

# **All TSOs' of the Hansa Capacity Calculation Region methodology for common provisions for regional operational security coordination in accordance with Articles 76 and 77 of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation.**

---

20 December 2019

---

## **Disclaimer**

This document is released on behalf of all TSOs of the Hansa Capacity Calculation Region only for the purposes of the public consultation on the common provisions for regional operational security coordination in accordance with Article 76(1) of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation. This version of the methodology for common provisions for regional operational security coordination does not in any case represent a firm, binding or definitive TSOs' position on the content.

All TSOs of the Capacity Calculation Region Hansa, taking into account the following:

## Content

Whereas.....	4
TITLE 1 General provisions .....	6
Article 1. Subject matter and scope.....	6
Article 2. Definitions and interpretation .....	6
TITLE 2 Organisation for CCR Hansa regional operational security coordination .....	7
Chapter 1 Common provisions concerning the organisation of regional operational security coordination .....	7
Article 3. Appointment of the regional security coordinators in CCR Hansa .....	7
Article 4. General rules concerning the governance and operation of the regional security coordinators .....	7
Chapter 2 Tasks of the regional security coordinators .....	8
Article 5. Delegation of tasks to regional security coordinators .....	8
Article 6. Regional operational security coordination for CCR Hansa .....	8
Article 7. Building a CGM .....	9
Article 8. Regional outage coordination for Hansa.....	9
Article 9. Regional adequacy assessment coordination for Hansa.....	10
Article 10. Data provision for executing tasks by regional security coordinator.....	10
TITLE 3 Regional Operational security Coordination.....	11
Chapter 3 Provisions for regional operational security coordination .....	11
Article 11. General provisions for CCR Hansa day-ahead and intraday regional operational security coordination process .....	11
Chapter 4 Updates to the individual and common grid model .....	12
Article 12. Preparation and updates of individual grid models by TSOs .....	12
Article 13. Update of Hansa common grid models by RSC for CCR Hansa .....	12
Chapter 5 Definition, preparation, coordination and activation of remedial actions in the regional operational security coordination process.....	12
Article 14. Determination on secured elements .....	12
Article 15. Determination and exchanging information on cross-border relevant network elements	13
Article 16. Definition of and exchange of information on contingencies.....	13
Article 17. Preparation of remedial actions.....	13
Article 18. Exchanging information on available remedial actions .....	14
Article 19. Coordination of remedial actions.....	14
Article 20. Identification of most effective and economically efficient remedial actions.....	16
Article 21. Activation of remedial actions.....	16
Article 22. Coordination of cross-CCR impacting remedial actions .....	16
Chapter 6 Sharing of the costs of remedial actions .....	16
Article 23. General provision for cost sharing of remedial actions .....	16
Article 24. Cost sharing principles for activation of cross-border relevant remedial actions .....	17
Chapter 7 Impact Assessment and timescale for implementation .....	17

Article 25.	Reporting .....	17
Article 26.	Timescale for implementation .....	17
Chapter 8	Final Provisions .....	18
Article 27.	Publication of this Methodology .....	18
Article 28.	Language .....	18

## **Whereas**

- (1) This document is a common methodology for the TSOs of Capacity Calculation Region (hereafter referred to as “CCR”) Hansa as described in the methodology pursuant to Article 15 of Commission Regulation (EC) 2015/1222 establishing a guideline on capacity allocation and congestion management (hereafter referred to as “CACM Regulation”).
- (2) This document is the common methodology of CCR Hansa for Regional Operational Security Coordination (hereafter referred to as Hansa ROSC) in accordance with Articles 76 and 77 of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as the “SO Regulation”).
- (3) This methodology takes into account the general principles and goals set in the SO Regulation as well as CACM Regulation, and Commission Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity (hereafter referred to as “Regulation (EC) No 714/2009”).
- (4) The objective of the SO Regulation is to safeguard operational security, frequency quality and the efficient use of the interconnected system and resources. To facilitate these objectives, it is necessary to enhance standardisation of operational security analysis at least per synchronous area. Standardisation shall be achieved through a common methodology for coordinating operational security analysis.
- (5) Article 76(1) of the SO Regulation sets the requirements for the TSOs to jointly develop a methodology for common provisions for regional operational security coordination, to be applied by the regional security coordinators and the TSOs of the capacity calculation region. The methodology respects the methodologies for coordinating operational security analysis developed in accordance with Article 75(1) (hereafter referred to as “CSAM”) and complements, where necessary, the methodologies developed in accordance with Articles 35 and 74 of the CACM Regulation (hereafter referred to as “Hansa RCCSM”).
- (6) This methodology ensures operational security in a fair and non-discriminatory treatment of TSOs. It ensures regional (Hansa) operational security coordination whereby Hansa RSCs are used as intermediary to facilitate regional coordination. This, in addition, ensures equal treatment of all TSOs participating in the regional operational security coordination of CCR Hansa.
- (7) The regional operational security coordination process shall ensure that;
  - a. violations of operational security limits caused by a contingency with cross-border impact on the network elements identified are relieved using at least the remedial actions defined by TSOs;
  - b. each TSO affected by a cross-border impacting remedial action is informed about the operational security limits violations to be solved by these remedial actions.
- (8) The overall ambition of this methodology is that the RSCs shall not carry out additional operational security assessment due to the existence of CCR Hansa. Rather the operational security assessment for CCR Hansa shall integrate with operational security assessment in CCR Core and CCR Nordic as in line with Article 75(1) of the SO Regulation. The Nordic RSC is foreseen to carry out operational security assessment for the TSOs of CCR Nordic control areas in the context of also being appointed RSC in these areas. TSCNET is foreseen to carry out operational security analysis for the TSOs of CCR Core in their control areas in the context of also being appointed RSC in these areas. This then entails taking the CCR Hansa bidding-zone borders into account in the same operational security assessment and facilitate the exchange of

remedial actions across the CCR Hansa bidding-zone borders. This is to improve the efficiency of the European electricity market and the efficient implementation of the Hansa ROSC.

- (9) Implementation of the Common Grid Model Methodology (CGMM) is delayed and Swedish national security legislation on information security currently hinders to have a common grid model. Due to this, CCR Hansa will implement two regional common grid models as an interim solution for Hansa ROSC until CGMM is implemented and information security requirements are met. There will be a CCR Nordic grid model and a CCR Core grid model, and each of them will be in the format used in CCR Nordic and CCR Core respectively. When the conditions that enable the enduring solution are met, TSOs will implement the enduring solution which also will enable both RSCs to deliver each of the services to all TSOs of CCR Hansa.
- (10) According to Article 6(6) of the SO Regulation, this Methodology includes a timescale for its implementation and a description of its expected impact on the objectives of the SO Regulation.
- (11) The Methodology generally contributes to and does not in any way hamper the achievement of the objectives of Article 4 of the SO Regulation. The Methodology contributes to these objectives by specifying common provisions for regional operational security coordination and the organisation of regional operational security coordination.

**SUBMIT THE FOLLOWING ROSC METHODOLOGY TO ALL REGULATORY AUTHORITIES OF CCR HANSA:**

## **TITLE 1**

### **General provisions**

#### **Article 1.**

##### **Subject matter and scope**

1. This methodology contains the common provisions for regional operational security coordination in accordance with Article 76 of the SO Regulation and the common provisions concerning the organisation of the regional operational security coordination in accordance with Article 77 of the SO Regulation. This is the joint methodology of all TSOs of CCR Hansa.
2. This Methodology is subject to National Regulatory Authorities approval in accordance with Article 6(3)(b) of the SO Regulation.

#### **Article 2.**

##### **Definitions and interpretation**

For the purposes of this 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, CSAM and the other items of legislation referenced therein. In addition, the following definitions shall apply:

1. ‘critical network element’ or ‘CNE’ means a network element as defined in Day-ahead and Intraday Capacity Calculation Methodology of CCR Hansa in accordance with Article 20(2) of the CACM Regulation which is significantly impacted by cross-zonal trades, such as an overhead line, an underground cable or a transformer;
2. ‘cross-border relevant network element’ or XNE means a network element identified as cross-border relevant network element in accordance with CSAM;
3. ‘secured elements’ is an assessed element on which, when violations of an operational security limit are identified during the regional or cross-regional security analysis, remedial actions needed to relieve these violations shall be identified;
4. ‘scanned elements’ is an assessed element on which the electrical state (at least flows) may be computed and may be subject to an observation rule during the regional security analysis process. Such observation rule can be for example to avoid increasing a constraint or avoiding creating a constraint on this element, as a result of the design of remedial actions needed to relieve violations on the secured elements.

In this Methodology, the following terms shall have the meaning below:

5. ‘RSC’ means the Regional Security Coordinator(s) (RSC(s)) appointed for CCR Hansa, unless it is explicitly otherwise stated, according to Article 77(1)(a) of the SO Regulation that will perform the tasks allocated to this (these) RSC(s) according to Article 77(1)(c)(i) of the SO Regulation;
6. ‘TSO’ means the CCR Hansa TSO(s) unless it is explicitly otherwise stated.

In this Methodology, unless the context requires otherwise:

7. the singular indicates the plural and vice versa;
8. headings are inserted for convenience only and do not affect the interpretation of the methodology;

9. references to an “Article” are, unless otherwise stated, references to an Article of this Methodology, and;
10. 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.

## **TITLE 2**

### **Organisation for CCR Hansa regional operational security coordination**

#### **Chapter 1**

#### **Common provisions concerning the organisation of regional operational security coordination**

##### **Article 3.**

##### **Appointment of the regional security coordinators in CCR Hansa**

1. The CCR Hansa TSOs appoint Nordic RSC and TSCNET<sup>1</sup> as regional security coordinators of CCR Hansa to perform tasks as set forth in Article 5 of this methodology in accordance with Article 77(1)(a) of SO the Regulation.

##### **Article 4.**

##### **General rules concerning the governance and operation of the regional security coordinators**

1. All parties shall enter into an agreement to define specific rules concerning the governance and operation of the regional security coordinators. Nordic RSC and TSCNET shall perform the tasks, in a coordinated manner, as set forth in Article 4(2) of this methodology. Annex 1 sets out the further reasoning for CCR Hansa TSOs appointing two RSCs in accordance with Article 77(1)(c)(ii).
2. Nordic RSC and TSCNET shall:
  - a. provide to TSOs of CCR Hansa coordination services for the secure and efficient operation of the Hansa interconnectors;
  - b. perform regional operational security coordination, including the coordinated regional operational security assessment (hereafter referred to as “CROSA”);
  - c. make recommendations to TSOs in relation to the services they provide to the TSOs;
  - d. support the harmonisation of operational procedures and standards supporting TSOs to maintain security of supply.
3. The responsibility for security of supply, secure system operation and any decision taken based on services from the Nordic RSC and TSCNET shall remain with the TSOs in line with national laws and regulations.
4. In accordance with Article 77(5) of the SO Regulation, the RSCs shall coordinate the execution of services in accordance with Article 5. They shall to the extent possible harmonise processes to avoid duplication and thereby ensure efficiency and continuity of services with RSCs of adjacent CCRs.

---

<sup>1</sup> For consultation purposes: Subject to TSCNET being formally nominated as RSC in CCR Core. CCR Hansa TSOs will further investigate this until the methodology is submitted.

5. To achieve an effective coordination and decision-making process to resolve conflicting positions between RSCs;
  - a. RSCs shall try to resolve the conflicting positions via the coordination process of the CROSA process within CCR Hansa or adjacent CCRs, taking into account timing constraints;
  - b. If RSCs are not able to resolve the conflicting positions within a reasonable time, the relevant TSOs shall manage the issue keeping RSCs involved;

## **Chapter 2**

### **Tasks of the regional security coordinators**

#### **Article 5.**

##### **Delegation of tasks to regional security coordinators**

1. In accordance with Article 77(3)(a), (b), (c) and (d) of the SO Regulation, TSOs delegate the following tasks to the RSCs appointed in accordance with Article 3:
  - a. Regional operational security coordination in accordance with Article 78 of the SO Regulation and Article 6 of this methodology;
  - b. Building of common grid model in accordance with Article 79 SO of the Regulation and Article 7 of this methodology;
  - c. Regional outage coordination in accordance with Article 80 of the SO Regulation and Article 8 of this methodology;
  - d. Regional adequacy assessment in accordance with Article 81 of the SO Regulation and Article 9 of this methodology.

#### **Article 6.**

##### **Regional operational security coordination for CCR Hansa**

1. The two RSCs shall coordinate, where required, all the activities during the regional operational security analysis of the CCR Nordic and CCR Core to ensure operational security of CCR Hansa and the cross-CCR impact of the adjacent CCRs.
2. In accordance with Articles 77(2)(a) and 77(3)(a) of the SO Regulation, for the purpose of regional operational security coordination for CCR Hansa:
  - a. As interim solution:
    - i. Nordic RSC shall conduct coordinated regional operational security assessment in cooperation with the RSC of CCR Nordic, whereas
    - ii. TSCNET shall conduct coordinated regional operational security assessment in cooperation with the RSCs of CCR Core.
    - iii. Nordic RSC and TSCNET shall coordinate between each other to ensure the coordinated regional operational security assessment for CCR Hansa.
  - b. Enduring solution:

- i. Nordic RSC and TSCNET shall jointly conduct coordinated regional operational security assessment in cooperation with adjacent RSCs.

## **Article 7.**

### **Building a CGM**

In accordance with Article 77(3)(b) of the SO Regulation, RSCs shall build a CGM in accordance with the methodology established pursuant to Articles 67(1) and 70(1) of the SO Regulation (hereafter referred to as “CGMM”). The RSCs shall utilise the CGM to carry out the tasks assigned to them.

1. TSOs shall supply the RSCs with information to achieve this in accordance with Article 14.
2. TSOs shall delegate the following specific tasks to the RSCs related to building of common grid model within CCR Hansa:
  - a. Assuring quality of individual and common grid model;
  - b. Performing pre-alignment service to determine the potential of the interconnections for the exchange of Remedial Actions based on local security assessments;
  - c. Building common grid model in accordance with the provisions of article 79 of SO Regulation;
  - d. Coordination with the other RSC within CCR Hansa, and between other CCRs;
3. Nordic RSC and TSCNET shall merge the updated individual grid models respectively as interim solution into the CCR Nordic and CCR Core CGMs in support of Article 6(1) of this methodology;
  - a. TSCNET shall utilise the IGMs of Hansa TSOs that are also members of CCR Core to build and include these in the CGM of the CCR Core
  - b. The Nordic RSC shall utilise the IGMs of Hansa TSOs that are also members of CCR Nordic to build and include these in the CGM of the CCR Nordic
  - c. Energinet shall supply TSCNET with IGMs for DK1 in order for TSCNET to include the DK1 bidding zone in the observability areas of CCR Hansa and CCR Core as part of the CCR Core CROSA and CGM for the CCR Core.
4. The interim common grid model solution shall be used until all entities taking part in Hansa coordinated security analysis as set out in Article 6
  - a. comply with information security requirements defined in national legislations;
  - b. fully implement CGMM.

## **Article 8.**

### **Regional outage coordination for Hansa**

1. In accordance with Articles 77(2)(a) and 77(3)(c) of the SO Regulation, Nordic RSC and TSCNET carry out the task for regional outage coordination. The regional process shall be aligned with the pan- European outage coordination.
2. Nordic RSC shall collect the outage plans from TSOs that are also members of CCR Nordic. TSCNET shall collect outage plans from TSOs that are also members of CCR Core.

3. For the regional outage coordination, the RSCs shall:
  - a. perform quality check of availability plan and provide feedback to TSOs on quality check outcome;
  - b. coordinate with RSCs of other CCRs appointed in application of Article 76 of the SO Regulation;
  - c. detect and solve regional outage incompatibilities by performing a security assessment and provide the TSOs of the outage coordination region with a list of detected outage planning incompatibilities and the proposed solutions to solve those outage planning incompatibilities.

#### **Article 9.**

##### **Regional adequacy assessment coordination for Hansa**

1. For regional adequacy assessment coordination, the RSCs carrying out this task for the bidding zones connected by the CCR Hansa bidding-zone borders shall take into account the capacity of the CCR Hansa bidding-zone borders, subject to any outages planned in accordance with Article 8.
2. In accordance with Articles 77(2)(a) and 77(3)(d) of the SO Regulation, for the task of regional adequacy assessment coordination, the Nordic RSC shall conduct regional adequacy assessment for TSOs that are also members of CCR Nordic. TSCNET shall conduct the regional adequacy assessment for the TSOs that are also members of CCR Core. The adequacy assessment coordination in CCR Hansa shall be aligned with the cross-regional adequacy assessment coordination process.
3. TSOs delegate the following specific tasks to the RSCs related to regional adequacy assessment coordination within CCR Hansa:
  - a. Performing cross-regional adequacy assessment;
  - b. Detecting absence of adequacy and proposing solutions to solve adequacy issues;
  - c. Developing and providing reports on adequacy assessment results;
  - d. Facilitating regional adequacy assessment coordination process;
  - e. Coordinating with other RSCs appointed in application of Article 76 of the SO Regulation.

#### **Article 10.**

##### **Data provision for executing tasks by regional security coordinator**

1. TSOs shall provide the RSCs with all relevant data and information to allow execution and coordination of the tasks set forth in Articles 7, 8 and 9.
2. RSCs shall respect requirements established in national legislation on information security of the different TSOs when managing information for CCR Hansa. This includes, but is not limited to;
  - a. Information access;
  - b. Information storing;
  - c. Communication.

**TITLE 3**  
**Regional Operational security Coordination**

**Chapter 3**  
**Provisions for regional operational security coordination**

**Article 11.**

**General provisions for CCR Hansa day-ahead and intraday regional operational security coordination process**

1. TSOs in coordination with RSCs shall perform regional operational security coordination for CCR Hansa and coordinate with the process for regional operational security coordination established for CCR Nordic and CCR Core in accordance with Article 76 of the SO Regulation.
3. The day-ahead and intraday regional operational security coordination process shall at least contain the following steps:
  - a. Input data preparation, such as individual grid models as described in Articles 12, list of secured elements as described in Article 14, list of contingencies as described in Article 16 and set of available remedial actions as described in Article 19;
  - b. Building of the CGM by RSCs as described in Article 7;
  - c. Operational security analysis in accordance with Articles 23 and 24 of CSAM;
  - d. Identification of remedial actions as described in Article 18 and coordination of remedial actions as described in Article 19;
  - e. Inter-CCR coordination as described in Article 22;
  - f. Implementation of remedial actions as described in Article 21.
2. TSOs and RSCs shall perform the day-ahead coordinated regional operational security analysis in accordance with Article 23 of CSAM, respecting the timings defined in accordance with Article 33 of CSAM.
3. TSOs with support of relevant RSCs shall jointly define the timings of the intraday regional operational security coordination process.
4. The timings referred to in Article 11(3) shall be aligned between RSCs to ensure coordination of the results between them and be consistent with the approved methodologies set up by TSOs in the different CCRs in accordance with Article 76(1) of the SO Regulation.
5. TSOs and RSCs shall perform the intraday regional operational security analysis at least three times a day in accordance with Article 24 of CSAM.
6. TSOs and RSCs shall perform in intraday a coordinated regional operational security assessment for all remaining market time units of the day.
7. TSOs shall jointly determine the minimum set of network elements on which operational security limits violations have to be identified and relieved. The list of network elements shall at least include all Hansa XNEs.
8. Operational security limits shall be monitored, and their violations identified and relieved during a regional operational security coordination process that shall include at least power flows or current limits of Secured Elements.

9. Prior to the start of the regional operational security coordination process, each TSO shall have the right to perform a local preliminary assessment in order to detect any operational security limits violations on internal network elements. When preparing IGMs, each TSO shall have the right to include remedial actions resulting from these preliminary assessments in accordance with Article 21(3) of CSAM.
10. RSCs shall assess the completeness and consistency of input data provided by TSOs. In case of any inconsistency in the delivered files, the RSC shall report this fact to the concerned TSO and request their updating.

## **Chapter 4**

### **Updates to the individual and common grid model**

#### **Article 12.**

##### **Preparation and updates of individual grid models by TSOs**

1. Each TSO shall prepare and deliver to RSC day-ahead and intraday individual grid models for day-ahead and intraday regional operational security coordination process in accordance with CGMM and CSAM.
2. Each TSO may include any non-cross-border relevant remedial actions in the individual grid models in accordance with Article 21(4) of CSAM.
3. If necessary, each TSO shall update the individual grid models during regional operational security coordination processes.

#### **Article 13.**

##### **Update of Hansa common grid models by RSC for CCR Hansa**

1. RSCs shall check the consistency of the individual grid models provided by each TSO. In case the RSC detects an issue with an individual grid model provided by a TSO, the RSC shall contact the concerned TSO to solve the issue. If necessary, the concerned TSO shall provide an update of the individual grid model.
2. When a TSO is not able to provide an individual grid model or an update of the individual grid model for the day-ahead and intraday regional operational security coordination process in due time, RSCs shall apply the substitution rules for individual grid models, defined in accordance with Article 20(4) of CGMM.

## **Chapter 5**

### **Definition, preparation, coordination and activation of remedial actions in the regional operational security coordination process**

#### **Article 14.**

##### **Determination on secured elements**

1. Each TSO shall define the network elements on which operational security violations have to be identified and managed in a coordinated way (hereafter referred to as “Secured Elements”).

2. Secured Elements shall at least include the CNEs.
3. TSOs shall update the Secured Elements when necessary and inform the RSC about the change.
4. Each TSO shall provide the Secured Elements to the RSC.
5. RSCs shall consider the Secured Elements in the day-ahead and intraday regional operational security assessment.
6. RSCs shall evaluate the Secured Elements and may recommend to TSOs other network elements with operational security violations to be monitored during regional operational security coordination process.

#### **Article 15.**

#### **Determination and exchanging information on cross-border relevant network elements**

1. The XNEs of CCR Hansa represent Secured Elements in accordance with Article 14.

#### **Article 16.**

#### **Definition of and exchange of information on contingencies**

1. Each TSO shall establish the list of contingencies to be simulated in day-ahead and intraday regional operational security coordination process in accordance with Article 10 of CSAM (hereafter referred to as “contingency list”).
2. Each TSO shall provide the RSC with the contingency list to be used in CROSA and shall inform the RSCs about any update of this list in accordance with Article 11 of CSAM.
3. RSCs shall evaluate the contingency lists provided by TSOs and may recommend to TSOs other contingencies that should be applied in regional operational security coordination process.
4. Each TSO shall inform the TSOs in its observability area about the external contingencies included in its contingency list.
5. Each TSO shall regularly update its contingency list and shall perform a full assessment of the list when necessary.
6. The RSCs shall use the latest contingency lists shared by the TSOs.

#### **Article 17.**

#### **Preparation of remedial actions**

1. Each TSO shall design remedial actions in accordance with Article 14 of CSAM.
2. Each TSO shall classify the remedial actions in accordance with Article 22 of the SO Regulation. The classification shall be done as costly or non-costly. Costly remedial actions are limited to countertrading, redispatching and curtailment.
3. When preparing remedial actions, each TSO shall consider constraints which may limit the usage of remedial actions. The following types of constraints shall be taken into account:
  - a. Technical limitations such as ramping restrictions, min/max output power, min/max redispatch or power change through HVDC systems;

- b. Operational constraints and usage rules such as switching limitations, available range of taps, dependencies between topology measures;
  - c. Procedural constraints resulting from timing constraints due to local or regional processes;
  - d. Legal requirements stated in national laws regarding the priority of activation of RAs.
4. TSOs, in coordination with RSCs, shall identify whether a remedial action designed in accordance with Article 14 is cross-border relevant.
  5. TSOs, in coordination with RSCs, shall qualitatively assess and agree on the cross-border relevance of remedial actions. In case of disagreement, the TSOs shall apply the quantitative assessment in accordance with Articles 15(4) and 15(5) of CSAM.

### **Article 18.**

#### **Exchanging information on available remedial actions**

1. Each TSO shall provide, to Hansa TSOs and RSCs, the list of available remedial actions for the purpose of the regional operational security coordination process, prepared in accordance with Article 11.
2. The list of available remedial actions shall include information on cost and constraints of the remedial actions defined in accordance with Article 18(3). In case costs cannot be established, the TSOs shall provide cost estimates.
3. When providing to its RSC the list of remedial actions, each TSO shall consider as available the remedial actions which were available for the previously performed coordinated regional operational security assessments of the same MTU, except if:
  - a. an unforeseen event has made a remedial action unavailable, or
  - b. the remedial action has become technically unavailable, or
  - c. a new and more effective and efficient remedial action has become available.
4. If relevant, each Hansa TSO shall provide, to the Hansa RSCs, an updated list of remedial actions at the end of any coordination run of day-ahead or intraday regional operational security coordination process.
5. A common list for cross border relevant and non-cross border relevant remedial actions shall be defined by the RSC based on the list of XRA delivered from the respective TSOs;
6. Each TSO shall inform the other TSOs and its RSC, in due time, about unavailable remedial actions for the coordination processes.
7. Each TSO shall inform its RSC whether a remedial action, provided to the RSC, is offered simultaneously to RSCs of adjacent CCRs.
8. The RSC receiving possible remedial actions from TSOs shall share this information with the other selected RSC in CCR Hansa.

### **Article 19.**

#### **Coordination of remedial actions**

1. A coordinated security assessment shall be performed by the RSCs.

2. In case of a detected operational security limit violation, the RSC shall recommend to the concerned TSOs appropriate remedial action provided by the TSOs in accordance with Article 18.
3. When identifying remedial action in accordance with Article 20(2), the RSC shall take into account the effectivity in relieving operational security violations of each remedial action and its cost.
4. When the RSC recommends to concerned TSO remedial actions, it shall take into account in the first place non-costly remedial actions. If there are no non-costly remedial actions which relieve operational security limit violations or their efficiency is insufficient, the RSC shall take into account also costly remedial actions.
5. The remedial actions identified for relieving operational security limit violations:
  - a. shall not lead to additional violations of operational security limits on other network elements;
  - b. should not worsen existing operational security limits violations on other network elements.
6. The RSC shall consider, and may also recommend, remedial actions other than those provided by the TSOs. Such recommendation for remedial actions shall be accompanied by an explanation and is subject to validation by the concerned TSOs.
7. Recommendations of at least cross-border relevant remedial actions shall be made in the coordination process.
8. Each TSO shall evaluate the impact of the recommended remedial actions, taking into account the following conditions:
  - a. The remedial action is considered available for the specific market time unit. the remedial actions relieve all operational security limits violations on the affected network elements;
  - b. The remedial action is not setting the XRA-affected TSO's grid in a warning or alert state based on the common grid model used in the coordination process;
  - c. The remedial action is not leading to a violation of operational security limits in the XRA affected TSO's grid after the simulation of the corresponding contingency based on the common grid model used in the coordination process.
9. The RSC shall coordinate with the other appointed CCR Hansa RSC, prior to proposing a remedial action, taking into account its cross-border relevance in accordance with Articles 15, 16 and 17 of the CSAM.
10. When the TSOs accepts the proposed remedial action, the respective remedial action shall be included in the TSO's update of the individual grid model in accordance with Article 8.
11. When the TSO rejects the recommended remedial action, the TSO shall provide an explanation for this decision to its RSC and the other affected TSOs. The concerned TSO shall coordinate with the RSC and other TSOs to identify and plan alternative remedial actions to relieve the operational security limits violations in a coordinated way.
12. If necessary, the RSC shall exchange the results of the regional operational security coordination process with relevant RSCs of adjacent CCRs for cross-CCR impact assessment. The RSC shall coordinate with RSCs of adjacent CCRs in order to find and recommend remedial actions. The RSC shall inform all affected TSOs about the results of such cross-CCR coordination.

## **Article 20.**

### **Identification of most effective and economically efficient remedial actions**

1. The RSC shall assess the technical effectiveness and economic efficiency of the remedial actions provided by the TSOs.
2. The RSC shall define a merit order of the most effective and economically efficient remedial actions and share it with the TSOs.

## **Article 21.**

### **Activation of remedial actions**

1. Each TSO shall activate the remedial actions agreed in the operational security coordination processes in due time.
2. Where security violations remain unsolved at the end of each coordination process, the concerned TSOs shall agree on the necessary remedial actions in real-time operation in order to coordinate the management of these remaining operational security limit violations. If an agreed remedial action becomes unnecessary, concerned TSOs can jointly decline an activation of a remedial action or can deactivate an already activated remedial action. The concerned TSOs shall inform the RSCs about their decision.

## **Article 22.**

### **Coordination of cross-CCR impacting remedial actions**

1. TSOs and RSCs shall relieve operational security limits violations on overlapping XNEs and shall coordinate XRA impacting these overlapping XNEs in accordance with the methodology for amendment to be developed in accordance with Article 27(3) of CSAM.
2. TSOs and RSCs shall perform the coordinated cross-regional operational security assessment in accordance with Article 30 of CSAM.

## **Chapter 6**

### **Sharing of the costs of remedial actions**

## **Article 23.**

### **General provision for cost sharing of remedial actions**

1. Cost sharing shall be applied for costly cross-border relevant remedial actions.
2. Each TSO shall provide the information about the expected costs of the remedial action in accordance with Article 15.
3. The cost sharing principles pursuant to Article 24 shall complement Article 74 of the CACM Regulation.
4. Cost sharing principles shall be applied for activated remedial actions after the day-ahead and the intraday regional operational security coordination process.
5. Cost sharing principles shall consider temporal dependencies of remedial actions.

## **Article 24.**

### **Cost sharing principles for activation of cross-border relevant remedial actions**

1. When calculating the costs to be shared between relevant TSOs, the price for the activated and cross-border impacting remedial actions used shall be based on the actual bid prices or the cost calculated transparently on the basis of incurred costs.
2. The costs shall be incurred by the TSO on the market where the remedial action is activated.
3. The costs of redispatching and countertrading shall be covered in accordance with the RCCS Methodology.
4. In an emergency situation, where using already allocated cross-zonal capacity endangers operational security limits and redispatching or countertrading is not possible, TSOs at a given bidding-zone border shall agree to curtail that capacity, pursuant to Article 22(1)(i) of the SO Regulation. In that case the costs shall be covered by the TSO in whose control area the operational security limits were endangered.

## **Chapter 7**

### **Impact Assessment and timescale for implementation**

## **Article 25.**

### **Reporting**

1. Remedial actions will be reported by TSOs as described in Article 13(1) of the Transparency Regulation (EC) 543/2013 and the regulation for Energy Market Integrity and Transparency 1227/2011.
2. RSCs shall record and share all necessary data to enable TSOs to fulfil the obligations regarding this Methodology, Hansa RCCSM and Article 17 of the SO Regulation.

## **Article 26.**

### **Timescale for implementation**

1. The full implementation of this methodology is depending on processes outside the control of the TSOs and RSCs in CCR Hansa, most notably the implementation of the CGMM. Intermediate steps in the implementation are therefore necessary, as described in Articles 6 and 7.
2. The implementation of the intermediate solution shall be done within 3 months after the go-live of regional CGMs in CCR Core and CCR Nordic. If the implementation of the requirements in this methodology is hampered by delays in implementation of other processes or products outside the control of the Hansa TSOs and RSCs, the TSOs and RSCs shall jointly consider implementing temporary solutions. If the TSOs and RSCs find benefits outweighing costs for a temporary solution, this solution shall be implemented without undue delay.

**Chapter 8**  
**Final Provisions**

**Article 27.**  
**Publication of this Methodology**

Upon approval of the present methodology each TSO shall publish it on the internet in accordance with Article 8(1) of the SO Regulation.

**Article 28.**  
**Language**

The reference language for this Methodology shall be English. For the avoidance of doubt, where TSOs need to translate this Methodology into national language(s), in the event of inconsistencies between the English version published by TSOs in CCR Hansa in accordance with Article 8(1) of the SO Regulation and any version in another language the relevant TSOs shall, in accordance with national legislation, provide the relevant national regulatory authority with an updated translation of the Methodology.

