Methodology for regional operational security coordination for the Central Europe CCR

in accordance with Article 76(1) of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation

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Whereas

(1) This document describes the methodology for regional operational security coordination for the capacity calculation region Central Europe pursuant to Article 76(1) of the Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereafter referred to as the 'SO Regulation'). This document is hereafter referred to as the 'ROSC Methodology'.

(2) This ROSC Methodology takes into account the general principles and goals set in the SO Regulation as well as Commission Regulation (EC) 2015/1222 establishing a guideline on capacity allocation and congestion management (hereafter referred to as the 'CACM Regulation').

(3) This ROSC Methodology takes into account the possible dependencies with Commission Regulation (EU) 2017/2195 establishing a guideline on electricity balancing, Commission Regulation (EU) 543/2013 on submission and publication of data in electricity markets(hereafter referred to as the 'Transparency Regulation') as well as Commission Regulation (EU) 1227/2011 on wholesale energy market integrity and transparency (hereafter referred to as the 'REMIT Regulation').

(4) Article 76 of the SO Regulation constitutes the legal basis and defines the requirements for the ROSC Methodology.

(5) This ROSC Methodology defines an adequate frequency of intraday coordination of operational security analysis and updates to the CGM to ensure network security and stability in accordance with Article 76(1)(a) of the SO Regulation.

(6) This ROSC Methodology contributes to the objectives stated in Article 76(1)(b) of the SO Regulation introducing a coordination process with explicit rules for the preparation of cross-border relevant remedial actions in a coordinated way and assigns clear responsibilities for the Central Europe TSOs and Central Europe RCC(s).

(7) For the exchange of relevant information and preparation of cross-border relevant remedial actions in accordance with Article 76(1)(b)(i) and Article 76(1)(b)(iv) of the SO Regulation, this ROSC Methodology determines all input data relevant for regional operational security coordination.

(8) For the activation of cross-border relevant remedial actions in accordance with Article 76(1)(b)(iv) of the SO Regulation, this ROSC Methodology defines two types of coordination processes which aim to resolve operational security violations with cross-border relevant remedial actions. The standard coordination process is called coordinated regional operational security analysis ('CROSA') in accordance with Article 78 of the SO Regulation that is performed at a regional level by all Central Europe TSOs and RCC(s) together. In cases where the CROSA cannot be applied, TSO(s) can apply a fast activation process, which is a limited coordination performed by a TSO(s) facing operational security violation in coordination with RCC(s) and other TSOs, which may be affected by application of remedial actions.

(9) This ROSC Methodology defines all relevant types of constraints which are necessary to ensure the operational security in accordance with Article 76(1)(b)(ii) of the SO Regulation.

(10) To identify the most effective and economically efficient remedial actions in accordance with Article 76(1)(b)(iii) of the SO Regulation, this ROSC Methodology introduces the remedial

action optimisation ('RAO'). The aim of this optimisation is to minimise the incurred cost as well as to ensure the remedial actions are applied effectively to address operational security violations.

(11) In accordance with Article 76(1)(b)(v) of the SO Regulation, this ROSC Methodology complements the the CE Redispatching and Countertrading Cost-Sharing Methodology for the Central Europe CCR established pursuant to Article 74 of the CACM Regulation. While the the CE Redispatching and Countertrading Cost-Sharing Methodology determines the concrete cost sharing solution, this ROSC Methodology determines all the relevant input data and parameters that are required for the application of the the CE Redispatching and Countertrading Cost-Sharing Methodology.

(12) As the Central Europe CCR is characterised by a highly meshed network, all network elements of voltage equal or higher than 220 kV and all available remedial actions are generally considered as cross- border relevant. This is because in Central Europe CCR it is generally not possible to identify a network element that would be impacted only by remedial actions that do not have any impact on other cross-border relevant network elements. Still, exceptions to the rule are possible if all Central Europe TSOs agree that individual network elements can be considered as not cross-border relevant.

(13) As all potential remedial actions are considered as cross-border relevant in Central Europe CCR, when it comes to coordinated regional operational security analysis, there is no need for qualitative or quantitative assessment of their cross-border relevance in accordance with CSAM. Nevertheless, after optimal cross-border remedial actions are determined by RAO, these can be further modified by subsequent coordination and fast activation process, and these modifications need to be coordinated only among the TSOs which are directly affected by the concerned remedial action. For this purpose, this ROSC Methodology also defines a methodology for a qualitative and quantitative assessment of TSOs that are significantly affected by cross-border relevant remedial actions.

(14) To achieve the objectives stated in Article 76(1) of the SO Regulation, the ROSC Methodology considers and, where necessary, complements:

   (a) the methodology for coordinating operational security analysis in accordance with Article 75 of the SO Regulation (hereafter referred to as 'CSAM');
   (b) the common Central Europe methodology for coordinated redispatching and countertrading in accordance with Article 35 of the CACM Regulation;
   (c) the common Central Europe methodology for coordinated redispatching and countertrading cost sharing (hereafter referred to as 'cost sharing methodology') in accordance with Article 74 of the CACM Regulation.

(15) In this ROSC Methodology, the CROSA, consists of a preparation step, a coordination step (containing one or more coordination runs) and a validation step. The CROSA describes the coordination between TSOs and RCC(s) of the Central Europe CCR as well as coordination of Central Europe TSOs and RCC(s) with the TSOs and RCC(s) of other CCRs.

(16) In accordance with Recital (15) of the SO Regulation, synchronous areas do not stop at the European Union's (EU) borders and can include the territory of third countries. The TSOs should aim for secure system operation inside all synchronous areas which include EU countries. This ROSC Methodology is open to participation of third country TSOs subject to a common agreement and equal rights and responsibilities.

(17) To ensure the tools implemented to build CGMs and operated by RCC(s) will be compliant with the respective requirements set up in the relevant legislation in force, including the SO Regulation (notably Article 79(5) of the SO Regulation), the CGMM and the CSAM, while ensuring reliability of the CGM delivery process and the aligned use of the resulting unique CGM, a consistent and harmonised approach at pan-European level is needed. This should be facilitated by ENTSO-E where all EU TSOs are involved.

(18) This ROSC methodology also includes the appointment of RCC(s), rules concerning the governance and operation of RCC(s), a proposal for a coherent allocation of the tasks between RCC(s) and an assessment demonstrating that the proposed setup of RCC(s) and allocation of tasks is efficient, according to Articles 77(1), 77(2) and 77(3) of the SO Regulation.

(19) To fulfil the obligation of providing an assessment demonstrating that the proposed setup of RCC(s) and allocation of tasks is efficient, effective and consistent with the regional coordinated capacity calculation established pursuant to Articles 20 and 21 of the CACM Regulation, Central Europe RCC(s) in coordination with Central Europe TSOs have provided to Central Europe regulatory authorities an assessment of the efficiency and effectiveness of allocation of tasks to RCCs that demonstrates the efficiency and effectiveness of the proposed setup.

(20) RCC(s) shall complement the role of TSOs by performing the tasks of regional relevance assigned to them in accordance with Article 37 of the Electricity Regulation.

(21) This ROSC Methodology contributes to the objectives of the SO Regulation as follows:

(a) for the Central Europe CCR common operational security requirements and principles are followed with the common remedial action optimisation in accordance with Article 4(1)(a) of the SO Regulation as well as introducing common interconnected system operational planning principles for remedial actions in accordance with Article 4(1)(b) of the SO Regulation;

(b) it ensures the conditions for maintaining the operational security throughout the Union by specifying the provisions and process for the coordination of operational security within Central Europe CCR as well as with neighbouring CCRs systems in accordance with Article 4(1)(d) of the SO Regulation;

(c) promoting the coordination of system operation and operational planning by using for the Central Europe CCR a common remedial action optimisation where RCCs together with TSOs will ensure efficient coordination in accordance with Article 4(1)(f) of the SO Regulation;

(d) ensuring transparency and reliability of information on transmission system operation, and the efficient operation of the electricity transmission system in the Union by introducing common monitoring obligations and communication formats in accordance with Article 4(1)(g) of the SO Regulation;

(e) contributing to the efficient operation and development of the electricity transmission system and electricity sector in the Union making sure that the most efficient resources are used in the optimisation for relieving congestions in accordance with Article 4(1)(h) of the SO Regulation;

(22) In conclusion, this ROSC Methodology contributes to the objectives of the SO Regulation and of the Electricity Regulation and to the benefit of all market participants and electricity end-users.

TITLE 1
GENERAL PROVISIONS

Article 1
Subject matter and scope

1. This ROSC Methodology is developed in accordance with Article 76 of the SO Regulation and for organisation of regional operational security coordination in accordance with Article 77 of the SO Regulation.
2. This ROSC Methodology shall cover the year-ahead, day-ahead and intraday regional operational security coordination within Central Europe CCR.
3. This ROSC Methodology shall apply to all TSOs and RCCs within the Central Europe CCR. This ROSC Methodology shall apply to RCCs .
4. This ROSC Methodology shall also apply to third country TSO(s), if such TSO(s) have signed an agreement with all Central Europe TSOs that they shall comply with this ROSC Methodology, as well as the Central Europe methodologies pursuant to Article 35 and Article 74 of the CACM Regulation and accept all the rights and obligations stemming from them. In such case the reference to Central Europe TSO(s) and Central Europe CCR in this methodology shall also include such third country TSO(s).

Article 2
Definitions and concepts

1. For the purposes of this ROSC Methodology, the terms used shall have the meaning of the definitions included in Article 3 of the SO Regulation, Article 2 of the CACM Regulation, Article 2 of the Electricity Regulation and Article 2 of the Transparency Regulation.
   In addition, the following acronyms and definitions shall apply:
   (a) ‘cross-border relevant remedial action’ or ‘XRA’ means a remedial action identified as cross-border relevant and needs to be applied in a coordinated way;
   (b) 'available XRA' means an XRA that is available for the CROSA to relieve operational security violations;
   (c) ‘recommended XRA’ is an XRA determined as optimal by RAO and/or recommended by RCC(s) to TSOs;
   (d) ‘agreed XRA’ means an XRA which has agreed during the coordination among Central Europe TSOs and RCC(s);
   (e) ‘ordered XRA’ is an agreed XRA that bindingly ordered after the end of CROSA;
   (f) ‘agreed but not ordered XRA’ or ‘ANORA’ is an agreed XRA that has not been ordered after the end of CROSA;
   (g) 'activated XRA' means ordered XRA that has been implemented by the XRA connecting TSO(s), or the request for their activation has been sent to the third party XRA provider;

(h) ‘CGM’ means the common grid model as defined in Article 2(2) of the CACM Regulation;

(i) ‘CGMM’ means the common grid model methodology pursuant to Articles 67 and 70 of the SO Regulation;

(j) 'conditionally available XRA' means an XRA whose availability depends on conditions determined by the XRA Connecting TSO(s);

(k) ‘CSAM’ means the methodology for coordinating operational security analysis pursuant to Article 75 of the SO Regulation;

(l) ‘CROSA’ or ‘coordinated regional operational security assessment’ means a process of an operational security analysis performed by RCC(s) in accordance with Article 78 of the SO Regulation;

(m) ‘coordinated operational security analysis’ means an operational security analysis performed by a TSO in accordance with Article 72(3) and 72(4) of the SO Regulation;

(n) ‘ID RSA’ means the intraday regional operational security analysis as referred to in Article 72(1)(d) of the SO Regulation

(o) ‘IGM’ means the individual grid model as defined in Article 2(1) of the CACM Regulation;

(p) ‘RAO’, means remedial action optimisation that determines optimal set of XRAs within each CROSA;

(q) ‘RD and CT’ means ‘redispatching and countertrading’ as defined pursuant to Article 2(26) and Article 2(13) of the Transparency Regulation;

(r) ‘ROSC’ means ‘regional operational security coordination’;

(s) ‘scanned element’ means a network element which is monitored during CROSA such that CROSA does not worsen, or create new operational security violations.

(t) ‘(X)RA connecting TSO’ means a TSO responsible for the control area where the (X)RA is located or connected. In case of an interconnector, the TSO executing the topological change shall be considered as (X)RA connecting TSO;

(u) ‘XRA affected TSO’ means the TSO which is significantly impacted by the activation of an XRA;

(v) ‘XNE’ or ‘cross-border relevant network element’ means a network element identified as cross-border relevant and on which operational security violations need to be managed in a coordinated way;

(w) ‘XNEC’ or ‘cross-border relevant network element with contingency’ means an XNE associated with a contingency. For the purpose of this methodology, the term XNEC also covers the case where an XNE is used in operational security analysis without a specified contingency;

(x) ‘XNE connecting TSO’ means the TSO responsible for the control area where the XNE is located or connected. In case of an interconnector, the TSOs on both sides of the interconnector shall be considered as XNE connecting TSOs;

(y) ‘third party (X)RA provider’ means a party other than the (X)RA connecting TSO who owns and/or operates the assets involved in the activation of in the concerned (X)RA;

(z) ‘network element’ means any component of a transmission system, including interconnectors, or of a distribution system, including a closed distribution system, such

as a single line, a single circuit, a single HVDC system, a single transformer, a single phase-shifting transformer, or a voltage compensation installation;

(aa) 'RAIF' or 'remedial action influence factor' means a flow deviation on a XNEC resulting from the application of a remedial action, normalised by the PATL on the associated XNE;

(bb) 'preventive (X)RA' means a remedial action that is the result of an operational planning process and needs to be activated prior to the investigated timeframe for compliance with the (N-1) criterion;

(cc) 'local preliminary assessment' means an operational security analysis performed by a TSO to prepare an individual grid model;

(dd) 'overlapping XNE' means an XNE on which the physical flows are significantly impacted by electricity exchanges in two or more CCRs or by XRAs from two or more CCRs;

(ee) 'overlapping XRA' means an XRA that is able to address operational security violations on overlapping XNE;

(ff) 'curative (X)RA' means a remedial action that is the result of an operational planning process and is activated straight subsequent to the occurrence of the respective contingency for compliance with the (N-1) criterion, taking into account TATL and the accepted duration of transitory admissible overload;

(gg) 'virtual positive load margin' means a positive margin defined by a TSO for a scanned element that will be applied on top of the PATL in order to represent the influence of available remedial action which is not an XRA.

(hh) 'permanent admissible transmission loading', or 'PATL' means the maximum loading in amperes, MW or MVA that can be sustained on a network element for an unlimited duration without risk to the equipment;

(ii) 'temporary admissible transmission loading', or 'TATL' means the maximum loading in amperes, MW or MVA that can be sustained on a network element for a limited duration without risk to the equipment;

(jj) 'thermal limit' refers to both PATL and TATL;

(kk) 'transitory admissible overload' means the temporary overload of a network element which is allowed for a limited period and which do not cause physical damage to the network element as long as the defined duration and thresholds are respected;

(aa) (ll) RCC - Regional Coordination Centers for the CE CCR being Coreso and TSCNET

2. This ROSC Methodology defines the following types of XRAs determined in the following sequence:

(a) Recommended XRAs are the XRAs determined as optimal by RAO and recommended by RCC(s) to TSOs;

(b) Agreed XRAs are the recommended XRAs which are either agreed or agreed with modifications during the coordination among TSOs and RCC(s);

(c) Ordered XRAs are agreed XRAs for which TSOs agree that their activation cannot be postponed until the next CROSA due to specific activation constraints (e.g. required activation time) of such XRAs;

(d) Activated XRAs are the ordered XRAs which have been implemented by the XRA connecting TSOs, or the request for their activation has been sent to the resource provider.

3. This ROSC Methodology determines the following types of constraints:
   (a) Operational security limits: the acceptable operating boundaries for secure grid operation. This ROSC Methodology shall cover the following operational security limits:
      (i) thermal limits of network elements (PATL and TATL);
      (ii) voltage limits;
      (iii) stability limits of the transmission system identified in accordance with Article 38(2) and Article 38(6) of the SO Regulation; and
      (iv) short-circuit current limits of the transmission system.
   (b) Constraints on XRAs: constraints related to all aspects required to be taken into account when using XRAs and classified as following:
      (i) technical constraints are the rules representing technical limitations for activation of XRAs;
      (ii) operational constraints are the operational conditions and usage rules taking into account the timings to operate the network and avoid a premature ageing of the assets included in the XRAs;
      (iii) procedural constraints are all the timing constraints due to local or regional processes; and
      (iv) priority constraints are representing national legal requirements regarding the priority of activation of XRAs.
   (c) Additional optimisation constraints called system constraints are additional optimisation constraints, expressed as current limits on a single or a set of XNEs and scanned elements and necessary to respect operational security limits other than PATL and TATL.
4. In this ROSC Methodology, unless the context requires otherwise:
   (a) The acronym '(X)RA' is used where the reference can mean both the remedial action or cross-border relevant remedial action;
   (b) The singular indicates the plural and vice versa;
   (c) Headings are inserted for convenience only and do not affect the interpretation of this ROSC Methodology;
   (d) Any reference to legislation, regulations, directives, orders, instruments, codes or any other enactment shall include any modification, extension or re-enactment of it when in force;
   (e) Any reference to an Article without an indication of the document shall mean a reference to this ROSC Methodology.
5. Where this methodology explicitly requires a common consent among Central Europe TSOs for the purpose of operational coordination or the determination of operational inputs, including but not limited to Articles 7, 10 and 12, such common consent shall mean the unanimous consensus of all Central Europe TSOs. For the purposes of reaching such common consensus, a deemed acceptance approach shall apply, whereby the absence of an explicit objection within the applicable coordination timelines shall be considered as acceptance. A Central Europe TSO objecting to a proposal shall make reasonable efforts to clearly state and substantiate the reasons for its objection in a timely manner. This paragraph shall not apply to decisions taken in accordance with the governance and decision-making framework set out in Article 36.

TITLE 2
REGIONAL OPERATIONAL SECURITY COORDINATION

Article 3
General provisions for ROSC

1. Central Europe TSOs in coordination with e RCC(s) shall perform the ROSC for long term studies for year-ahead regional operational security coordination in accordance with CSAM. When Central Europe TSOs propose a first amendment to this ROSC Methodology, they shall include in this proposal also the detailed process for regional operational security coordination for year-ahead timeframe as well as possible other long-term timeframes.
2. Central Europe TSOs in coordination with Central Europe RCC(s) shall execute the ROSC for each timestamp of the target operation day. The ROSC consists of the following activities:
    (a) Intraday regional operational security analysis (ID RSA) as described in Article 4;
    (b) One day-ahead and several intraday CROSAs. Day-ahead CROSAs shall be performed in accordance with the timings defined in CSAM. Intraday CROSAs shall be performed at least three times in the intraday timeframe in accordance with timings defined in CSAM. Each CROSA shall consist of:
        (i) Preparation as described in Chapter 1 of Title 4;
        (ii) Coordination as described in Chapter 2 of Title 4;
        (iii) Validation as described in Chapter 3 of Title 4.
        (iv) Implementation and activation as described in Chapter 4 of Title 4.

    A CROSA may consist of two coordination runs.
    (c) Fast activation process as described in Title 5. Central Europe TSOs shall have the right to modify an ordered XRA or may activate a new (X)RA following the fast activation process.

Article 4
Intraday regional operational security analysis

1. The goal of the ID RSA is to provide Central Europe TSOs the latest information for each timestamp of the operation day about the loading of the transmission system and previously undetected operational security violations, which may serve as a trigger for a fast activation process.
2. ID RSA shall be performed at each hour of the day for each timestamp until the end of the operation day.
3. ID RSA shall be performed on the updated IGMs containing the latest available forecast of generation and load, planned outages, forced outages and agreed XRAs.
4. For the purpose of ID RSA, each Central Europe TSO shall provide IGMs to Central Europe TSOs and RCC(s) for all remaining timestamps of the operation day, respecting CGMM provisions and including all agreed XRAs resulting from the latest CROSA or fast activation process.
5. RCC(s) shall merge updated IGMs into an updated CGM, perform a load flow and contingency analysis and deliver the results to all Central Europe TSOs.

TITLE 3
DEFINITION AND DETERMINATION OF CROSA INPUTS

Article 5
Definition of XNEs

1. XNEs shall be:
    (a) all critical network elements ('CNEs') included in the final list of CNEs in the day-ahead and intraday capacity calculation methodology of the Central Europe CCR in accordance with the CACM Regulation; and
    (b) all other network elements within the control area of Central Europe TSOs with a voltage level higher than or equal to 220 kV, except for those network elements that are not CNEs and for which Central Europe TSOs agree that they are not cross-border relevant for the Central Europe CCR and may therefore be excluded, following the process referred to in Article 7(3)(b)(iii).
2. The list of XNEs shall contain all XNEs defined in paragraph 1.

Article 6
Definition of scanned elements

1. The scanned elements shall be network elements, which are not XNEs and on which CROSA shall not worsen eventually existing operational security violations, or create new operational security violations.
2. For CROSA purposes only, each Central Europe TSO shall set on each scanned element an individual virtual positive load margin, on top of the PATL defined in its IGM.
3. The list of scanned elements shall contain all scanned elements defined pursuant to paragraph 1.

Article 7
The establishment and maintenance of the lists of XNEs and scanned elements

1. By twelve months before the implementation of the first implementation step of this methodology, all Central Europe TSOs, with the support of RCC(s) shall determine the list of XNEs and the list of scanned elements in accordance with Article 5 and Article 6.
2. By twelve months before the implementation of this methodology, all Central Europe TSOs, with the support of RCC(s), shall agree on a process for amendments and regular review of the list of XNEs and the list of scanned elements.
3. When establishing and maintaining the list of XNEs and the list of scanned elements, each Central Europe TSO shall have the right, for the network elements which are at least partly located in its control area:
    (a) to include in the list of XNEs any network element with a voltage level higher than or equal to 220 kV without further agreement with other Central Europe TSOs, if the network element is modelled in the TSO's year-ahead IGM or in the IGM otherwise specified in the process pursuant to paragraph 2;
    (b) to exclude any network element from the list of XNEs (except for CNEs) as follows:
        (i) the following network elements may be subject to exclusion without further

agreement with other Central Europe TSOs: (i) radial lines, including those connecting power plants, (ii) distribution network elements and (iii) transformers with the secondary voltage lower than 220 kV;

(ii) Central Europe TSOs, which are part of more than one CCR, shall have the right to exclude from the list of XNEs any network element that is subject to regional operational security coordination within other CCR(s). In such case, the corresponding Central Europe TSO shall inform the TSOs and RCC(s) of the other CCR(s), about the network elements it excluded;

(iii) Central Europe TSOs shall have the right to exclude any elements from the list of XNEs (except for CNEs) if there is a common agreement among Central Europe TSOs, which shall be deemed acspecific timeframe, that such elements can be excluded.

(c) to include in the list of scanned elements any network element excluded from the list of XNEs;

(d) to include in the list of scanned elements any network element which is modelled in its IGM, with a voltage level lower than 220 kV that is not on the list of XNEs;

(e) to exclude any network element from the list of scanned elements;

(f) to move any network element from its control area fulfilling the criteria for XNEs defined in Article 5 from the list of scanned elements to the list of XNEs.

4. Each Central Europe TSO shall have the right to include in the list of scanned elements also overlapping XNEs which are declared as XNEs in other CCRs as well as other network elements which are part of its observability area.
5. When applying the process referred to in paragraph 2 and if a new network element with a voltage level higher than or equal to 220 kV is commissioned, the Central Europe TSO operating this network element shall decide on its inclusion in the list of XNEs pursuant to paragraph 2 while respecting Article 5.
6. When applying the process referred to in paragraph 2 and if a new network element with a voltage level lower than 220 kV is commissioned, the Central Europe TSO operating this network element shall decide on its inclusion in the list of scanned elements pursuant to paragraph 2 while respecting Article 6.
7. By applying the process referred to in paragraph 2, Central Europe TSOs shall update the list of XNEs and the list of scanned elements when necessary and inform the Central Europe RCC(s) about the change. The list of XNEs and the list of scanned elements shall be reassessed by Central Europe TSOs at least once a year.
8. Central Europe TSOs shall share the list of XNEs and the list of scanned elements with Central Europe RCC(s) for day- ahead and intraday CROSAs.
9. Central Europe RCC(s) shall start using the newly shared list of XNEs and the list of scanned elements in the next CROSA.

Article 8
Classification of remedial actions

1. Each Central Europe TSO shall classify the RAs in accordance with Article 22 of the SO Regulation.
2. RAs classified in categories (d), (h), (i) and (j) of Article 22(1) of the SO Regulation shall not be

used for the ROSC process.

Article 9
Cross-border relevance of remedial actions

1. Within one month after the list of XNEs has been defined in accordance with Article 7, Central Europe TSOs shall share with the Central Europe RCC(s) all potential RAs, designed in accordance with CSAM, which are at least sometimes able to address violations of current limits on XNEs. In doing so, each Central Europe TSO shall also consider the potential RAs recommended by Central Europe RCC(s) in accordance with Article 78(2)(a) of the SO Regulation. Each Central Europe TSO shall continuously asses the possibility for new potential RAs. All Central Europe TSOs and RCC(s) shall commonly asses the possibility for new potential RAs at least on biannual basis.
2. All potential RAs identified pursuant to paragraph 1 shall be considered as cross-border relevant (XRAs), unless all Central Europe TSOs unanimously agree that a potential RA is not cross-border relevant.
3. Central Europe TSOs, in coordination with Central Europe RCC(s), shall jointly assess the XRA affected TSOs for each XRA determined pursuant to paragraph 2.
4. Central Europe TSOs shall aim at agreeing on a qualitative approach in accordance with Article 10 to determine XRA affected TSOs for each XRA.
5. If the concerned XRA is quantifiable such as RD and CT, change of set point on HVDC systems or change of taps on phase-shifting transformers, the quantity above which this XRA is having a significant effect on the control areas of other TSOs and its control area has to be specified in accordance with CSAM.
6. If Central Europe TSOs cannot agree on XRA affected TSOs based on a qualitative approach in accordance with Article 10, quantitative approach in accordance with Article 11 shall be used to determine the XRA affected TSOs.
7. Central Europe TSOs shall jointly define and share with the Central Europe RCC(s) the list of XRA affected TSOs and any update to such list.
8. Central Europe TSOs with the support of Central Europe RCC(s), shall reassess the XRA affected TSOs at least on an annual basis.
9. If a new potential RA is designed by a Central Europe TSO for its control area during real time operation and if the system is in alert state in accordance with the Article 18 of the SO Regulation and determined as XRA pursuant to paragraph 2, the XRA connecting TSOs shall use quantitative assessment in order to identify the XRA affected TSOs. In doing so, the XRA connecting TSO shall check that the activation of such XRA does not lead to operational security violations on network elements of its observability area using either the latest available CGM or its model from the state estimator. If such analysis shows that the activation of a new XRA may cause operational security violations on network elements of its observability area, its activation has to be coordinated with the TSO(s) where the operational security violations occur.
10. During real time operation, if the system is in emergency state and only when operational conditions allow it, when preparing restoring remedial actions each TSO shall assess the XRA affected TSOs.
11. Between two mandatory assessments of XRA affected TSOs pursuant to paragraph 8, each Central Europe TSO shall have the right to request an additional assessment of XRA affected TSOs providing justification for such a request to the XRA connecting TSO and respective

RCC(s).

12. During fast activation process, when a Central Europe TSO proposes an XRA in emergency and alert state pursuant to CSAM and when this TSO is the XRA connecting TSO as well as the only XRA affected TSO, the activation of this XRA shall not be subject to further coordination. Central Europe TSOs and RCC(s) shall be informed of the activation of such XRA.

Article 10
Qualitative assessment of XRA affected TSOs

1. For each XRA identified pursuant to Article 9(2):
    (a) Each Central Europe TSO shall individually assess the effect of each XRA on its control area;
    (b) Each XRA connecting TSO shall assess the effect of its XRAs on control areas of other Central Europe TSOs and also on its control area;
2. Central Europe TSOs may delegate the tasks described in paragraph 1 to Central Europe RCC(s).
3. When a Central Europe TSO identifies that an XRA has a significant impact on its control area, it shall inform the XRA connecting TSO and request that it be determined as XRA affected TSO and provide justification for such request.
4. If Central Europe TSOs reach a common agreement that an XRA has significant impact on specific control area, then the concerned TSO shall be defined as XRA affected TSO.
5. If XRA connecting TSO receives no request from any other Central Europe TSO to be determined as XRA affected TSO, the XRA connecting TSO shall be the only XRA affected TSO.

Article 11
Quantitative assessment of XRA affected TSOs

1. Central Europe RCC(s) shall use the CGMs established in accordance with Article 67 of the SO Regulation when quantifying the effect of XRAs on TSOs.
2. Quantitative assessment of XRA affected TSOs shall be done on all XNEs defined in accordance with Articles 5 and 7.
3. If an XRA consists of a combination of actions, the quantitative assessment of XRA affected TSOs shall be done for the combined effect.
4. A TSO shall be considered as XRA affected TSO if the RAIF calculated in accordance with CSAM for this XRA is equal or higher than 5% on any XNE (in N-situation or contingency) for which this TSO is the XNE connecting TSO. This significance threshold may be reduced if agreed by Central Europe TSOs subject to governance framework defined in Article 36.
5. The RAIF referred to in paragraph 4 shall be calculated on the latest available CGM.

Article 12
Contingency list

1. Each Central Europe TSO shall establish the list of contingencies (hereafter referred to as ‘contingency list’) to be simulated in operational security analysis. The contingency list shall be established in accordance with Article 33 of the SO Regulation.

2. Each Central Europe TSO shall provide the respective Central Europe RCC(s) and Central Europe TSOs with its contingency list to be used in CROSA and shall inform the Central Europe RCC(s) about any update of this list in accordance with CSAM.
3. In case a specific operational security violation on XNE or scanned element with specific contingency can be more efficiently addressed outside of the day-ahead and intraday CROSA, the Central Europe TSOs and CRCC(s) may exclude the relevant XNECs and scanned elements associated with a contingency from the concerned day-ahead and intraday CROSA if there is a common agreement amongst Central Europe TSOs, which shall be deemed achieved unless objections are raised within a specific timeframe, that such XNECs can be excluded.
4. Central Europe RCC(s) shall start using the newly shared contingency lists in the next CROSA.

TITLE 4
COORDINATED REGIONAL OPERATIONAL SECURITY ANALYSIS PROCESS

CHAPTER 1
PREPARATION

Article 13
Provision of CROSA inputs

1. Each Central Europe TSO shall provide the following input data to Central Europe RCC(s):
    (a) IGM according to Article 14, including the operational security limits for each XNE and scanned element according to Articles 5 and 6;
    (b) XNEs and scanned elements according to Articles 5 and 6;
    (c) Contingency list according to Article 12.
    (d) Available XRAs within its control area according to Article 15;
    (e) Constraints on XRAs in accordance with Article 2(4) and Article 15; and
    (f) When relevant, system constraints according to Article 16;
2. Central Europe RCC(s) shall provide for each intraday CROSAs the list of agreed XRAs from previous CROSAs archived by Central Europe RCC(s) in accordance with Article 30.
3. When providing information on XNEs and XRAs pursuant to paragraphs 1(b) and (d) the connecting TSO shall also provide the information whether the concerned XNE or XRA is overlapping as determined pursuant to Article 28.
4. The input data pursuant to paragraph 1 shall cover all timestamps of the operation day in case of day-ahead CROSA and all applicable timestamps of the operation day in case of intraday CROSA.
5. Each Central Europe TSO shall update the input data for the second coordination run of the day-ahead CROSA and possible second coordination runs in intraday CROSAs in accordance with the provisions defined in Articles 14 to 17.
6. Within the timelines established pursuant to Article 18(4), all Central Europe TSOs and RCC(s) shall define for each CROSA the common gate closure time by which the inputs pursuant to in paragraph 1 can be delivered and updated by Central Europe TSOs.

Article 14
Preparation and updates of IGMs by Central Europe TSOs

1. Each Central Europe TSO shall prepare and deliver day-ahead and intraday IGMs for day-ahead and intraday CROSAs as defined in CSAM and the CGMM.
2. Each Central Europe TSO shall have the right to perform a local preliminary assessment pursuant to CSAM. Each Central Europe TSO shall have the right to include in its IGM the (X)RAs resulting from the local preliminary assessment performed before the day-ahead CROSA in accordance with the rules specified in CSAM.
3. In accordance with CSAM, each Central Europe TSO shall have the right to include in its IGM, the (X)RAs for which this TSO is the only XRA affected TSO and that are resulting from the local preliminary assessment performed by such Central Europe TSO at any time.
4. In accordance with CSAM, if a Central Europe TSO includes in its IGMs the (X)RA(s) resulting from the local preliminary assessments pursuant to paragraphs 2 and 3, the information on these (X)RA(s) shall be shared among Central Europe TSOs and be clearly distinguishable in the IGM from the initial state variables without these (X)RAs applied in accordance with Article 70(4) of the SO Regulation.
5. The costs of (X)RAs included in IGM resulting from the local preliminary assessment shall not be included in the final costs to be shared in accordance with the CE Redispatching and Countertrading Cost-Sharing Methodology.
6. In case paragraphs 2 and 3 are contradicting the provisions of CSAM, the relevant provisions from CSAM shall prevail.
7. If the RAO results in agreed XRAs for the respective control area, each Central Europe TSO shall provide to Central Europe RCC(s) an updated IGM with agreed XRAs between two coordination runs within one CROSA in accordance with CSAM and CGMM. The XRAs resulting from the first coordination run shall not be binding and shall be possible to be changed by the RAO during the following coordination run within the same CROSA if deemed necessary.

Article 15
Information on available XRAs

1. Each Central Europe TSO shall make available all XRAs as identified in Article 9(2) to the Central Europe RCC(s) for each day-ahead and intraday CROSAs as defined in CSAM unless an XRA is not available pursuant to this Article.
2. When identifying whether the XRAs identified pursuant to Article 9(2) shall be made available for the day-ahead and intraday CROSAs, each Central Europe TSO shall respect the following principles:
    (a) Each XRA connecting TSO shall asses the availability of all its XRAs identified in Article 9(2);
    (b) Each XRA connecting TSO may declare the XRA as not available in case it cannot be activated due to:
        i. an unforeseen event, or
        ii. planned or unplanned outage, or
        iii. a declaration of unavailability status done by a third party XRA provider, or
        iv. any other cause outside of the responsibility of the Central Europe TSOs;

(c) In case XRA is conditionally available, the XRA connecting TSO shall provide to Central Europe RCC(s) and other Central Europe TSOs the conditions for its availability and the underlying justification.

3. Each Central Europe TSO shall provide any relevant information for each available or conditionally available XRA for the purpose of day-ahead and intraday CROSA process that will reflect the technical, operational or procedural constraints of the XRA as defined in accordance with Article 2.
4. Each Central Europe TSO shall also provide, for the purpose of day-ahead and intraday CROSA, the information on the available volume of XRAs considering the constraints of XRAs as defined in accordance with Article 2.
5. Central Europe TSOs and Central Europe RCC(s) shall agree and define a detailed specification of information requirements for XRAs needed for each CROSA. This shall include a predefined set of conditions for conditionally available XRAs.
6. In case of a second coordination run of the coordination stage of day-ahead or intraday CROSA, each Central Europe TSO shall provide to the Central Europe RCC(s) an updated information on available XRAs, considering:
   (a) The agreed outcome of the latest coordination run for the XRAs in accordance with Article 27 and 28;
   (b) Any update of XRA availability related to unplanned or forced outages or changes of outage schedules of relevant assets;
   (c) Any update of available XRA volumes related to the latest schedules of load and generation.
7. In case XRAs are owned or provided by a third party, such third party XRA providers shall provide to the XRA connecting TSOs best up-to-date information on the availability of their XRAs, including all the necessary information that is required for CROSAs. This information shall be provided by the deadline determined by the XRA connecting TSO, which shall be shortly before the gate closure time referred to in Article 13(6). The provided information shall include at least the following:
   (a) Available volume of XRAs;
   (b) Technical characteristics and constraints of XRAs;
   (c) Information on prices or costs of XRAs, which shall enable the XRA connecting TSOs and Central Europe RCC(s) the estimation of total costs of XRAs subject to their optimal and/or ordered volume.

Article 16
System constraints

1. Central Europe TSOs may apply system constraints in accordance with Article 2 for the purpose of respecting operational security limits other than thermal limits. Such system constraints shall be expressed as a current limit on a single or a set of XNEs and scanned elements.
2. The system constraints introduced for the purpose of dynamic stability shall be defined based on the criteria for dynamic system stability in accordance with Articles 38 and 39 of the SO Regulation.
3. Before applying such system constraints, the concerned Central Europe TSO shall provide to other

Central Europe TSOs and Central Europe RCC(s) in a transparent manner all the details and possible underlying studies on how the value of each specific system constraints was determined and calculated.

4. When Central Europe TSOs propose a first amendment to this ROSC Methodology, they shall include in this proposal also the information on:
    (a) which TSOs need to apply system constraints;
    (b) which system constraints need to be applied and which operational security limits are represented in such system constraints;
    (c) justification on why these system constraints need to be applied in CROSAs and why other measures are not sufficient or appropriate; and
    (d) information about possible long-term measures to mitigate the need for system constraints.

Article 17
Consistency and quality check of the input data

1. The Central Europe RCC(s) shall assess and monitor the consistency and quality of each input data file provided by each Central Europe TSO in accordance with CGMM and CSAM.
2. Central Europe RCC(s) shall monitor if the agreed XRAs are included in the IGMs provided by each Central Europe TSO.
3. The Central Europe RCC(s) shall inform the concerned Central Europe TSOs on the identified issues pursuant to paragraphs 1 and 2 in an appropriate timeframe before starting the RAO, to give Central Europe TSOs the opportunity to correct these errors or inconsistencies and provide updated input files.

CHAPTER 2
COORDINATION

Article 18
General provisions of coordination process

1. Central Europe RCC(s) in coordination with Central Europe TSOs shall perform the day-ahead and intraday CROSAs in accordance with CSAM.
2. The day-ahead CROSA shall include two coordination runs and each intraday CROSA will include at least one coordination run. Each coordination run shall consist of the following steps:
    (a) Building of the CGMs by the RCC(s) in accordance with CGMM;
    (b) Performing the load flow and contingency analysis in accordance with Article 19;
    (c) RAO in accordance with Articles 20 to 26;
    (d) Coordination of XRAs in accordance with Article 27;
    (e) Inter-CCR coordination in accordance with Article 28.
3. The RAO of each CROSA shall use all available XRAs as identified in accordance with Articles 9 to 11 and Article 15. All recommended XRAs that are the result of the RAO shall be considered for the purpose of subsequent processes, i.e. coordination of XRAs, validation, inter-CCR coordination and determination of costs for cost sharing.

4. All Central Europe TSOs with the support of RCC(s) shall jointly define the timeline of each step of the day- ahead and intraday CROSA, in accordance with CSAM and CGMM. The timings shall be published on the ENTSO-E website.
5. In accordance with Article 32, during the intraday CROSA, the Central Europe TSOs and Central Europe RCC(s) shall reassess the ANORAs that were agreed in the day-ahead CROSA or previous intraday CROSA as well as other available XRAs (except ordered XRAs), for the period relevant for the actual intraday CROSA.
6. Information about ordered XRAs and ANORAs during day-ahead and intraday CROSA shall be archived by Central Europe RCC(s).

Article 19
Operational security analysis

1. Central Europe RCC(s) shall perform the operational security analysis by using the CGM built in accordance with CGMM. The security analysis will be performed considering the latest contingency list as well as the latest list of XNEs and scanned elements provided by Central Europe TSOs.
2. Operational security analysis shall be performed by applying the AC load flow calculation. For the eventual cases of AC load flow divergence (at the particular contingencies), DC load flow can be used as the fall-back solution.
3. Central Europe RCC(s) shall provide to all Central Europe TSOs the operational security analysis results. These results shall contain, at least:
    (a) applied current limits for XNEs and scanned elements;
    (b) current loading of the XNECs and scanned elements with contingencies;
    (c) applied voltage limits;
    (d) voltages calculated on the CGM;
    (e) cases of AC load flow divergence and possible fall-back DC load flow results.
4. Central Europe TSOs shall have the opportunity to validate the power flow and operational security analysis results. This validation aims at identifying errors in input data, which would make the outcome of the operational security analysis non-realistic and to give Central Europe TSOs the opportunity to correct these errors. In case of the detection of errors in input data, the concerned Central Europe TSOs shall update their input data.

Article 20
Remedial action optimisation

1. Central Europe TSOs and RCC(s) shall optimise XRAs in order to identify in a coordinated way the most effective and economically efficient XRAs, based on the following principles:
    (a) The remedial action optimisation (RAO) of XRAs shall be performed with consideration of all available XRAs in accordance with Article 15;
    (b) The RAO shall consider all constraints on XRAs in accordance with Article 21;
    (c) The RAO shall aim at relieving operational security violations on XNEs in accordance with Article 22;

(d) The RAO shall not create additional operational security violations on XNEs and scanned elements in accordance with Article 23;

(e) The RAO shall aim at ensuring economic efficiency by minimising the incurred costs of XRAs as well as the effectiveness of the XRAs to address operational security violations in accordance with Article 24;

(f) The RAO shall ensure energy balance of XRAs in accordance with Article 25;

(g) The RAO shall take into account the impact of variations in forecasts and market activities in accordance with Article 26.

Article 21
Constraints on XRAs

1. The RAO shall take into account all constraints of XRAs as determined in Article 2 and provided by Central Europe TSOs in accordance with Article 13, including intertemporal constraints, when identifying the most effective and economically efficient XRAs for all timestamps that are being optimised.
2. The RAO for day-ahead CROSA shall optimise all timestamps of the operation day.
3. The RAO for intraday CROSA shall optimise all remaining timestamps until the end of the operation day.
4. In the RAO for both day-ahead and intraday CROSA, any constraints in accordance with Article 2(4) on ordered XRAs from previous timestamps shall be taken into account.

Article 22
Relieving operational security violations

1. When performing day-ahead and intraday CROSAs, Central Europe TSOs and Central Europe RCC(s) shall detect operational security violations. These violations can be addressed with RAO or during the coordination of XRAs pursuant to Article 27. The RAO shall aim to reduce the currents on XNEs in N-situation or after occurrence of a contingency down to the applicable current limits. The current limits shall represent the thermal limits (PATL and TATL) of an XNE, unless otherwise defined in this methodology.
2. The thermal limits of XNEs shall be defined as follows:
    (a) Seasonal limit, which means a fixed limit for all hours of each of the four seasons.
    (b) Dynamic limit, which means a value per hour reflecting the varying ambient conditions.
    (c) Fixed limits for all hours, in case of specific situations where the physical limit reflects the capability of overhead lines, cables or substation equipment installed in the primary power circuit (such as circuit-breaker, or disconnector) with limits not sensitive to ambient conditions.

Central Europe TSOs shall aim at gradually phasing out the use of seasonal limits pursuant to paragraph 2(a) and replace them with dynamic limits pursuant to paragraph 2(b), when the benefits are greater than the costs. Central Europe TSOs shall analyse the impact of using dynamic limits pursuant to Article 6 (3) of the Intraday capacity calculation methodology of the CE capacity calculation region,

3. For addressing violations of other operational security limits, such as voltage violations, violations

of short-circuit current limits or violations of stability limits, each Central Europe TSO should perform local assessment and long-term operational security analysis in accordance with Articles 31, 38 and 73 of the SO Regulation. These violations may be addressed in CROSA during the coordination of XRAs pursuant to Article 27. When addressing these violations by applying additional constraints on XRAs, the concerned Central Europe TSO shall provide to other Central Europe TSOs and Central Europe RCC(s) the reasoning for these constraints in a transparent manner.

4. Central Europe TSOs may also apply system constraints that reflect other operational security limits referred to in paragraph 4 for the purpose that RAO does not create new or worsen the existing underlying operational security violations. However, RAO shall not resolve these underlying violations as these shall be resolved in accordance with paragraph 4.
5. In intraday CROSA, the detection of current limits violations pursuant to paragraph 1 shall be performed on CGMs, which do not include ANORAs.
6. The RAO shall aim at identifying the optimal XRAs from the list of available XRAs in accordance with Article 15 to relieve violations of applicable current limits on XNEs in N-Situation and all contingencies, detected pursuant to paragraph 1.

7. Curative XRAs shall be used for relieving operational security violations in contingency case on an XNE as long as the TATL of a network element is not exceeded. Under consideration of all recommended preventive and curative XRAs, the PATL of XNEs shall be respected.

Article 23
Avoiding additional operational security violations on XNEs and scanned elements

1. The activation of XRAs determined by the RAO for relieving operational security violations on XNEs:
    (a) shall not lead to additional operational security violations of operational security limits on XNEs and scanned elements; and
    (b) shall not worsen eventually existing operational security violations on scanned elements in accordance with Article 6;

    unless when attending the provisions pursuant to paragraph 2.
2. To avoid constraining RAO, Central Europe TSOs may introduce an Admissible Further Loading Threshold (AFLT) to be commonly applied to all scanned elements that allows the recommended XRAs to increase the initial loading of each scanned element, as calculated prior to the first RAO run, irrespective of any operational security violations identified on these elements.
    (a) If the available margin between the initial loading of a scanned element and the sum of its corresponding PATL and VPLM is sufficient to reach the AFLT, the AFLT shall not be applied on top of these limits. More specifically, the Admissible Further Loading (AFL) shall be calculated as:

$$AFL = max\left(AFLT, (PATL + VPLM) - Loading^{before}\right)$$

    (b) Central Europe TSOs and RCCs shall commonly review the value of the AFLT at least on a yearly basis to ensure that it does not unduly constrain the RAO in

determining an optimal solution for the XNECs, while at the same time preventing insecure network situations within the respective TSO's local grid.

(c) The AFLT shall only be introduced following a unanimous agreement among all Central Europe TSOs on its common value. After its introduction, and for the purpose of reviewing its common value, a default value of zero shall apply in the absence of a renewed agreement.

3. On request of Central Europe TSOs and in case a scanned element constrains the RAO in a significant frequency, the Central Europe TSO who has defined this scanned element shall do everything in its power to reduce its constraining character, e.g. by increasing its virtual positive load margin.

Article 24
Economic efficiency and effectiveness

1. The RAO shall determine the optimal set of XRAs and their volumes by respecting the following objectives (in order of priority):
   (a) aim to relieve operational security violations in accordance with Article 22 and 23;
   (b) aim to minimise total sum of costs and revenues of XRAs; and
   (c) aim to minimise the amount and volume of XRAs.
2. In case RAO is not able to find a solution given the three objectives defined in paragraph 1 it may relax these three objectives to the minimum extent required and in reverse order of priority in order to find a solution.
3. The RAO shall take into account the impact of XRAs on operational security violations with RA remedial action influence factor (RAIF), which determine the impact of each RA on the power flow or current on XNEs and scanned elements as a function of their nominal power flow or current.
4. If RAO is not able to relieve all operational security violations, it shall provide all relevant information on the remaining operational security violations.

Article 25
Energy balance of XRAs

1. In order to guarantee the energy balance of the electricity system after activation of XRAs, the RAO shall ensure that the optimised XRAs do not create energy imbalances and can be activated in a way that does not create energy imbalances in each timeframe.

Article 26
Robustness

1. Taking into account all the principles introduced in Articles 21 to 25, the RAO shall ensure that the identified XRAs for relieving operational security violations on the XNEs are robust to variations of forecasts in consumption, RES production, and market activities and allow Central Europe TSOs to operate their control area without operational security violations.
2. In case of exceptional situations, such as, but not limited to, unpredictable arrival of a wind front or snowfall on PV modules, where the accuracy of one or more of the forecasts variables included

in the IGMs is insufficient to allow the correct identification of operational security violations, Central Europe TSOs shall have the right to change the current limit of their XNEs referred to in Article 22 in regional day-ahead or intraday processes in accordance with CSAM.

3. Concerned TSOs shall inform without undue delay Central Europe TSOs and RCC(s) in case of application of paragraph 2, providing at least the following information:
    (a) XNEs and timestamps which are affected by the application of paragraph 2;
    (b) Estimate of the time for which application of paragraph 2 is needed.
4. In case of application of paragraph 2, the concerned Central Europe TSOs shall provide ex-post on request of any Central Europe TSO its justification about its decision to other Central Europe TSOs and RCC(s).
5. Central Europe RCC(s) shall monitor the need, the effectiveness and the impact of the reduction of current limits applied pursuant to paragraph 2 and report to all Central Europe TSO(s). Subject to this report, all Central Europe TSOs may agree, in accordance with governance rules pursuant to Article 36, to exclude additional costs of XRAs resulting from reduced current limits from cost sharing.

Article 27
Coordination of XRAs

1. Central Europe RCC(s) shall recommend the implementation of the most effective and economically efficient XRAs identified by the RAO to the XRA connecting TSOs and inform at least all XRA affected TSOs about this recommendation.
2. In accordance with CSAM, Article 78(4) of the SO Regulation and Article 42(2) of the Electricity Regulation, during each CROSA, the recommended XRAs shall be considered as agreed, except where it is rejected by:
    (a) any XRA affected TSO (including XRA connecting TSOs) on the grounds that the implementation of a specific XRA would result in operational security violations;
    (b) XRA connecting TSO on the grounds that the recommended XRA is no longer available.
3. If a Central Europe TSO rejects a recommended XRAs, it shall provide to Central Europe RCC(s) and other Central Europe TSOs clear reasons for rejection, including the evidence for the claimed grounds of rejection.
4. If a Central Europe TSO rejects a recommended XRAs, except in the case of an unavailability of the proposed XRA, the Central Europe RCC(s) in coordination with the respective Central Europe TSO shall perform an ex-post assessment, at the request of any Central Europe TSO or RCC, to determine the additional costs and impact resulting from the rejected XRA on the congestion. These costs and impact shall be compared with the costs (and impact on congestion) of possible (X)RAs not recommended by RCC(s) which would avoid the rejection of a recommended XRA. If a recommended XRA is frequently rejected by a Central Europe TSO due to a specific reason, the Central Europe RCC(s) in coordination with the rejecting Central Europe TSO shall perform an ex-post assessment as described above. The rejecting Central Europe TSO shall also propose and apply mitigating measures to avoid similar rejections in future.
5. In case of rejection of a recommended XRAs, the concerned Central Europe TSOs shall coordinate with Central Europe RCC(s) and other Central Europe TSOs to identify and plan alternative

XRAs taking into account cost and efficiency to relieve the operational security violations in a coordinated way in accordance with this methodology and CSAM. In accordance with Article 78(2)(a) of the SO Regulation, the Central Europe RCC(s) may recommend alternative XRAs other than those identified by the concerned Central Europe TSO(s).

Article 28
Inter-CCR coordination

1. In accordance with the CSAM, Central Europe RCC(s) and relevant other RCC(s) in coordination with Central Europe TSOs shall relieve operational security violations on overlapping XNEs and shall coordinate overlapping XRAs impacting these overlapping XNEs.
2. In accordance with CSAM, Central Europe RCC(s) shall perform the coordinated cross-regional operational security assessment with relevant other RCC(s). In doing so, Central Europe RCC(s) shall consider and coordinate with relevant other RCC(s) the use of XRAs available in the concerned CCRs.
3. Central Europe RCC(s) in coordination with XRA connecting TSOs and XNE connecting TSOs shall assess whether the concerned XRAs and XNEs are overlapping according to CSAM;

CHAPTER 3
VALIDATION

Article 29
Validation session

1. In the end of the day-ahead CROSA in accordance with CSAM, Central Europe RCC(s) and Central Europe TSOs shall consolidate results of the day-ahead CROSA and validate XRAs that have been agreed during the day-ahead CROSA.

Article 30
Outcome of validation

1. Central Europe RCC(s) shall archive all ordered XRAs and ANORAs after the validation session.
2. Central Europe RCC(s) shall report any remaining operational security violations. Based on this input, Central Europe TSOs shall specify next steps which may include, but not limited to, an intraday CROSA or fast activation process.
3. Central Europe RCC(s) shall ensure the availability of results and decisions to all Central Europe TSOs.
4. Central Europe RCC(s) shall archive all necessary data for the yearly report in accordance with Article 17 of the SO Regulation.

CHAPTER 4
IMPLEMENTATION OF REMEDIAL ACTIONS
Article 31 Ordering and Activation of XRAs

1. Each XRA connecting TSO shall activate XRAs at the latest time compatible with technical, operational and procedural constraints of the resources in accordance with CSAM.

2. In fast activation process, each Central Europe TSO shall have the right to request a reassessment of ordered XRAs or already activated XRAsconsidering technical, operational and procedural constraints. XRA affected TSOs shall reassess the ordered XRAs via fast activation process in accordance with Article 33.

3. In order to prevent the effect of activated XRAs on operational security to be diminished by additional cross-zonal trade Central Europe TSOs may:
    (a) prevent the netting of cross-border schedules, which result from activated XRAs, with cross-zonal capacities and prevent that these schedules increase cross-zonal capacities in the directions in which additional trade could worsen operational security;
    (b) as a last resort measure, modify cross-zonal capacities outside the coordinated capacity calculation process pursuant to the day-ahead and intraday capacity calculation methodology of the Central Europe CCR, if:
        i. waiting for the next coordinated capacity calculation would endanger operational security; and
        ii. additional cross-zonal trade would create operational security violations which would not be possible to be addressed with available XRAs.

4. To ensure ~~–~~that changes of the market schedule during CROSA do not create unintended imbalances, redispatching~~,~~ XRAs should be ordered as a power output change ("ΔP") as agreed during the CROSA, instead of a power output setpoint~~.~~

5. In order to avoid additional operational security violations on XNEs and scanned elements, each XRA connecting TSO can restrict changes of the operating point in the burdening direction(s) of power plants where the ordered redispatching XRAs are connected. This restriction may apply for the time for which such redispatching XRAs are ordered in the CROSA and activated by the XRA connecting TSO(s).

6. Irrespectively of the restriction applied according to paragraph 34, the operating point of power plants where the ordered redispatching XRAs are connected, shall be at least equal to the volume of the ordered XRAs (in case of positive redispatch) and at most equal to the volume of maximal output of the power plant(s) subtracted by the absolute volume of the ordered XRA (in case of negative redispatch).

Article 32
Consideration of remedial actions in next IGM

1. All agreed XRAs shall be classified based on a possibility of their reassessment in later CROSAs:
    (a) If activation time of an agreed XRA prevents waiting for the next CROSA for possible reassessment, then such XRA shall be classified as ordered XRA. Only fast activation process according to Article 33(3) can change the status of such ordered XRA;
    (b) If a reassessment of an agreed XRAs in the next CROSA is possible, then such XRA

shall be classified as ANORA.

2. Each Central Europe TSO shall include all agreed XRAs determined during the latest CROSA in the intraday IGMs as provided in CSAM. Information about all agreed XRAs determined during day-ahead and intraday CROSA shall be archived by Central Europe RCC(s).

3. Central Europe RCC(s) shall monitor the inclusion of agreed XRAs into IGMs in accordance with CSAM.

TITLE 5
FAST ACTIVATION PROCESS

Article 33
Fast activation process

1. The fast activation process shall be considered as a fallback solution for situations where coordination through the CROSA is no longer possible due to insufficient time and the regular process described in Article 18 could not be properly applied.
2. In case of new circumstances (determined in paragraph 3) which lead to detection of operational security violations on XNEs (in N-situation or after occurrence of a contingency):
    (a) between two CROSAs, when a fast activation of XRAs is required because it cannot wait for the next CROSA; or
    (b) after the latest CROSA,

    the XNE connecting TSO shall trigger the fast activation process to relieve operational security violations on such XNEs.
3. The fast activation process can be triggered for the following circumstances:
    (a) The ordered XRA is no longer available due to unexpected technical unavailability of the underlying assets and alternative XRAs need to be activated; and
    (b) New operational security violations have been detected and they cannot be resolved with the next CROSA; and
    (c) An ordered or activated XRA needs to be reassessed to reflect a material change in operational security violations compared to the last preceding CROSA.
4. During the fast activation process, the XRA connecting TSOs and XRA affected TSOs shall coordinate among each other to identify, plan and activate alternative or additional XRAs to relieve the operational security violations in a coordinated way while respecting the relevant provisions of CSAM. New operational security violations as a result of those XRAs should be avoided.
5. In the fast activation process, the activation of preventive as well as curative XRAs may be applied.
6. In the fast activation process, each Central Europe TSO may activate XRAs in direct coordination with XRA affected TSOs in accordance with the principles for coordination of XRAs described in CSAM.
7. A Central Europe TSO activating XRAs through fast activation process shall provide the Central Europe RCC(s) the relevant information on which the decision to activate XRAs was based.
8. The fast activation process shall end once:
    (a) XRAs to relieve the operational security violation are identified, coordinated and agreed. These XRAs will be considered as agreed XRAs; or
    (b) The result of a reassessment performed where no operational security violation exists

is coordinated and agreed by the concerned TSOs. The resulting XRAs will be considered as agreed XRAs. If no agreement is reached, the last agreed XRAs shall remain applicable.

9. Central Europe TSOs shall include the changes regarding activated XRAs resulting from fast activation process in the next relevant IGMs.

TITLE 6
DETERMINATION OF INPUTS FOR COSTS SHARING

Article 34
Inputs for cost sharing of XRAs

1. Cost sharing pursuant to the CE Redispatching and Countertrading Cost-Sharing Methodology shall be applied for ordered XRAs resulting from each CROSA. Cost sharing shall also be applied to XRAs which have been ordered in fast activation process in a circumstance determined pursuant to Article 33(3)(a). Cost sharing pursuant to the the CE Redispatching and Countertrading Cost-Sharing Methodology shall not be applied to XRAs which have been ordered in fast activation process pursuant to Article 33(3)(b). The costs of these XRAs shall be borne by the XNE connecting TSO(s) triggering the fact activation process.
2. The CE Redispatching and Countertrading Cost-Sharing Methodology shall be executed, independently, for each CROSA. The inputs for the cost sharing of XRAs from a given CROSA, such as CGM, ANORAs and ordered XRAs, shall be determined exclusively from the data used and resulting from this CROSA. The costs and/or revenues for each CROSA shall be determined only for ordered XRAs resulting from that CROSA.
3. Central Europe TSOs and RCC(s) shall determine for each CROSA and for each XRA the total costs and/or revenues that shall be shared between Central Europe TSOs in accordance with the CE Redispatching and Countertrading Cost-Sharing Methodology.
4. The costs and/or revenues of ordered XRAs shall be determined based on the prices and costs provided by TSOs and used in RAO and the volumes of ordered XRAs determined by RAO or subsequent coordination in accordance with Article 27.
5. Any deviations in costs and/or revenues resulting from the difference between:
   (a) the prices and costs per volume, provided by TSOs for the execution of the RAO; and
   (b) the final incurred costs per volume or settled costs per volume with third party XRA provider,

   shall also be subject to cost sharing pursuant to the CE Redispatching and Countertrading Cost-Sharing Methodology.
6. The deviations of costs and/or revenues resulting from deviations between ordered and delivered volume of XRAs shall not be subject to cost sharing.
7. All Central Europe TSOs and RCC(s) shall monitor the deviations in costs and/or revenues of ordered XRAs as defined in paragraph 5 and identify systematic deviations or other potential abuse resulting from these deviations. In case of identified abuse, Central Europe TSOs shall have the right to reject a specific deviation to be included in cost sharing in accordance with the governance principles pursuant to Article 36.

8. All Central Europe TSOs and RCC(s) shall monitor the impact of deviations in costs and/or revenues of ordered XRAs as defined in paragraph 5 on the efficiency and effectiveness of RAO. This monitoring shall focus on the loss of economic efficiency as well as possible effectiveness of RAO arising from these deviations.
9. For XRAs which have significant deviations pursuant to paragraph 5, all Central Europe TSOs and RCC(s) shall identify mitigating measures to minimise the impact of these deviations on RAO and cost sharing.
10. All Central Europe TSOs shall establish, share and settle the provisional costs and/or revenues of ordered XRAs for cost sharing and settlement by no later than 30 days after the end of the calendar month. Any corrections to the provisional costs and/or revenues of ordered XRAs shall be established, shared and settled by no later than 90 days after the end of a given quarter. Any deviations in costs and revenues beyond this deadline shall not be subject to cost sharing pursuant to the CE Redispatching and Countertrading Cost-Sharing Methodology.
11. All Central Europe TSOs shall determine and calculate all the parameters and data resulting from each CROSA that are required as inputs to cost sharing and as determined in the CE Redispatching and Countertrading Cost-Sharing Methodology, including particular versions of CGMs from each CROSA.

TITLE 7
MONITORING AND IMPLEMENTATION

Article 35
Reporting and monitoring

1. Central Europe RCC(s) shall record and share all necessary data to enable Central Europe TSOs and RCC(s) to fulfil the obligations regarding this methodology, the CE Redispatching and Countertrading Cost-Sharing Methodology and Articles 14 and 17 of the SO Regulation. This data shall be stored for at least 3 years and shall be made available to Central Europe regulatory authorities at request.

2. Central Europe TSOs shall perform regular monitoring of the efficiency, effectiveness and robustness of ROSC process after its implementation. Central Europe TSOs shall prepare and submit to Central Europe regulatory authorities on biannual basis a report on efficiency and effectiveness of ROSC process. This shall in particular include monitoring and reporting on:

(a) the occasions when the fast activation process was triggered by any TSO of the Central Europe CCR and the relevant justification;
(b) the number of errors/incomplete data among the information that TSOs shall provide to the relevant RCC(s) in the day-ahead and intraday timeframes, and the relevant justification; the above-mentioned information shall be:
    - the updated list of available RAs, among the categories listed in Article 22 of the SO Regulation, and their anticipated costs provided in accordance with the CE Redispatching and Countertrading Cost-Sharing Methodology and Article 18(3) of the CSAm if a RA includes

redispatching or countertrading, aimed at contributing to relieve any constraint identified in the Region;

- the operational security limits to fulfil Article X of this ROSC methodology;

(c) the number of occurrences of RCC request to each TSO to update IGM, when identifying that a previously agreed XRA has not been included in the IGM by a TSO or that uncoordinated additional XRAs have been added, and the outcome of each request;

(d) the number of occurrences of delivering a corrupt/incomplete IGM per timeframe, per TSO;

(e) the number of XRAs, per timeframe, recommended by the RCC(s) and rejected by the TSOs, with the relevant justification;

(f) the number of occurrences and XNEs, per timeframe, where it was not possible to solve all the overloads during the CROSA;

(g) the total forecasted amount of costs, per timeframe and timestamp, for the activation of the costly XRAs agreed during the CROSA;

(h) the changes in the lists of XNEs and scanned elements per TSO;

(i) the list of XRAs: for each XRA, the number of timestamps when the XRA was recommended and ordered.

3. Without prejudice to, and in addition to, any other applicable reporting obligations, such as those arising from the SO Regulation, the reporting requirements set out in this Article shall apply cumulatively. Where reporting obligations overlap, the same information shall not be required to be reported more than once, provided that the relevant obligations are duly fulfilled.

4. Central Europe TSOs can delegate the task of preparing the information referred to in paragraph 2 to the Central Europe RCC(s). In this case, the RCC(s) shall only be committed to collecting data and organizing it for the purpose of reporting, while the responsibility for the data shall be on the TSOs' side.

5. Central Europe TSOs and RCC(s) shall consult and coordinate with Central Europe regulatory authorities regarding detailed specification of the above reporting and data delivery requirements. Central Europe regulatory authorities shall have the right to request additional reporting and data delivery in coordination with Central Europe TSOs and RCC(s), or to withdraw the requirement for specific reporting or data delivery, if they consider it no longer valid. Central Europe TSOs, RCC(s) and regulatory authorities shall cooperate to avoid duplication of reporting and data delivery requirements.

Article 36
Rules concerning governance and decision making among Central Europe TSOs

1. All Central Europe TSOs shall cooperate for the implementation and operation of this ROSC Methodology. This cooperation shall be carried out through common bodies where each TSO shall have at least one representative. The members of the common bodies shall aim to make unanimous decisions.

Where unanimity cannot be reached, qualified majority voting based on the voting principles established in accordance with Article 5(5) of the SO Regulation shall apply.

2. All Central Europe TSOs shall establish a steering committee consisting of one representative from each Central Europe TSO. The steering committee shall make binding decisions on any matter or question related to the implementation and operation of this ROSC Methodology. The steering committee shall adopt rules governing its operation.
3. The steering committee shall also act as a body for settlement of disputes among Central Europe TSOs regarding the implementation and operation of this ROSC Methodology. The steering committee shall solve the problems and disputes regarding, but not limited to, the following issues:
    (a) Resolution of disputes on the interpretation of aspects of this methodology, which may not be clear;
    (b) Resolution of disputes on design choices required for implementation and operation of this methodology, which are not defined in this methodology; and
    (c) Resolution of possible disputes in the application and operation of this methodology, including the disputes related to the provisions ruling the day-to-day operation, but excluding the day-to-day operation itself.

Article 37
Implementation

1. This ROSC Methodology shall be implemented in a stepwise manner, whereby each implementation step shall cover a defined portion of the overall scope of this Methodology. In this case, each subsequent step shall expand the scope beyond that of the preceding step. Where appropriate, individual steps may implement simplified or interim versions of this overall scope, which shall be progressively refined in later steps. The first implementation step(s) shall focus on the implementation of the common CSA process for the day-ahead and intraday timeframes. The details of the individual steps of the Common CSA are referenced in the explanatory note chapter.
2. The implementation process of all steps of the ROSC Methodology shall consist of the development, testing and implementation of the IT tools as well as systems and procedures required to support the ROSC Methodology.
3. By no later than six months after the approval of this ROSC Methodology, all Central Europe TSOs and RCC(s) shall jointly develop an implementation framework for this ROSC Methodology that outlines this stepwise approach and shall update it regularly.
4. The implementation framework shall distinguish between:
    (a) the CSA implementation track, for which the implementation framework shall define clear implementation tasks, milestones, deliverables, responsibilities and target dates for go-live. The CSA implementation track shall provide for implementation in at least two steps:
        (i) a first implementation step covering DA coordination and the implementation of the ID CSA process, including hourly ID RSA and an initial

implementation of ID coordination, with an indicative target go-live, subject to the outcome of the relevant tender process, including the resulting technical solution, contractual arrangements and implementation timeline; and

(ii) a subsequent implementation step further extending and completing the implementation of ID coordination, for which the implementation framework shall set out the envisaged implementation approach and which shall be further specified taking into account the progress and experience gained from the first implementation step;

(b) subsequent optimization activities concerning RAO and CS, for which the implementation framework shall describe the next activities envisaged by the Central Europe TSOs and RCC(s) to further develop and assess their implementation, including, where available, their envisaged sequencing, indicative outputs and indicative timelines. Such information shall be indicative and subject to the assumptions, dependencies and outcomes of the activities identified in the implementation framework, and shall not constitute a commitment to specific implementation dates, milestones or go-live dates.

5. For the CSA implementation track referred to in paragraph 4(a), the implementation framework shall identify:

(a) the tasks, milestones and deliverables for which each Central Europe TSO and Central Europe RCC is individually responsible; and

(b) the tasks, milestones and deliverables for which Central Europe TSOs and RCC(s) are jointly responsible.

6. The implementation framework shall identify the main assumptions and dependencies underpinning the implementation timelines, including dependencies related to procurement and the outcome of the relevant tender process. Where such assumptions or dependencies materially change, the corresponding target dates and implementation planning shall be reassessed and, where appropriate, reflected in an update of the implementation framework.

7. All Central Europe TSOs and RCCs may share, upon prior unanimous approval by CE SG, information on the development of their tools, systems and processes with TSOs and RCC(s) of ECE CCR and allow their experts to participate as observers in Central Europe TSOs' working groups, only in cases where an applicable Observership Agreement is in place, in order to allow the ECE CCR TSOs and RCC to use the same tools, systems and processes to be used in the ROSC Methodology for the South East Europe CCR.

8. After adoption of this ROSC Methodology and during its implementation, all Central Europe TSOs and Central Europe RCC(s) shall endeavour to continue to improve the existing Central Europe CSA and the existing day-ahead and ID RSA processes.

TITLE 8
ALLOCATION OF TASKS

Article 38
Appointment of RCCs and delegation of tasks to RCCs

1. Central Europe TSOs appoint CORESO and TSCNET as RCCs that shall perform the tasks listed in Article 77(3) of the SO Regulation in the Central Europe CCR.
2. CORESO and TSCNET shall perform the tasks listed in Article 77(3) of the SO Regulation in the Central Europe CCR for all Central Europe TSOs in a transparent and non-discriminatory manner.
3. In accordance with Article 77(3) of the SO Regulation all Central Europe TSOs delegate the following tasks to CORESO and TSCNET:
    (a) ROSC in accordance with Article 78 of the SO Regulation in order to support Central Europe TSOs to fulfil their obligations for the year-ahead, day-ahead and intraday timeframes in accordance with Articles 34(3), 72 and 74 of the SO Regulation;
    (b) Building of CGM in accordance with Article 79 of the SO Regulation;
    (c) Regional outage coordination in accordance with Article 80 of the SO Regulation, in order to support Central Europe TSOs to fulfil their obligations in Articles 98 and 100 of the SO Regulation; and
    (d) Regional adequacy assessment in accordance with Article 81 of the SO Regulation in order to support Central Europe TSOs to fulfil their obligations under Article 107 of the SO Regulation.

Article 39
Allocation of tasks between RCCs

1. CORESO and TSCNET shall carry out the task for ROSC in accordance with Article 78 of the SO Regulation on a rotational basis over a pre-determined period as defined in paragraph 2.
2. The rotational basis assumes that CORESO and TSCNET will rotate the roles of leading and backup RCC over pre-determined periods. The leading RCC shall be responsible and accountable for the effective and efficient execution of the ROSC in accordance with Article 78 of the SO Regulation over a pre-determined period. The backup RCC shall be responsible for supporting the leading RCC to ensure the effectiveness of the ROSC process for all Central Europe TSOs.
3. CORESO and TSCNET shall carry out the task of CGM building on a rotational basis over a pre-determined period in accordance with Article 20 of CGMM and Article 79 of the SO Regulation.
4. TSCNET shall carry out the task of regional outage coordination in accordance with Article 80 of the SO Regulation.
5. CORESO shall carry out the task of regional adequacy assessment in accordance with Article 81 of the SO Regulation.
6. The organization of the regional outage coordination task and of the regional adequacy assessment task in paragraphs 4 and 5 may be amended in accordance with Article 40 and Article 41.

Article 40
Efficiency and effectiveness of the allocation of tasks between RCCs

1. Central Europe TSOs in coordination with CORESO and TSCNET shall monitor the effectiveness and efficiency of the allocation of the tasks for which they are responsible and, where applicable,

the rotation of those tasks and their operational performance on a yearly basis in the scope of preparation of the annual reports on regional coordination assessment according to Article 17 of the SO Regulation.

2. Central Europe TSOs in coordination with CORESO and TSCNET shall agree on clear and specific performance indicators with Central Europe TSOs to perform the tasks mentioned in Articles 38 and 39 and to be monitored and reported in accordance with Article 35.
3. CORESO and TSCNET shall ensure, in consultation with the Central Europe TSOs, transparency and interoperability of all processes and the associated data within the operational tasks mentioned in this ROSC Methodology.

   CORESO and TSCNET shall assess interoperability issues and propose changes aiming at improving effectiveness and efficiency in the coordination of system operation.

Article 41
Coordination and decision-making process

1. The leading RCC with the support of the backup RCC will ensure the coordination with all Central Europe TSOs as required by this ROSC Methodology.
2. RCCs shall cooperate in good faith and shall seek to adopt a fair and loyal treatment of the other Parties concerned.
3. RCCs shall implement the provision of the tasks in close consultation and cooperation with the Central Europe TSOs.
4. RCCs and Central Europe TSOs shall establish a contractual framework for the implementation of this methodology.

Article 42
Rules concerning governance and operation of RCCs

1. The security of supply shall be the responsibility of each of the Central Europe TSOs according to national laws and regulations. The responsibility for secure system operation and for any decision taken based on tasks performed by CORESO and TSCNET shall remain with the Central Europe TSOs. Governance rules shall be further defined and agreed by Central Europe TSOs and Central Europe RCCs during the implementation of this ROSC Methodology.
2. For the avoidance of doubt, these rules shall not replace any provision of national or European law that may apply to any of the Central Europe TSOs. The provisions of these rules shall be complementary and interpreted in accordance with the applicable regulations. In case of contradictions between these rules and the applicable laws and regulations, the provisions of these rules shall be amended accordingly.
3. Any dispute between the RCCs and between RCCs and Central Europe TSOs arising out of or in connection with this methodology shall be settled amicably between the Parties. In case the dispute cannot be settled amicably between the Parties within 60 calendar days after having been notified hereof, the dispute shall be finally settled by a decision of Central Europe TSOs pursuant to governance rules determined in Article 36.
4. CORESO and TSCNET shall agree on a contractual framework defining the rules for operation of RCCs and the liabilities between RCCs.

TITLE 9
FINAL PROVISIONS

Article 43
Publication of this proposal

1. Upon approval by the European Union Agency for the Cooperation of Energy Regulators, each Central Europe TSO shall publish this ROSC Methodology on their respective websites in accordance with Article 8(1) of the SO Regulation.

Article 44
Language

1. The reference language for this ROSC Methodology shall be English. For the avoidance of doubt, when Central Europe TSOs need to translate this ROSC Methodology into their national language(s), in the event of inconsistencies between the English version published by Central Europe TSOs in accordance with Article 8(1) of the SO Regulation and any version in another language, the relevant Central Europe TSOs shall, in accordance with national legislation be obliged to dispel any inconsistencies by providing a revised translation of this ROSC Methodology to their relevant national regulatory authorities.

Annex 1

Following are numerical examples on how the Admissible Further Loading referred to in Article 23(2) shall be calculated for scanned elements.

Example 1 for AFLT = 1% and VPLM = 0%

Loading before RAO	**Calculation of SE's admissible loading after RAO**
50%	$AFL = max(1\%, 100\% - 50\%) = 50\%$ $\%L^{before} + AFL = 100\%$
98%	$AFL = max(1\%, 100\% - 98\%) = 2\%$ $\%L^{before} + AFL = 100\%$
104,5%	$AFL = max(1\%, 100\% - 104{,}5\%) = 1\%$ $\%L^{before} + AFL = 105{,}5\%$
110%	$AFL = max(1\%, 100\% - 110\%) = 1\%$ $\%L^{before} + AFL = 111\%$

Example 2 for AFLT = 1% and VPLM = 5%

Loading before RAO	**Calculation of SE's admissible loading after RAO**
50%	$AFL = max(1\%, 105\% - 50\%) = 55\%$ $\%L^{before} + AFL = 105\%$
98%	$AFL = max(1\%, 105\% - 98\%) = 7\%$ $\%L^{before} + AFL = 105\%$
104,5%	$AFL = max(1\%, 105\% - 104{,}5\%) = 1\%$ $\%L^{before} + AFL = 105{,}5\%$
110%	$AFL = max(1\%, 105\% - 110\%) = 1\%$ $\%L^{before} + AFL = 111\%$