restore Frequency; and b) for all Synchronous Areas except Cyprus, GB and Ireland: progressively replace the activated FCR by activation of FRR; for Cyprus, GB and Ireland refer to Article 20.1(c).	Within XXX months of the entry into force of this code, all TSOs in a synchronous area shall agree a FRP, in line with paragraphs 2 to 9 below and in line with the process in [revised] Article 3(3). The FRP shall be designed to a) regulate the Frequency Restoration Control Error to zero within the Time To Restore Frequency; and b) for all Synchronous Areas except Cyprus, GB and Ireland: progressively replace the activated FCR by activation of FRR; for Cyprus, GB and Ireland refer to Article 20.1(c).	Regulatory process change.
3	20	6	Without prejudice to Article 18(3) and Article 20, when a LFC Block consists of more than one LFC Areas all TSOs of the LFC Block shall have the right to appoint in a TSO multi-party agreement referred to in Article 18(6) one TSO of the LFC Block to: a) calculate and monitor the Frequency Restoration Control Error of the whole LFC Block; and b) take the Frequency Restoration Control Error of the whole LFC Block into account for the calculation of the set-point value for FRR activation according to Article 20(4) and Article 20(5) in addition to the Frequency Restoration Control Error of his LFC Area.	While respecting the provisions of Article 3(3) and without prejudice to Article 18(3) and Article 20, when a LFC Block consists of more than one LFC Areas all TSOs of the LFC Block shall have the right to appoint in a on ENTSO-E website publicly available TSO multi-party agreement referred to in Article 18(6) one TSO of the LFC Block to: a) calculate and monitor the Frequency Restoration Control Error of the whole LFC Block; and b) take the Frequency Restoration Control Error of the whole LFC Block into account for the calculation of the set-point value for FRR activation according to Article 20(4) and Article 20(5) in addition to the Frequency Restoration Control Error of his LFC Area.	TSO multi-party agreement should be publicly available and under NRA approval and market parties consultation.
3	20	7	Where a LFC Area consists of more than one Monitoring Areas, all TSOs of the LFC Area shall appoint one TSO who shall be responsible for the implementation and operation of the Frequency Restoration Process according to Article 20 as part of the TSO multi-party agreement referred to in Article 18(6).	While respecting the provisions of Article 3(3) and where a LFC Area consists of more than one Monitoring Areas, all TSOs of the LFC Area shall appoint one TSO who shall be responsible for the implementation and operation of the Frequency Restoration Process according to Article 20 as part of the on ENTSO-E website publicly available TSO multi-party agreement referred to in Article 18(6).	TSO multi-party agreement should be publicly available and under NRA approval and market parties consultation.

3	21	1	The RRP shall be designed to fulfil one or several of the following goals: a) progressively restore the activated FRR; b) support FRR activation; c) for Cyprus, GB and Ireland to progressively restore the activated FCR and FRR.	The RRP shall be designed to fulfil one or several of the following goals: a) progressively restore the activated FRR; b) support FRR activation; c) for Cyprus, GB and Ireland to progressively restore the activated FCR and FRR. d) avoid disruption of market prices and transactions before intraday gate closure	RR must not disrupt intraday.
3	22	1	The Imbalance Netting Process shall be designed to reduce the amount of simultaneous counteracting FRR activation of different participating and adjacent LFC Areas by Imbalance Netting Power Interchange. In accordance with 0 each TSO shall have the right to implement the Imbalance Netting Process for LFC Areas within the same LFC Block, between different LFC Blocks or between different Synchronous Areas.	Within XXX months from the entry into force, all TSOs in synchronous areas shall agree and Imbalance Netting Process in line with the [revised] Article 3(3) and paragraphs 2-10 below. The Imbalance netting [process shall be designed to reduce the amount of simultaneous counteracting FRR, RR and other balancing activation. Each TSO shall implement the Imbalance Netting Process for LFC Areas within the same LFC Block, between different LFC Blocks or between different Synchronous Areas.	Clarify that imbalance netting is for all resources. And between all areas.
3	22	3	The Imbalance Netting Power Interchange between LFC Areas of the same Synchronous Area shall be implemented by one or several of the following actions: a) defining an active power flow over a Virtual Tie-Line which shall be part of the Frequency Restoration Control Error calculation; or b) adjusting the active power flows over HVDC interconnectors.	The Imbalance Netting Power Interchange between LFC Areas of the same Synchronous Area shall be implemented by one or several of the following actions: a) defining an active power flow over a Physical Tie-Line which shall be part of the Frequency Restoration Control Error calculation; or b) adjusting the active power flows over HVDC interconnectors.	No reference to Virtual Tie-Line but to Physical Tie-Line
3	22	3 bis [NEW PARAGRAPH]		Where a LFC Block consists of more than one LFC Area and the FRR Capacity as well as RR Capacity is calculated based on the LFC Block Imbalances, all TSOs of the same LFC Block shall implement an Imbalance Netting Process and interchange the maximum amount of Imbalance Netting Power as defined in Article 22(5) with other LFC Areas of the same LFC Block while complying with Article 22(6). Where an Imbalance Netting Process is implemented for LFC Areas of different Synchronous Areas, all TSOs shall interchange the maximum amount of Imbalance Netting Power as defined in Article 22(5) with other TSOs of the same Synchronous Area participating in this Imbalance Netting Process while complying with Article 22(6). Where an Imbalance Netting Process is implemented for LFC Areas which are not part of the same LFC Block, all TSOs of the LFC Blocks shall fulfil the obligations established in Article 18(4) regardless of Imbalance Netting Power Interchange.	Imported from Article 25. This implies a hierarchy for netting. Not sure if this is appropriate.

3	22	9	All TSOs participating in the same Imbalance Netting Process shall appoint in a TSO multi-party agreement roles and responsibilities of the TSOs including a) the responsibility of all participating TSOs to provide input data for Imbalance Netting Power Interchange calculation including the Available Transmission Capacity; and b) the appointment of one of the TSOs who shall be responsible for the calculation of the Imbalance Netting Power Interchange including the limitation of the interchange with respect to the Available Transmission Capacity.	While respecting the provisions of Article 3(3), all TSOs participating in the same Imbalance Netting Process shall appoint in a on ENTSO-E website publicly available TSO multi-party agreement roles and responsibilities of the TSOs including a) the responsibility of all participating TSOs to provide input data for Imbalance Netting Power Interchange calculation including the Available Transmission Capacity; and b) the appointment of one of the TSOs who shall be responsible for the calculation of the Imbalance Netting Power Interchange including the limitation of the interchange with respect to the Available Transmission Capacity.	TSO multi-party agreement should be publicly available and under NRA approval and market parties consultation.
3	22	10	[NEW PARAGRAPH]	The financial settlement due to the imbalance netting process will be arranged under modalities set out in the balancing network code.	Balancing code to deal with implications for market design.
3	23	1	The Cross-Border FRR Activation Process shall be designed to enable a TSO to perform the FRP by Frequency Restoration Power Interchange between LFC Areas. In accordance with 0 a TSO shall have the right to implement the Cross-Border FRR Activation Process for LFC Areas within the same LFC Block, between different LFC Blocks or between different Synchronous Areas.	Within XX months of the entry into force of this code, all TSOs shall agree while respecting the provisions of [revised] Article 3(3), the Cross-Border FRR Activation Process to enable a TSO to perform the FRP by Frequency Restoration Power Interchange between LFC Areas. TSOs shall implement the Cross-Border FRR Activation Process for LFC Areas within the same LFC Block, between different LFC Blocks or between different Synchronous Areas as set out in the network code Balancing. Each TSO shall implement a Cross-Border FRR Activation Process when implementing Article 38(1), Article 40(1), Article 46(1), Article 47 and Article 50(1).	Typo error and design of the cross-border FRR activation process should be publicly available and under NRA approval and market parties consultation.
3	23	3	The Frequency Restoration Power Interchange between LFC Areas of the same Synchronous Area shall be implemented by one or several of the following actions: a) defining an active power flow over a Virtual Tie-Line which shall be part of the Frequency Restoration Control Error calculation where FRR activation is automated; b) adjusting a Control Program or defining an active power flow over a Virtual Tie-Line between LFC Areas where FRR activation is manual; or c) adjusting the active power flows over HVDC interconnectors.	The Frequency Restoration Power Interchange between LFC Areas of the same Synchronous Area shall be implemented by one or several of the following actions: a) defining an active power flow over a Pysical Tie-Line which shall be part of the Frequency Restoration Control Error calculation where FRR activation is automated; b) adjusting a Control Program or defining an active power flow over a Virtual Tie-Line between LFC Areas where FRR activation is manual; or c) adjusting the active power flows over HVDC interconnectors.	No reference to Virtual Tie-Line but to Physical Tie-Line

3	24	1	The Cross-Border RR Activation Process shall be designed to enable a TSO to perform the RRP through Replacement Power Interchange between LFC Areas. In accordance with 0 a TSO shall have the right to implement the Cross-Border RR Activation Process for LFC Areas within the same LFC Block, between different LFC Blocks or between different Synchronous Areas.	Within XX months of the entry into force of this code, all TSOs shall agree while respecting the provisions of [revised] Article 3(3), a Cross-Border RR Activation Process to enable a TSO to perform the RRP through Replacement Power Interchange between LFC Areas. A TSO shall implement the Cross-Border RR Activation Process for LFC Areas within the same LFC Block, between different LFC Blocks or between different Synchronous Areas as set out in the network code Balancing. Each TSO shall implement the Cross-Border RR Activation Process when exercising the right established in Article 41(1), Article 42(1), Article 48(1), Article 49 and Article 50(1).	Regulated process to apply.
3	24	3	The Replacement Power Interchange between LFC Areas of the same Synchronous Area shall be implemented by one or several of the following actions: a) defining an active power flow over a Virtual Tie-Line which shall be part of the Frequency Restoration Control Error calculation; b) adjusting of a Control Program; or c) adjusting of active power flows over HVDC interconnectors.	The Replacement Power Interchange between LFC Areas of the same Synchronous Area shall be implemented by one or several of the following actions: a) defining an active power flow over a Physical Tie-Line which shall be part of the Frequency Restoration Control Error calculation; b) adjusting of a Control Program; or c) adjusting of active power flows over HVDC interconnectors.	Typo Error - no reference to Virtual Tie-Line but to Physical Tie-Line
3	24	7	The Cross-Border RR Activation Process shall include a fall-back mechanism which shall: a) ensure that the Replacement Power Interchange of each LFC Area is zero or limited to a value below the Available Transmission Capacity; b) comply with the requirements established in Article 24(1).	delete	It should be covered in the network code on Emergency
3	25	1	Each TSO shall implement a Cross-Border FRR Activation Process when exercising the right established in Article 38(1), Article 40(1), Article 46(1), Article 47 and Article 50(1). Each TSO shall implement a Cross-Border RR Activation Process when exercising the right established in Article 41(1), Article 42(1), Article 48(1), Article 49 and Article 50(1).	delete	Move to the relevant sections.
3	25	2	Where a LFC Block consists of more than one LFC Area and the FRR Capacity as well as RR Capacity is calculated based on the LFC Block Imbalances, all TSOs of the same LFC Block shall implement an Imbalance Netting Process and interchange the maximum amount of Imbalance Netting Power as defined in Article 22(5) with other LFC Areas of the same LFC Block while complying with Article 22(6).	delete	Move to Article 22

3	25	5	All TSOs of a Synchronous Area shall determine in a Synchronous Area Agreement the roles and the responsibilities of the TSOs implementing an Imbalance Netting Process, a Cross-Border FRR Activation Process or a Cross-Border RR Activation Process between LFC Areas of different LFC Blocks or of different Synchronous Areas.	delete	Not needed as this is the Article 3(3) process.
3	26	3	Each TSO of a LFC Area shall: a) ensure a sufficient quality and availability of the Frequency Restoration Control Error calculation; b) perform real-time quality monitoring of the Frequency Restoration Control Error calculation; c) take action in case of Frequency Restoration Control Error miscalculation; d) perform an ex-post quality monitoring of the Frequency Restoration Control Error calculation by comparing Frequency Restoration Control Error to reference values at least on an annual basis; and	Each TSO of a LFC Area shall: a) ensure a sufficient quality and availability of the Frequency Restoration Control Error calculation; b) perform real-time quality monitoring of the Frequency Restoration Control Error calculation; c) take action in case of Frequency Restoration Control Error miscalculation; d) perform and publish an ex-post quality monitoring of the Frequency Restoration Control Error calculation by comparing Frequency Restoration Control Error to reference values at least on an annual basis; and	Public transparency on monitoring report should be made
4	27	1	All TSOs of a Synchronous Area shall determine the FCR Capacity required for the Synchronous Area and the shares of FCR required for each TSO as the Initial FCR Obligation according to Article 27(5) and Article 27(7) while respecting the provisions of Article 3(3).	Within xxx months of the entry into force of the code, all TSOs of a Synchronous Area shall determine the FCR Capacity required for the Synchronous Area and the shares of FCR required for each TSO as the Initial FCR Obligation according to Article 27(5) and Article 27(7) while respecting the provisions of [revised] Article 3(3) and complying with paragraphs 2-8 ,	Regulatory process should be similar to the one in the CACM network code.
4	27	3	All TSOs of a Synchronous Area shall recalculate the required FCR Capacity and the Initial FCR Obligation for each TSO at least on an annual basis in accordance with Article 27(5) and Article 27(7).	All TSOs of a Synchronous Area shall recalculate the required FCR Capacity and the Initial FCR Obligation for each TSO at least on an annual basis in accordance with Article 27(5) and Article 27(7) in line with the process in [revised Article 3(3)].	Regulatory process should be similar to the one in the CACM network code.
4	27	4	When in accordance with 0, all the TSOs of a Synchronous Area agree, all the TSOs of the Synchronous Area shall have the right to recalculate the FCR Capacity and the Initial FCR Obligation for each TSO more frequently than on an annual basis while respecting the provisions of Article 3(3).	TSOs of a Synchronous Area may recalculate the FCR Capacity and the Initial FCR Obligation for each TSO more frequently than on an annual basis while respecting the provisions of Article 3(3).	Typo error

4	27	5 All TSOs of a Synchronous Area shall define a dimensioning approach for FCR on the basis of the principle of covering remaining imbalances in the Synchronous Area after activation of FRR and RR that are likely to happen according to a probability of once in 20 years while respecting the provisions of Article 3(3). The FCR Capacity of a Synchronous Area shall at least cover the Reference Incident of the Synchronous Area.	All TSOs of a Synchronous Area shall define a dimensioning approach for FCR on the basis of the principle of covering remaining imbalances in the Synchronous Area after activation of FRR and RR that are likely to happen according to a probability of once in 20 years while respecting the provisions of [revised] Article 3(3). The FCR Capacity of a Synchronous Area shall cover not more than the Reference Incident of the Synchronous Area.	The amount of FCR capacity should be consistent with the definition of the reference incident in Article 27. TSO should not have an arbitrary amount of FCR capacity without justification.
4	28	4 The Reserve Connecting TSO shall have the right to define additional requirements for FCR Providing Groups and shall have the right to exclude FCR Providing Groups from the provision of FCR based on technical arguments to ensure operational security. The FCR Provider shall ensure that monitoring of the FCR activation of the generating and/or demand facilities within a Reserve Providing Group is possible. Each TSO shall implement a FCR Prequalification Process to assess the fulfilment of the technical and availability requirements by possible FCR Proving Units and FCR Providers. A possible FCR Provider shall have the right to apply for a prequalification of possible FCR Providing Units and as FCR Provider at a relevant Reserve Connecting TSO. The Reserve Connecting TSO shall process this application without undue delay and shall prequalify FCR Providing Units or FCR Providing Groups who successfully passed a FCR Prequalification Process.	The Reserve Connecting TSO shall have the right to define additional requirements for FCR Providing Groups and shall have the right to exclude FCR Providing Groups from the provision of FCR based on technical arguments to ensure operational security. The FCR Provider shall ensure that monitoring of the FCR activation of the generating and/or demand facilities within a Reserve Providing Group is possible. Each TSO shall implement a FCR Prequalification Process to assess the fulfilment of the technical and availability requirements by possible FCR Proving Units and FCR Providers. A possible FCR Provider shall have the right to apply for a prequalification of possible FCR Providing Units and as FCR Provider at a relevant Reserve Connecting TSO. The Reserve Connecting TSO shall process this application within 3 months subject the FCR providing unit has met all administrative requirements and shall prequalify FCR Providing Units or FCR Providing Groups who successfully passed a FCR Prequalification Process.	More precise timing; impossible to measure without undue delay
4	28	9 Each Reserve Connecting TSO shall monitor all FCR Providing Units in its Area. Each FCR Provider shall make available to the Reserve Connecting TSO for each of its FCR Providing Units at least the following information: a) status signal indicating if FCR is on or off; b) time-stamped scheduled active power output; c) time-stamped instantaneous active power; d) time-stamped instantaneous active power without FCR activation; and e) droop of the governor; On request from the Reserve Connecting TSO, a FCR Provider has to make this information available in real time with a time resolution of at least 10 seconds.	Each Reserve Connecting TSO shall monitor all FCR Providing Units in its Area. Each FCR Provider shall make available to the Reserve Connecting TSO for each of its FCR Providing Units at least the following information: a) status signal indicating if FCR is on or off; b) time-stamped scheduled active power output; c) time-stamped instantaneous active power; and d) droop of the governor; On request from the Reserve Connecting TSO, a FCR Provider has to make this information available in real time with a time resolution of at least 10 seconds.	It is impossible to provide information on active power without FCR activation

4	29	4 Each TSO shall require from its FCR Provider the continuous availability of FCR with the exception of an unplanned outage of a Reserve Providing Unit. A FCR Provider shall comply with this availability requirement. A FCR Provider shall inform its Reserve Connecting TSO immediately about an unavailability of a FCR Providing Unit or all or a part of a FCR Providing Group.	Each TSO shall require from its FCR Provider the continuous availability of FCR with the exception of an unplanned outage of a FCR Providing Unit. A FCR Provider shall comply with this availability requirement. A FCR Provider shall inform its Reserve Connecting TSO immediately about an unavailability of a FCR Providing Unit or all or a part of a FCR Providing Group.	Wording improvement: not reserve but FCR Providing Unit to remain consistent with the definition of FCR Providing Unit; and immediately is in practice not possible
4	29	6 A FCR Providing Unit or FCR Providing Group: a) with unlimited FCR providing capability shall activate its FCR as long as the Frequency Deviation persists. b) with limited FCR providing capability shall activate its FCR as long as the Frequency Deviation persists unless its energy reservoir is exhausted in either direction Such a FCR Providing Unit or FCR Providing Group shall be able to fully activate its FCR continuously for a time period of not less than 30 minutes and for an equivalent longer time period in case of smaller Frequency Deviations and shall specify the limitations of the energy reservoir in the Prequalification process.	A FCR Providing Unit or FCR Providing Group: a) with unlimited FCR providing capability shall activate its FCR as long as the Frequency Deviation persists. b) with limited FCR providing capability shall activate its FCR as long as the Frequency Deviation persists unless its energy reservoir is exhausted. FCR Providing Unit or FCR Providing Group with limited FCR capability shall be able to fully activate its FCR continuously for a time period of not less than 15 minutes and for an equivalent longer time period in case of smaller Frequency Deviations and shall specify the limitations of the energy reservoir in the Prequalification process.	Time period to provide FCR should be changed to 15 minutes because Table 1 refer to 15 minutes and FRR should be then activated. Wording improvements: Term in either direction not needed. More clarification on word such.
5	30	1 All TSOs of a LFC Block shall define FRR Dimensioning Rules in a TSO multiparty agreement while respecting the provisions of Article 3(3).	Within xxx months of the entry into force of this code, all TSOs of a LFC Block shall define FRR Dimensioning Rules while respecting the provisions of [revised] Article 3(3).	New regulatory process

5	30	2	<p>The FRR Dimensioning Rules shall comprise at least the following requirements:</p> <p>a) All TSOs of a LFC Block shall determine the required FRR Capacity of the LFC Block based on consecutive historical records at least comprising historical LFC Block Imbalance values. The sampling of these historical records shall be at least the Time To Restore Frequency. The considered time period of these records shall be representative and include at least one full year period ending not earlier than 6 months prior to the calculation;</p> <p>b) All TSOs of a LFC Block shall determine the FRR Capacity of the LFC Block such that it is sufficient to respect the current Frequency Restoration Control Error Target Parameters in accordance with Article 10 for the considered historical period of time based at least on a probabilistic methodology. All TSOs of a LFC Block shall take expected significant changes to the distribution of LFC Block Imbalances or other relevant influencing factors relative to the considered time period into account for this determination;</p> <p>c) All TSOs of a LFC Block shall determine the ratio of Automatic FRR Capacity and Manual FRR Capacity and the Automatic FRR Full Activation Time and Manual FRR Full Activation Time such that requirement (b) can be fulfilled.</p>	<p>The FRR Dimensioning Rules shall comprise at least the following requirements:</p> <p>a) All TSOs of a LFC Block shall determine the required FRR Capacity of the LFC Block based on consecutive historical records at least comprising historical LFC Block Imbalance values. The sampling of these historical records shall be at least the Time To Restore Frequency. The considered time period of these records shall be representative and include at least one full year period ending not earlier than 6 months prior to the calculation;</p> <p>b) All TSOs of a LFC Block shall determine the FRR Capacity of the LFC Block such that it is sufficient to respect the current Frequency Restoration Control Error Target Parameters in accordance with Article 10 for the considered historical period of time based at least on a probabilistic methodology. All TSOs of a LFC Block shall take expected significant changes to the distribution of LFC Block Imbalances or other relevant influencing factors relative to the considered time period into account for this determination;</p> <p>c) All TSOs of a LFC Block shall determine the ratio of Automatic FRR Capacity and Manual FRR Capacity and the Automatic FRR Full Activation Time and Manual FRR Full Activation Time such that requirement (b) can be fulfilled.</p>	<p>typo error.</p>
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5	30	<p>2</p> <p>d) All TSOs of a LFC Block shall determine the positive FRR Capacity such that it is not smaller than the positive Dimensioning Incident of the LFC Block;</p> <p>e) All TSOs of a LFC Block shall determine the negative FRR Capacity such that it is not smaller than the negative Dimensioning Incident of the LFC Block;</p> <p>f) All TSOs of a LFC Block shall determine the FRR Capacity of a LFC Block and possible geographical limitations for its distribution with respect to the Available Transmission Capacity within the LFC Block and to other LFC Blocks;</p> <p>g) All TSOs of a LFC Block shall ensure that the positive FRR Capacity is sufficient to cover the positive LFC Block Imbalances in at least 99% of the time based on the historical record as defined in (a) ;</p> <p>h) All TSOs of a LFC Block shall ensure that the negative FRR Capacity is sufficient to cover the negative LFC Block Imbalances in at least 99% of the time based on the historical record as defined in (a);</p> <p>i) All TSOs of a LFC Block, while respecting the provision Error! Reference source not found., can enter into a sharing agreement for FRR Capacity with other LFC Blocks according to the provision of Chapter 7.</p> <p>j) All TSOs of a LFC Block are allowed to reduce the positive FRR Capacity of the LFC Block, resulting from the FRR Dimensioning Process, by concluding a sharing agreement for this positive FRR Capacity with other LFC Blocks in accordance with the provisions of Chapter 7.</p>	<p>d) All TSOs of a LFC Block shall determine the positive FRR Capacity such that it is not smaller than the positive Dimensioning Incident of the LFC Block;</p> <p>e) All TSOs of a LFC Block shall determine the negative FRR Capacity such that it is not smaller than the negative Dimensioning Incident of the LFC Block;</p> <p>f) All TSOs of a LFC Block shall determine the FRR Capacity of a LFC Block and possible geographical limitations for its distribution with respect to the Available Transmission Capacity within the LFC Block and to other LFC Blocks;</p> <p>g) All TSOs of a LFC Block shall ensure that the positive FRR Capacity is sufficient to cover the positive LFC Block Imbalances in at least 99% of the time based on the historical record as defined in (a) ;</p> <p>h) All TSOs of a LFC Block shall ensure that the negative FRR Capacity is sufficient to cover the negative LFC Block Imbalances in at least 99% of the time based on the historical record as defined in (a);</p> <p>i) All TSOs of a LFC Block, while respecting the provision Error! Reference source not found., can enter into a sharing agreement for FRR Capacity with other LFC Blocks according to the provision of Chapter 7.</p> <p>j) All TSOs of a LFC Block are allowed to reduce the positive FRR Capacity of the LFC Block, resulting from the FRR Dimensioning Process, by concluding a sharing agreement for this positive FRR Capacity with other LFC Blocks in accordance with the provisions of Chapter 7. The reduction of the positive FRR Capacity of a LFC Block is:</p>	<p>Sharing should be constrained. If it is 30%, then there is no sense in having different control areas.</p>
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			<p>The reduction of the positive FRR Capacity of a LFC Block is:</p> <ul style="list-style-type: none"> i. limited to the difference, if positive, between the size of the Dimensioning Incident and the FRR Capacity required to cover the Positive LFC Block imbalances in 99% of time based on historical records as defined in (a); and ii. shall never exceed 30% of the size of the Positive Dimensioning Incident. <p>k) All TSOs of a LFC Block are allowed to reduce the negative FRR Capacity of the LFC Block, resulting from the FRR Dimensioning Process, by concluding a sharing agreement for this negative FRR Capacity with other LFC Blocks in accordance with the provisions of Chapter 7. The reduction of the negative FRR Capacity of a LFC Block is:</p> <ul style="list-style-type: none"> i. limited to the difference, if positive, between the size of the Negative Dimensioning Incident and the FRR Capacity required to cover the Negative LFC Block imbalances in 99% of time based on historical records as defined in (a); and ii. shall never exceed 30% of the size of the Negative Dimensioning Incident. 	<ul style="list-style-type: none"> i. limited to the difference, if positive, between the size of the Dimensioning Incident and the FRR Capacity required to cover the Positive LFC Block imbalances in 99% of time based on historical records as defined in (a); and ii. shall never exceed 10% of the size of the Positive Dimensioning Incident. <p>k) All TSOs of a LFC Block are allowed to reduce the negative FRR Capacity of the LFC Block, resulting from the FRR Dimensioning Process, by concluding a sharing agreement for this negative FRR Capacity with other LFC Blocks in accordance with the provisions of Chapter 7. The reduction of the negative FRR Capacity of a LFC Block is:</p> <ul style="list-style-type: none"> i. limited to the difference, if positive, between the size of the Negative Dimensioning Incident and the FRR Capacity required to cover the Negative LFC Block imbalances in 99% of time based on historical records as defined in (a); and ii. shall never exceed 10% of the size of the Negative Dimensioning Incident. 	
5	30	3	All TSOs of a LFC Block shall agree in a TSO multi-party agreement on the specific allocation of responsibilities between TSOs of different LFC Areas for the implementation of the obligations established in Article 30.	While respecting the provisions of Article 3(3), all TSOs of a LFC Block shall agree in a on ENTSO-e website published TSO multi-party agreement on the specific allocation of responsibilities between TSOs of different LFC Areas for the implementation of the obligations established in Article 30.	TSO multi-party agreement should be publicly available and under NRA approval and market parties consultation.
5	31	1	All TSOs of a Synchronous Area shall define FRR Technical Minimum Requirements for their Synchronous Area in a Synchronous Area Agreement while respecting the provisions of Article 3(3).	Within XXX months of the entry into force of this network code all TSOs of a Synchronous Area shall define FRR Technical Minimum Requirements for their Synchronous Area in a Synchronous Area Agreement while respecting the provisions of [revised] Article 3(3).	New regulatory procedure consistent with CACM.
5	32	2	The TSOs of a Synchronous Area shall determine the Synchronous Area risk level either to be: <ul style="list-style-type: none"> a) High Synchronous Area State; or b) Elevated Synchronous Area State; or c) Normal Synchronous Area State. 	The TSOs of a Synchronous Area shall determine the Synchronous Area risk level as defined in the Network Code on Operational Security	Reference to area states defined in the Network Code on Operational Security

5	32	4	<p>All TSOs of a Synchronous Area shall define common rules for the operation of the FRPs in a Synchronous Area Agreement while respecting the provisions of Article 3(3). These common rules shall comprise at least:</p> <p>a) The Synchronous Area Monitor shall inform the TSOs of the Synchronous Area about the current Synchronous Area risk level</p> <p>b) in case of Elevated Synchronous Area State, the TSOs of a Synchronous Area shall perform predefined coordinated actions of LFC Blocks to actively reduce the Frequency Deviation. For these actions the TSOs of a Synchronous Area may deviate from the obligation set in Article 20(1)(a); and</p> <p>c) in case of High Synchronous Area State, the TSOs of a Synchronous Area shall perform predefined coordinated and individual actions of LFC Blocks to actively reduce the Frequency Deviation. For these actions the TSOs of a Synchronous Area may deviate from the obligation set in Article 20(1) (a).</p> <p>d) The TSOs of a LFC Block shall reduce the absolute value of Frequency Restoration Control Error of the LFC Block by activation of FRR and RR.</p> <p>e) The TSOs of a LFC Block shall make best endeavours to avoid times with persisting Frequency Restoration Control Errors.</p>	<p>Within xxx months of the entry into force of this regulation All TSOs of a Synchronous Area shall define common rules for the operation of the FRPs in a Synchronous Area Agreement while respecting the provisions of [revised] Article 3(3). These common rules shall comprise at least:</p> <p>a) The Synchronous Area Monitor shall inform the TSOs of the Synchronous Area about the current Synchronous Area risk level</p> <p>b) in case of Elevated Synchronous Area State, the TSOs of a Synchronous Area shall perform predefined coordinated actions of LFC Blocks, in accordance with the network code on Emergency, to actively reduce the Frequency Deviation. For these actions the TSOs of a Synchronous Area may deviate from the obligation set in Article 20(1)(a); and</p> <p>c) in case of High Synchronous Area State, the TSOs of a Synchronous Area shall perform predefined coordinated and individual actions of LFC Blocks, in accordance with the network code on Emergency, to actively reduce the Frequency Deviation. For these actions the TSOs of a Synchronous Area may deviate from the obligation set in Article 20(1) (a).</p> <p>d) The TSOs of a LFC Block shall reduce the absolute value of Frequency Restoration Control Error of the LFC Block by activation of FRR and RR.</p> <p>e) The TSOs of a LFC Block shall make best endeavours to avoid times with persisting Frequency Restoration Control Errors.</p>	<p>Reference to the network code on Emergency for defining predefined coordinated actions of LFC Blocks. Also information on those actions need to be available to affected parties.</p>
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5	32	<p>5 All TSOs of a LFC Block shall define common rules for the operation of the FRPs in a TSO multiparty agreement respecting the common rules of the Synchronous Area while respecting the provisions of Article 3(3).</p> <p>a) The LFC Block Monitor shall inform the TSOs of the Synchronous Area about the current LFC Block Threshold state</p> <p>b) If the LFC Block exceeds the Level 1 LFC Block Threshold the TSOs of a LFC Block shall have the right to perform predefined additional actions to actively reduce the Frequency Restoration Control Error.</p> <p>c) If the LFC Block exceeds the Level 2 LFC Block Threshold the TSOs of a LFC Block shall perform predefined additional actions to actively reduce the Frequency Restoration Control Error. For these actions the TSO may require changes in active power production or consumption of generating and demand facilities within its Area within reasonable limits</p> <p>d) When the Frequency Restoration Control Error exceeds 25% of the Reference Incident of the Synchronous Area for more than 30 consecutive minutes, the TSOs of a LFC Block shall perform predefined measures and predefined coordinated actions involving other LFC Blocks at least comprising emergency reserve exchanges to actively reduce the Frequency Restoration Control Error.</p>	<p>Within xxx months of the entry into force of this network code all TSOs of LFC Blocks shall define common rules for the operation of the FRPs in a TSO multiparty agreement respecting the common rules of the Synchronous Area while respecting the provisions of [revised] Article 3(3) and the network code on Electricity Balancing.</p> <p>a) The LFC Block Monitor shall inform the TSOs of the Synchronous Area about the current LFC Block Threshold state</p>	<p>Reference to the network code on Electricity Balancing should be made. Also the article need more transparency on TSO use of bids in the balancing market. Finally typo error in §5 d) it should refer to the Dimensioning Incident. Delete b) - d) as they are nothing to do with FRR operation and just allow ad hoc measures.</p>
6	33	<p>1 Each TSO of a LFC Block with a RRP according to Article 16(2) shall define the RR Dimensioning Rules while respecting the provisions of Article 3(3).</p>	<p>Each TSO of a LFC Block with a RRP according to Article 16(2) shall define the RR Dimensioning Rules while respecting the provisions of [revised] Article 3(3). All TSOs of a LFC Block shall agree on the specific allocation of responsibilities between TSOs of different LFC Areas for the implementation of the obligations if the process is needed by a LFC Block while respecting the provisions of [revised] Article 3(3)..</p>	<p>New regulatory procedure consistent with CACM.</p>
6	33	<p>3 In case a TSO has RR, the dimensioning based on the System Imbalances shall apply for the combination of FRR and RR. However, the Dimensioning Incident shall be covered by FRR only.</p>	<p>In case a TSO has contracted RR, the dimensioning based on the System Imbalances shall apply for the combination of FRR and RR. However, the Dimensioning Incident shall be covered by FRR only.</p>	<p>Reference to the network code on Electricity Balancing where TSO have to contract and procure reserves.</p>

6	33	5	All TSOs of a LFC Block with a Replacement Process shall have sufficient RR Capacity according to the RR Dimensioning Rules at any time. In case of insufficient RR Capacity due to market illiquidity an escalation procedure shall be agreed by the TSOs of each LFC Block with the relevant NRAs while respecting the provisions of Article 3(3).	All TSOs of a LFC Block with a Replacement Process shall procure sufficient RR Capacity according to the RR Dimensioning Rules at any time.	Reference to the network code on Electricity Balancing where TSO have to contract and procure reserves. Wrong reference to market illiquidity and market design which will be defined in network code on Electricity Balancing and/or Emergency
6	33	6	A TSO which has implemented a RRP according to Article 16(2) shall respect the RR Dimensioning Rules. All TSOs of a LFC Block shall agree in a TSO multi-party agreement on the specific allocation of responsibilities between TSOs of different LFC Areas for the implementation of the obligations if the process is needed by a LFC Block.	Delete	Incorporated into para 1.
6	33	7	[NEW PARAGRAPH]	All TSOs having RR, shall within 24 months after the enforcement of this Network Code, provide their NRA an analysis about the reasons to keep RR or to replace it by intraday trading. After consultation, market arrangements shall be proposed in order to abandon the RR need within 5 years after the enforcement of the Network Code, subject the analysis shows that intraday trading is able to take over the role of RR.	TSO should not have RR impacting and reducing liquidity on the intraday market.
6	34	1	Each TSO of a LFC Block shall have the right to operate Replacement Reserves Capacity to ensure that its FRR Capacity is sufficient to respect the values defined for the Frequency Restoration Control Error Target Parameters in accordance with Article 10 based on theoretical considerations defined in Article 31(3) while respecting the provisions of Article 3(3).	delete	Moved to Article 34 bis.
6	34	2	Each TSO of a LFC Block which has implemented a RRP according to Article 16(2) shall define in a multi-lateral agreement RR Technical Minimum Requirements while respecting the provisions of Article 3(3).	Within xxx months of the entry into force of this network code, all TSO of a LFC Block which makes use of RR shall define RR Technical Minimum Requirements while respecting the provisions of [revised] Article 3(3).	New regulatory process

6	34	3	<p>The Reserve Connecting TSO shall have the right to define additional requirements for RR Providing Groups and shall have the right to exclude RR Providing Groups from the provision of RR based on technical arguments to ensure operational security. The RR Provider shall ensure that monitoring of the RR activation of the generating and/or demand facilities within a Reserve Providing Group is possible.</p> <p>Each Reserve Connecting TSO shall ensure that its RR Providing Units fulfil the RR technical requirements by means of a RR Prequalification Process.</p> <p>Each Reserve Connecting TSO shall ensure that for its RR Providing Units the fulfilment of the RR Technical Requirements is monitored.</p> <p>A FRR Provider shall activate the FRR on its FRR Providing Unit or FRR Providing Group according to the request by the TSO.</p>	<p>The Reserve Connecting TSO shall have the right to define additional requirements for RR Providing Groups and shall have the right to exclude RR Providing Groups from the provision of RR based on technical arguments to ensure operational security. The RR Provider shall ensure that monitoring of the RR activation of the generating and/or demand facilities within a Reserve Providing Group is possible.</p> <p>Each Reserve Connecting TSO shall ensure that its RR Providing Units fulfil the RR technical requirements by means of a RR Prequalification Process.</p> <p>Each Reserve Connecting TSO shall ensure that for its RR Providing Units the fulfilment of the RR Technical Requirements is monitored.</p> <p>A RR Provider shall activate the RR on its RR Providing Unit or RR Providing Group according to the request by the TSO.</p>	Typo Error FRR for RR
6	34	4	<p>A RR Provider shall comply with the RR Availability Requirements defined by its Reserve Connecting TSO in the RR Prequalification Process. A RR Provider shall inform its Reserve Connecting TSO immediately about an unavailability of its RR Providing Unit.</p>	delete	Superfluous and we have to inform due to REMIT.
6	34	0	[NEW ARTICLE 34bis]	RR Operation	rules are needed for RR operation
6	34	1	[NEW PARAGRAPH]	(1) No later than XXXX months after the entry into force of this network code, all TSOs of a synchronous area shall common standards for RR operation in line with [revised] Article 3(3). This shall meet the requirements of paragraphs 2-5 below.	rules are needed for RR operation
6	34	2	[NEW PARAGRAPH]	(2) TSOs shall operate Replacement Reserves Capacity so as to ensure that its FRR Capacity is sufficient to respect the values defined for the Frequency Restoration Control Error Target Parameters in accordance with Article 10 based on theoretical considerations defined in Article 31(3), while respecting the provisions of [revised] Article 3(3).	rules are needed for RR operation
6	34	3	[NEW PARAGRAPH]	(3) TSOs shall avoid activating RR before gate closure of the intraday market or H-1 (whichever is the later) other than in circumstances of Alert state.	rules are needed for RR operation
6	34	4	[NEW PARAGRAPH]	(4) All activation before gate closure shall be notified to the market in advance and the output from RR in pre gate closure or pre H-1 timescales shall be published in line with REMIT and the Transparency Regulation.	rules are needed for RR operation

7	35	1	Each TSO shall have the right to exchange part of its initial FCR Obligation defined in accordance with Article 27(1) with other TSOs of its Synchronous Area in accordance with the provisions of this Article.	Each TSO shall allow for exchange of part of its initial FCR Obligation defined in accordance with Article 27(1) with other TSOs of its Synchronous Area in accordance with the provisions of this Article. Each FCR providers shall have the right to participate to each TSO FCR tendering.	According to this article, only a TSO can exchange its FCR capacity, not a FCR provider. The original provision is made under the assumption TSO-TSO with cmo target model to be described under the Balancing Network Code.
7	35	4	All TSOs of a Synchronous Area shall define, in a Synchronous Area Agreement, a common threshold for the impact of the exchange of FCR Obligation on the cross-border flows in case of FCR activation and inform the NRA(s) while respecting the provisions of Article 3(3).	All TSOs of a Synchronous Area shall define, in a Synchronous Area Agreement, a common threshold for the impact of the exchange of FCR Obligation on the cross-border flows in case of FCR activation and get the NRA(s) approval after a public consultation while respecting the provisions of Article 3(3).	Common threshold should need NRA approval and public consultation.
7	35	5	Each Affected TSO shall ensure that its transmission reliability margin is sufficient to enable the planned exchange of FCR Obligations and ensures the operational security	Each Affected TSO shall ensure that there will be no cross-border capacity reserved for exchange of FCR Obligations to enable the planned exchange of FCR Obligations and ensures the operational security	No cross-border capacity should be reserved for exchange of FCR Obligations. Clear and more transparent article
7	37	1	The Reserve Connecting and Reserve Receiving TSOs, participating to an exchange of FRR/RR shall organise the exchange in such a way that one of them is responsible for the activation and monitoring of the exchanged FRR/RR. The Reserve Connecting TSO shall give its prior consent to the Reserve Receiving TSO before it can be held responsible for the activation and monitoring of the exchanged FRR/RR. The Reserve Connecting TSO must give its prior consent in case of a direct relationship between the Reserve Receiving TSO and the FRR /RR Provider.	The Reserve Connecting and Reserve Receiving TSOs, facilitating an exchange of FRR/RR shall organise the exchange in such a way that one of them is responsible for the activation and monitoring of the exchanged FRR/RR. The Reserve Connecting TSO shall give its prior consent to the Reserve Receiving TSO before it can be held responsible for the activation and monitoring of the exchanged FRR/RR.	TSOs should not be able to block a TSO-BSP transaction.
7	37	2	Sufficient cross-border transmission capacity must be available for the cross-border exchange of FRR/RR. The Reserve Connecting TSO and Reserve Receiving TSO shall agree on the identity of the TSO responsible to secure and ensure before real-time the availability of sufficient transmission capacity for the exchange of FRR/RR in a TSO multi-party agreement.	Sufficient cross-border transmission capacity must be available for the cross-border exchange of FRR/RR. The Reserve Connecting TSO and Reserve Receiving TSO shall agree on the identity of the TSO responsible to secure and ensure before real-time the availability of sufficient transmission capacity for the exchange of FRR/RR in a on ENTSO-E website publicly available TSO multi-party agreement, while respecting the provisions of Article 3(3). There shall be no ex-ante reservation of transmission capacity for the purposes of FRR\RR exchange.	TSO multi-party agreement should be publicly available and under NRA approval and market parties consultation.

7	37	3	All TSOs of a Synchronous Area shall define, in a Synchronous Area Agreement the roles and responsibilities of the Reserve Connecting TSO, the Reserve Receiving TSO and the Affected TSO for the exchange of FRR and/or RR. The roles and responsibilities shall cover at least: a) Notification process; b) Scheduling and accounting of the activated exchanged FRR/RR; and c) Data delivery and transparency.	No later than XXXX months after the entry into force of this network code, all TSOs of a Synchronous Area shall define, in a Synchronous Area Agreement the roles and responsibilities of the Reserve Connecting TSO, the Reserve Receiving TSO and the Affected TSO for the exchange of FRR and/or RR. The roles and responsibilities shall cover at least: a) Notification process; b) Scheduling and accounting of the activated exchanged FRR/RR; and c) Data delivery and transparency..	In line with correct regulatory process and should be moved to paragraph 1.
7	37	6	In case of the exchange of FRR/RR, each TSO of a LFC Block shall have the right to limit the amount of its FRR/RR that can be located outside its LFC Area in a multi-party agreement with other TSOs of the LFC Block according to the provision of Article 3(3).	Delete	This article is not needed, it is already covered in article 39 and 41.
7	38	0	[NEW PARAGRAPH]	Total shared plus exchanged capacity should not exceed the limits set out in Article 39(2) And 41(2).	Total shared\exchanged reserve ashould not exceed limits.
7	38	3	The reserve receiving TSO shall not activate the shared FRR\RR in case of insufficient transmission capacity is availabe. Thre reserve reciving TSO is responsible to ensure that the availability of sufficient transmission capacity required for the activation of shared FRR\RR.	The reserve receiving TSO shall not activate the shared FRR\RR in case of insufficient transmission capacity is availabe. Thre reserve reciving TSO is responsible to ensure that the availability of sufficient transmission capacity required for the activation of shared FRR\RR. Cross border transmission capacity shall not be reserved for the purposed of sharing of FRR\RR.	No capacity reservation.
7	38	4	All TSOs of a Synchronous Area shall define, in a Synchronous Area Agreement the roles and responsibilities of the Reserve Connecting TSO, the Reserve Receiving TSO and the Affected TSO for the sharing of FRR and/or RR. The roles and responsibilities shall cover at least: a) Notification process; b) Scheduling and accounting of the activated exchanged FRR/RR; and c) Data delivery and transparency.	All TSOs shall define the roles and responsibilities of the Reserve Connecting TSO, the Reserve Receiving TSO and the Affected TSO for the sharing of FRR and/or RR. The roles and responsibilities shall cover at least: a) Notification process; b) Scheduling and accounting of the activated exchanged FRR/RR; and c) Data delivery and transparency.	In line with correct regulatory process and should be dealt with at EU level and moved to paragraph 1.
7	39	1	Each TSO shall have the right to exchange part of its FRR with other TSOs of its Synchronous Area in accordance with the provisions of this Article and Article 37.	Each TSO shall allow for exchange of part of its FRR with other TSOs of its Synchronous Area in accordance with the provisions of this Article and Article 37. Each FRR providers shall have the right to participate to each TSO FRR tendering.	According to this article, only a TSO can exchange its FRR capacity, not a FRR provider.
7	39	2	The TSOs of a LFC bock shall ensure that at least 50%....	The TSOs of a LFC bock shall ensure that at least 80%....	Total shared\exchanged reserve should not exceed limits. 50% is too high. Also for TSOs in the same Block.

7	41	2	Each TSO shall have the right to exchange part of its RR with other TSOs of its Synchronous Area in accordance with the provisions of this Article and Article 37.	Each TSO shall allow for exchange of part of its RR with other TSOs of its Synchronous Area in accordance with the provisions of this Article and Article 37. Each RR providers shall have the right to participate to each TSO RR tendering.	According to this article, only a TSO can exchange its RR capacity, not a RR provider.
7	41	2	The TSOs of a LFC bock shall ensure that at least 50%....	The TSOs of a LFC bock shall ensure that at least 80%....	Total shared\exchanged reserve should not exceed limits. 50% is too high. Also for TSOs in the same Block.
7	42	2	The TSOs of a LFC Block shall only consider a reduction of the required RR for the LFC Block, defined by the RR Dimensioning Process of Article 33, as a result of a RR sharing agreement after verifying, together with the Reserve Connecting TSO(s), that the probability of the simultaneous need for the shared RR capacity by more than one TSO is very unlikely to happen according to Article 3(3).	The TSOs of a LFC Block shall only consider a reduction of the required RR for the LFC Block, defined by the RR Dimensioning Process of Article 33, as a result of a RR sharing agreement after verifying, together with the Reserve Connecting TSO(s), that the probability of the simultaneous need for the shared RR capacity by more than one TSO will not happen according to Article 3(3). In any case the extent of sharing shall not exceed 20% of the RR dimensioning requirement.	Reference to very unlikely is not acceptable for a network code. It is impossible to assess it. Methodologies need to be defined.
7	44	2	All TSOs of the Synchronous Area shall define rules and minimum requirements for exchange of FCR between Synchronous Areas in a multi-party agreement. The rules and minimum requirements shall cover at least a) the operational impact between the Synchronous Areas; and b) the impact on the frequency quality of the involved Synchronous Areas.	No later than XXX months after the enrty into force of this network code all TSOs (in the EU) shall define rules and minimum requirements for exchange of FCR between Synchronous Areas in a multi-party agreement, while respecting the provisions of [revised] Article 3(3). The rules and minimum requirements shall cover at least a) the operational impact between the Synchronous Areas; and b) the impact on the frequency quality of the involved Synchronous Areas.	TSO multi-party agreement should be publicly available and under NRA approval and market parties consultation.
7	44	3	The Reserve Connecting TSO and the Reserve Receiving TSO shall agree in a TSO multi-party agreement upon the exchange of FCR Obligation.	While respecting the provisions of Article 3(3), the Reserve Connecting TSO and the Reserve Receiving TSO shall agree in a on ENTSO-E website publicly available TSO multi-party agreement upon the exchange of FCR Obligation.	TSO multi-party agreement should be publicly available and under NRA approval and market parties consultation.
7	46	1	The TSOs of the LFC Blocks involved in the different Synchronous Areas shall have the right to exchange FRR. For the exchange of FRR between Synchronous Areas, the provisions contained in Article 38 shall apply.	The TSOs of the LFC Blocks involved in the different Synchronous Areas shall allow for exchange of FRR. For the exchange of FRR between Synchronous Areas, the provisions contained in Article 38 shall apply.	According to this article, only a TSO can exchange its FRR capacity, not a FRR provider.

7	46	2	<p>All TSOs participating to an exchange of FRR shall organise the cross-border exchange in such a way that the TSO of a first Synchronous Area may receive part of the FRR Capacity as defined in accordance with Article 31 within the second Synchronous Area.</p> <p>The part of the FRR Capacity which is exchanged shall be provided within an LFC Block of the second Synchronous Area in addition to the FRR Capacity of this LFC Block of the second Synchronous Area as defined in accordance with Error! Reference source not found..</p> <p>Each operator of a HVDC interconnector shall control the Active Power Flow over the HVDC interconnector depending on the set point of the first Synchronous Area in accordance with the FRR requirements established in Article 31.</p>	<p>All TSOs participating to an exchange of FRR shall organise the cross-border exchange in such a way that the TSO of a first Synchronous Area may receive part of the FRR Capacity as defined in accordance with Article 31 within the second Synchronous Area.</p> <p>The part of the FRR Capacity which is exchanged shall be provided within an LFC Block of the second Synchronous Area in addition to the FRR Capacity of this LFC Block of the second Synchronous Area.</p> <p>Each operator of a HVDC interconnector shall control the Active Power Flow over the HVDC interconnector depending on the set point of the first Synchronous Area in accordance with the FRR requirements established in Article 31.</p>	Typo error
7	46	3	<p>The TSOs of the LFC Block involved in the different Synchronous Areas shall agree upon the exchange of FRR in a multi-party agreement.</p>	<p>No later than XXX months after the entry into force, all TSOs (in the EU) shall agree upon the exchange of FRR in a multi-party agreement publicly available on ENTSO-E website, while respecting the provisions of Article 3(3).</p>	TSO multi-party agreement should be publicly available and under NRA approval and market parties consultation.
7	47	1	<p>Each TSO of a LFC Block shall have the right to share part of its FRR with a TSO from another Synchronous Area in accordance with the rules established in Article 40(1) to Article 40(0).</p>	<p>Each TSO of a LFC Block shall have the right to share part of its FRR with a TSO from another Synchronous Area in accordance with the rules established in Article 40(1).</p>	Typo error
7	48	1	<p>The TSOs of the LFC Blocks involved in the different Synchronous Areas shall have the right to exchange RR. For the exchange of RR between Synchronous Areas, the provisions contained in Article 38 shall apply.</p>	<p>The TSOs of the LFC Blocks involved in the different Synchronous Areas shall allow for exchange of RR. For the exchange of RR between Synchronous Areas, the provisions contained in Article 38 shall apply.</p>	According to this article, only a TSO can exchange its RR capacity, not a RR provider.
7	50	0	<p>Section 3 CROSS-BORDER ACTIVATION PROCESS OF FRR AND RR FOR OPTIMISATION PURPOSES</p>	delete	Inappropriate reference to optimization purposes. It should be part of the network code on Electricity Balancing.
7	50	0	<p>CROSS-BORDER ACTIVATION PROCESS OF FRR AND RR FOR OPTIMIZATION PURPOSES</p>	delete	Inappropriate reference to optimization purposes. It should be part of the network code on Electricity Balancing.
7	50	1	<p>Each TSO shall have the right to make part of its FRR or RR available to other TSOs of its Synchronous Area or from another Synchronous Area, regardless of any exchange and/or sharing agreement for FRR / RR, in order to optimize the activation of FRR or RR balancing energy in accordance with the provisions of the [NC Balancing].</p>	delete	Inappropriate reference to optimization purposes. It should be defined in the network code on Electricity Balancing.

7	50	2	All TSOs of the Synchronous Area shall set limits in a Synchronous Area Agreement to the amount of FRR or RR which can be made available to other TSOs in accordance with Article 50 in order to ensure the continuous access to the required FRR or RR resulting from their FRR or RR Dimensioning Process while respecting the provisions of Article 3(3).	delete	Relation with articles 39, 41 and 42 should be made. There is a link with the limits set up for exchange/sharing of reserves.
10	54	1	All TSOs of each Synchronous Area shall publish on a common public website a) the Frequency Quality Defining Parameters; b) the Frequency Quality Target Parameters; c) the Frequency Restoration Control Error Defining Parameters; and d) the Frequency Restoration Control Error Target Parameters for each Synchronous Area not later than	ENTSO-E shall publish on a common public website and for each Synchronous Area a) the Frequency Quality Defining Parameters; b) the Frequency Quality Target Parameters; c) the Frequency Restoration Control Error Defining Parameters; and d) the Frequency Restoration Control Error Target Parameters for each Synchronous Area not later than	Reference to ENTSO-E transparency platform. Only one website should be used to publish this information.
10	54	2	All TSOs of each Synchronous Area shall publish on a common public website the results of the Criteria Application Process comprising at least a) the values of the Frequency Quality Evaluation Criteria; b) the measurement period; c) the precision of the recorded measurements; and d) the calculation method for each Synchronous Area not later than six months after the last time stamp of the measurement period and at least four times a year.	ENTSO-E shall publish on a common public website and for each Synchronous Area the results of the Criteria Application Process comprising at least a) the values of the Frequency Quality Evaluation Criteria; b) the measurement period; c) the precision of the recorded measurements; and d) the calculation method for each Synchronous Area not later than six months after the last time stamp of the measurement period and at least four times a year.	Reference to ENTSO-E transparency platform. Only one website should be used to publish this information.
10	55	1	All TSOs of each Synchronous Area shall publish on a common public website the content of the Synchronous Area A referred to in Article 16 and related to a) the Process Activation Structure; and b) the Process Responsibility Structure for each Synchronous Area not later than one month before the entry into force of the Synchronous Area Agreement.	ENTSO-E shall publish on a common public website and for each Synchronous Area the content of the Synchronous Area referred to in Article 16 and related to a) the Process Activation Structure; and b) the Process Responsibility Structure for each Synchronous Area not later than six months before the entry into force of the Synchronous Area Agreement.	Reference to ENTSO-E transparency platform. Only one website should be used to publish this information. Typo Error. Review timing for communication information on public website.
10	55	3	All TSOs implementing an Imbalance Netting Process shall announce the implementation on their public websites not later than one month before the beginning of the operation.	All TSOs implementing an Imbalance Netting Process shall announce the start date on their public websites not later than six months before the beginning of the operation.	More precise to change the term implementation by starting date. Otherwise it can be confusing. Also market participants need more time before the beginning of the operation in order to implement the changes internally. Six months seems more reasonable.

10	56	1	All TSOs of each Synchronous Area except the Synchronous Area IRE shall publish on a common public website a) the dimensioning approach for FCR; b) the total amount of FCR for each Synchronous Area; and c) the shares of FCR required for each TSO as the Initial FCR Obligation for each Synchronous Area not later than one month before the effective date of the decision referred to in Article 27.	All TSOs of each Synchronous Area except the Synchronous Area IRE shall publish on a common public website a) the dimensioning approach for FCR; b) the total amount of FCR for each Synchronous Area; and c) the shares of FCR required for each TSO as the Initial FCR Obligation for each Synchronous Area not later than six months before the effective date of the decision referred to in Article 27.	Review timing for communication information on public website.
10	56	2	All TSOs of each Synchronous Area shall publish on a common public website the FCR Properties defined for each Synchronous Area according to Article 28 not later than one month before the effective date of the decision.	All TSOs of each Synchronous Area shall publish on a common public website the FCR Properties defined for each Synchronous Area according to Article 28 not later than six months before the effective date of the decision.	Market participants need more time before the beginning of the operation in order to implement the changes internally. Six months seems more reasonable.
10	57	1	All TSOs of each Synchronous Area shall publish on a common public website the FRR Technical Requirements for each Synchronous Area not later than one month before the effective date of the decision referred to in Article 31(1).	All TSOs of each Synchronous Area shall publish on a common public website the FRR Technical Requirements for each Synchronous Area not later than six months before the effective date of the decision referred to in Article 31(1).	Review timing for communication information on public website.
10	57	2	All TSOs of each LFC Block shall publish on a common public website the complementary FRR Technical Requirements and FRR Availability Requirements for the LFC Block not later than one month before the entry into force of the TSO multi-party agreement referred to in Article 31(2).	All TSOs of each LFC Block shall publish on a common public website the complementary FRR Technical Requirements and FRR Availability Requirements for the LFC Block not later than six months before the entry into force of the TSO multi-party agreement referred to in Article 31(2).	Market participants need more time before the beginning of the operation in order to implement the changes internally. Six months seems more reasonable.
10	57	3	All TSOs of each LFC Block shall publish on a common public website the FRR Dimensioning Rules defined for the LFC Block not later than one month before the entry into force of the TSO multi-party agreement referred to in Article 30(1).	All TSOs of each LFC Block shall publish on a common public website the FRR Dimensioning Rules defined for the LFC Block not later than six months before the entry into force of the TSO multi-party agreement referred to in Article 30(1).	Market participants need more time before the beginning of the operation in order to implement the changes internally. Six months seems more reasonable.
10	57	5	[NEW PARAGRAPH]	All TSOs shall publish information relating to the procurement of FRR on a quarterly basis	to ensure market transparency
10	57	6	[NEW PARAGRAPH]	All TSOs shall publish information relating to the activation of FRR on a H+1 basis.	to ensure market transparency
10	58	1	All TSOs of each LFC Block which operates a Reserve Replacement Process shall publish on a common public website the RR Technical Requirements and RR Availability Requirements for the LFC Block not later than one month before the effective date of the entry into force of the TSO multi-party agreement referred to in Article 34(2).	All TSOs of each LFC Block which operates a Reserve Replacement Process shall publish on a common public website the RR Technical Requirements and RR Availability Requirements for the LFC Block not later than six months before the effective date of the entry into force of the TSO multi-party agreement referred to in Article 34(2).	Review timing for communication information on public website.

10	58	2	All TSOs of each LFC Block shall publish on a common public website the RR Dimensioning Rules defined for the LFC Block not later than one month before the entry into force of the TSO multi-party agreement referred to in Article 33(1).	All TSOs of each LFC Block shall publish on a common public website the RR Dimensioning Rules defined for the LFC Block not later than six months before the entry into force of the TSO multi-party agreement referred to in Article 33(1).	Market participants need more time before the beginning of the operation in order to implement the changes internally. Six months seems more reasonable.
10	58	4	[NEW PARAGRAPH]	All TSOs shall publish information relating to the procurement of RR on a quarterly basis	to ensure market transparency
10	58	5	[NEW PARAGRAPH]	All TSOs shall publish information relating to the activation of RR on a D+1 basis	to ensure market transparency
10	59	3	All TSOs of each LFC Area or LFC Block shall publish the information on FCR, FRR and RR exchange in accordance to the national regulations.	All TSOs of each LFC Area or LFC Block shall publish the information on FCR, FRR and RR exchange in accordance to the national regulations and European Transparency Regulation and Guidelines.	Consistency with European Regulation and Guidelines on Electricity Transparency