Capacity Calculation Region Hansa TSOs' 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.

18 October 2020

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 and as well the CACM Regulation.

(4) The objective of the SO Regulation is to safeguard operational security, frequency quality level of all synchronous areas 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 (hereafter referred to as "CSAM") and complements, where necessary, the methodologies developed in accordance with Article 35 of the CACM Regulation (hereafter referred to as "Hansa CRC Methodology") and Article 74 of the CACM Regulation (hereafter referred to as "Hansa RCCS Methodology").

(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) CCR Hansa has appointed RSC Nordic and TSCNET Services GmbH (hereafter referred to as TSCNET) as RSCs for CCR Hansa. An advantage to this is that these two entities already oversee the adjacent AC grids for the TSOs in CCR Hansa. 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 assessment 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 facilitates the exchange of remedial actions across the CCR Hansa bidding-zone borders.

(9)   The overall ambition of this methodology is to ensure operational security on the CCR Hansa bidding-zone borders, via the processes it defines. The operational security assessment for CCR Hansa shall also integrate with operational security assessment in CCR Core and CCR Nordic as in line with Article 75 of the SO Regulation. This is to improve the efficiency of the European electricity market and the efficient implementation of the Hansa ROSC.

(10)   Implementation of the Common Grid Model Methodology (hereafter referred to as "CGMM") is delayed and Swedish national security legislation requirements on information security currently hinder a common grid model where all Hansa RSC and TSOs are included. Due to this, Hansa CCR will implement two regional common grid models as an interim solution for Hansa ROSC. 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 will also enable both RSCs to deliver each of the services to all TSOs of CCR Hansa.

(11)   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.

(12)   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.

(13)   The methodology takes into account the possible dependencies with Commission Regulation (EU) 2017/2195 establishing a guideline on Electricity Balancing (hereafter referred to as the "EB Regulation").

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 Authority 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 in accordance with Article 15(1) of the CSAM on which operational security violations need to be managed in a coordinated way between Hansa TSOs and Hansa RSCs;

3. 'Secured Elements' are the network elements on which operational security violations have to be identified and managed in a coordinated way;

4. 'Scanned Elements' are the network elements on which the coordinated regional operational security assessment shall not create new operational security limit violations or worsen any existing violations;

5. 'DC Loop' is a remedial action used to relieve security-limit violations in AC networks by simultaneous change of scheduled exchanges on at least two HVDC links of the same amount of power in opposite directions. The aim of this remedial action is not to increase the capacities on the cross-border connections.

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

6. '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;

7. 'TSO' means the CCR Hansa TSO(s) unless it is explicitly otherwise stated.

In this Methodology, unless the context requires otherwise:

8. the singular indicates the plural and vice versa;

9. headings are inserted for convenience only and do not affect the interpretation of the methodology;

10. references to an "Article" are, unless otherwise stated, references to an Article of this methodology, and;

11. 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 Services GmbH 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. Nordic RSC and TSCNET shall perform the tasks in a coordinated manner and jointly be the service provider for Hansa TSOs, as set forth in Article 4(2) of this methodology.

2. The appointed RSCs shall:

    a. provide to TSOs of CCR Hansa coordination services for the secure and efficient operation of the Hansa interconnectors;

    b. perform the coordinated regional operational security assessments (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.

    e. treat TSOs in an equitable manner in the provision of services described in accordance with this methodology.

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. RSCs of CCR Hansa appointed in accordance with Article 3 shall coordinate the actions on each step of the processes referred to in Article 5, prior to the cross-CCR coordination in accordance with CSAM, to ensure consistent and efficient operation of the CCR Hansa region.

5. 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.

6. The overall cooperation between Nordic RSC, TSCNET and the TSOs shall be governed by Hansa Steering Committee. Hansa Steering Committee is the highest decision-making body of the Hansa CCR and may decide on every item regarding the Hansa RSCs. Hansa Steering Committee is in charge of the overall operational and strategic management until the RCC establishment, including the determination of the overall objectives and strategies of the Hansa RSCs.

7. The Hansa Steering Committee comprising one or two representative(s) of each TSO with all necessary power and authority to take decisions binding upon their respective organisation.

8. Voting on Hansa Steering Committee decision can be taken in meeting, conference calls or by circular resolution via email. Decisions of the Hansa Steering Committee should be taken by unanimous consent of the parties. If unanimous consent cannot be reached, decisions are taken in accordance with the principles of Article 5(5) of the SO Regulation.

9. To achieve an effective coordination and decision-making process to resolve conflicting positions between RSCs:

    a. RSCs shall try to resolve the conflicting positions during the coordination phase in an online meeting (together with the involved TSOs) within CCR Hansa or adjacent CCRs as soon as practicable, typically within one hour of the conflict;

    b. An acute conflict that affects the daily Hansa processes in the target solution must be handled and decided on by the RSC that delivers the services according to the rotating principle;

    c. If the conflicting positions remain after the initial operational decision as described in Article 4.9 (a) and (b), both RSCs needs to describe the conflicting positions, suggest a way forward and send this to the Hansa SC. This procedure can be initiated by one RSC, in which case the other RSC is also requested to share its view;

    d. When Hansa SC handles the conflict, each member of the steering committee has one vote. The decision shall be taken unanimously and will be communicated to the RSCs and TSOs within 5 working days.

10. Rules regarding decision making process determined in Article 4(8) and Article 4(9) above are only applicable to matters within the framework of this methodology.

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;

    b. Building of common grid model in accordance with Article 79 SO of the Regulation and Article 7;

    c. Regional outage coordination in accordance with Article 80 of the SO Regulation and Article 8;

    d. Regional adequacy assessment in accordance with Article 81 of the SO Regulation and Article 9.

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.

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 for TSOs that are also members of CCR Nordic, whereas

        ii. TSCNET shall conduct coordinated regional operational security assessment for the TSOs that are also members 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. As enduring solution:

        i. Nordic RSC and TSCNET shall jointly, on rotational basis, conduct coordinated regional operational security assessment in cooperation with adjacent RSCs.

Article 7.
Building a CGM

1. In accordance with Article 77(3)(b) of the SO Regulation, RSCs shall build a common grid model (hereafter referred to as 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.

2. Within ENTSO-E, TSOs will set up a consistent and harmonised approach at pan-European level to ensure that the solutions implemented to build CGMs and operated by RSCs will be compliant with the respective requirements set up in the relevant legislation in force, including SO Regulation (Article 79(5)), the CGMM and the CSAM, while ensuring reliability of the CGM delivery process and the aligned use of the resulting unique CGM.

3. TSOs shall supply the RSCs with information to achieve this in accordance with Article 14.

4. TSOs shall delegate the following specific tasks to the RSCs related to building a common grid model within CCR Hansa:

    a. Assessing consistency and quality of IGMs (hereafter referred to as IGMs) provided by each Hansa TSO;

    b. Assuring quality of the common grid model;

    c. Building a 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;

5. Nordic RSC and TSCNET shall merge the IGMs 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.

6. The interim common grid model solution shall be used until all entities taking part in Hansa coordinated security analysis:

    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 regional 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 and TSOs shall respect requirements established in national legislation on information security of the different TSOs when managing data used in the ROSC process for CCR Hansa. This includes, but is not limited to;
   a. Information access;
   b. Information storage;
   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.

2. 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 13, list of Secured Elements as described in Article 15, list of contingencies as described in Article 17 and set up 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 20;

   e. Coordination of cross-CCR impacting remedial actions as described in Article 23;

   f. Activation of remedial actions as described in Article 22.

3. TSOs and RSCs shall perform in the intraday timeframe a coordinated regional operational security assessment for all remaining market time units of the day.

4. TSOs shall jointly determine the minimum set of Secured Elements on which operational security limits violations have to be identified and relieved in accordance with Article 15. The list of Secured Elements shall at least include all Hansa XNEs.

5. 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.

6. In case of detected operational security limit violations, the RSC shall recommend to the concerned TSOs appropriate Remedial actions provided by the TSOs in accordance with Article 19. Proposed remedial actions shall relieve all violations on the Secured Elements and not create new operational security limits violations or worsen any existing violations on Scanned Elements in accordance with Article 20(6).

7. Any agreed remedial action which has an impact on Hansa TSO whose grid is also assigned to CCR Core or CCR Nordic shall be coordinated between CCRs in accordance with Articles 20(8), 20(14) and 20(15).

8. 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 of CSAM.

9. 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.

10. By 12 months after approval of Hansa ROSC Methodology, Hansa TSOs shall submit a description of the monitoring requirements regarding this Hansa ROSC Methodology. Hansa TSOs shall consult Hansa National Regulatory Authorities to elaborate on the monitoring requirements.

Article 12.
Timings and frequency of day-ahead and intraday regional operational security coordination process

1. 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 45 of CSAM.

2. TSOs with support of relevant RSCs shall jointly define the timings of the intraday regional operational security coordination process taking into account the CGM process defined in Article 22 of CGMM.

3. The timings referred to in paragraph 2 shall describe the workflow of the intraday regional operational security coordination process, taking into account steps introduced in accordance with Article 11(2).

4. The timings referred to in paragraph 2 shall be aligned between RSCs of adjacent CCRs 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. Timings of the intraday regional operational security coordination process referred to in paragraph 2 shall be published by the RSCs of CCR Hansa on the ENTSO-E website.

6. TSOs and RSCs shall perform the intraday regional operational security analysis at least three times a day in accordance with Article 24 of CSAM.

7. This process shall respect the timings and the frequency of Capacity Calculation process for Day-Ahead and Intraday according to CCR Hansa Capacity Calculation Methodology.

8. When performing the Hansa ROSC, the Hansa RSCs exchange the results of the coordinated regional operational security assessment in order to check and consolidate them. This includes at least information about needed remedial actions and all relevant information to support the results according to ACER Decision on CSAM Article 32.

Chapter 4
Updates to the individual and common grid model

Article 13.
Preparation and updates of individual grid models by TSOs

1. Each TSO shall prepare and deliver to the 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. If necessary, each TSO shall update the individual grid models during the regional operational security coordination processes.

3. Each TSO shall include in their IGM preventive remedial actions which were agreed and coordinated during the previous CROSA processes in accordance with Article 21 of CSAM.

4. If the amendment of Article 21 of CSAM contradicts the statements in this Article these statements shall be amended.

Article 14.
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 paragraph 6 of Article 4 of ENTSO-E EMF Requirements Specifications.

Chapter 5
Definition, preparation, coordination and activation of remedial actions in the regional operational security coordination process

Article 15.
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 are equal to the CNEs. The CNEs in CCR Hansa are defined to be the interconnectors and other directly connected network elements forming a part of an interconnector.

3. TSOs shall update the Secured Elements when necessary and inform the RSC about the change.

4. Each TSO shall provide the list of Secured Elements to the RSCs.

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 TSO other network elements of a transmission grid of the Hansa TSO, which are modelled in its IGM and could be added to the list of Secured Elements. To justify their recommendations, RSCs can make use of the influence computation method, described in Annex 1 of CSAM. The details are described in Annex 1 of this methodology.

7. RSCs shall use the latest lists of Secured Elements shared by the TSOs.

Article 16.
Determination and exchange of information on cross-border relevant network elements

1 The XNEs of CCR Hansa represent Secured Elements defined in accordance with Article 15. All Secured elements in CCR Hansa are cross-border relevant (XNEs).

Article 17.
Definition and exchange of information on contingencies

1. Each TSO shall establish the list of contingencies to be simulated in the day-ahead and intraday regional operational security coordination process in accordance with Article 7, 8, 9, 10 and 13 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 perform a full assessment of the list when necessary.

6. The RSCs shall use the latest contingency lists shared by the TSOs.

Article 18.
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 time limitations due to local or regional processes;

    d. Legal requirements stated in national laws regarding the priority of activation of remedial actions.

4. When a TSO prepares remedial actions as defined in paragraph 3, the TSO shall perform a local security assessment to determine the potential of the interconnections for the exchange of remedial actions.

5. TSOs, in coordination with RSCs, shall identify whether the remedial actions designed in accordance with this Article are cross-border relevant;

6. If the designed remedial actions are provided in two or more CCRs, then this information shall be explicitly stated with restrictions on their use, such as priority of usage by one CCR or quantifiable share between CCRs for remedial actions such as redispatching, countertrading, change of set point on HVDC systems or change of taps on phase-shifting transformers;

7. 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.

8. All remedial actions that are not identified as cross-border relevant shall be deemed as non-cross-border relevant.

9. If the identified XRA has an impact on a TSO from an adjacent CCR, the RSC shall share this information with the XRA-affected TSO and the RSC of that CCR.

Article 19.
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 18 and in accordance with article 4 of the Hansa CRC Methodology.

2. The list of available remedial actions shall include information on cost and constraints of 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 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 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 remedial actions 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.

Article 20.
Coordination of remedial actions

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

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 19.

3. The provisions of Article 4 of the Hansa CRC Methodology shall be respected in addition to this article.

4. When identifying remedial actions 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.

5. When the RSC recommends remedial actions, it shall primarily recommend 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 recommend also costly remedial actions.

6. The remedial actions identified for relieving operational security limit violations:

    a. shall not lead to additional violations of operational security limits on Scanned Elements;

    b. should not worsen existing operational security limits violations on Scanned Elements.

7. The RSC shall consider and, if possible, 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.

8. If the recommended remedial action has an impact on Hansa TSO whose grid is also assigned to CCR Core or CCR Nordic, RSC shall ensure that this remedial action is coordinated and taken into account in regional operational security coordination process in adjacent CCR.

9. Recommendations of at least cross-border relevant remedial actions shall be made in the coordination process.

10. In case a remedial action is a combination of actions in more than one TSO's control area, such as DC Loop, both appointed RSCs shall consider this remedial action during the CROSA process and shall coordinate its application between each other and with the relevant RSCs of adjacent CCRs.

11. 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 and the remedial actions relieve all operational security-limit violations on the affected network elements;

    b. The cross-border relevant remedial action is not setting the XRA-affected TSO's control area in a warning or alert state based on the common grid model used in the coordination process;

    c. The cross-border relevant remedial action is not leading to a violation of operational security limits in the XRA-affected TSO's control area after the simulation of the corresponding contingency based on the common grid model used in the coordination process.

12. The RSC shall coordinate with the other appointed CCR Hansa RSC, prior to proposing a remedial action.

13. When the TSOs accept the proposed remedial action, this remedial action shall be considered as agreed and included in the TSO's update of the individual grid model in accordance with Article 13.

14. If the agreed remedial action has an impact on Hansa TSO whose grid is also assigned to CCR Core or CCR Nordic, the TSO shall include this remedial action also in its individual grid model provided in adjacent CCR.

15. Relevant Hansa RSC which is also the RSC in adjacent CCR shall ensure that agreed remedial actions referred to in Article 20.7 are included in the individual grid models provided within this adjacent CCR.

16. When a 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.

17. RSCs shall perform the coordinated cross-regional operational security assessment in accordance with Article 30 of CSAM, taking into account the following conditions:

a. The RSC shall exchange the results of the regional operational security coordination process with relevant RSCs of adjacent CCRs for cross-CCR impact assessment.

b. The RSC shall coordinate with RSCs of adjacent CCRs in order to find and recommend remedial actions.

c. The RSC shall inform all affected TSOs about the results of such cross-CCR coordination.

Article 21.
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 in accordance with the principles set out in this methodology and the principles in accordance with Article 3 of the Hansa CRC Methodology.

2. The RSC shall define a merit order list per bidding-zone border of the most economically efficient remedial actions and share it with the TSOs.

3. The selection of the remedial action shall reflect the balance of the flow sensitivity of the remedial action and its economic efficiency.

Article 22.
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 may jointly decline an activation of a remedial action or may, where possible, deactivate an already activated remedial action. The concerned TSOs shall inform the RSCs about their decision.

Article 23.
Coordination of cross-CCR impacting remedial actions

1. In case of cross-CCR impacting remedial action, this remedial action shall be coordinated between RSCs of all impacted CCRs and in accordance with the provisions of Article 6 of the Hansa CRC Methodology.

2. The use of remedial action potential of adjacent CCRs shall respect the provisions defined in Articles 18 and 20.

Chapter 6
Sharing of the costs of remedial actions

Article 24.
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 19.

3. The cost-sharing principles pursuant to Article 25 shall complement Hansa RCCS Methodology.

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 activation time of remedial actions, in the sense of keeping remedial actions available with a long lead time during a limited period of time where these remedial actions are not required. Activation and start-up costs are covered by the Hansa RCCS Methodology in accordance with Article 2 (2) of the Hansa RCCS Methodology.

Article 25.
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 Hansa RCCS Methodology.

Chapter 7
Impact Assessment and timescale for implementation

Article 26.
Impact Assessment

The Impact Assessment is done for each paragraph of Article 4 of the SO Regulation;

1. This methodology aims to be compliant with Article 4 of SO Regulation by:

   a. This methodology establishes common operational security requirements and principles as it defines coordination of the TSOs of Hansa CCR operational security assessment and analysis building on CSAm as it is described in Articles 6, 7, 9, 11, 12, 13, 15, 17, 18, 19, 20 and 22.

   b. This methodology ensures the coordination of system operation and operational planning by appointing the RSCs in CCR Hansa in accordance with Article 3, defining rules concerning the governance and operation of RSC in accordance with Article 4 and as well as delegating the four tasks to the Hansa RSCs in accordance with Chapter 2. Furthermore, the

methodology ensures that the operational planning is common in that the RSC shall detect and solve regional outage incompatibilities by performing a security assessment and provide TSOs with a list of detected outage planning incompatibilities and the proposed solutions to solve those outage planning incompatibilities in accordance with Article 8(3)c.

c. Common load-frequency control processes and control structures are included in other methodologies but not explicitly in this methodology.

d. This methodology ensures the conditions for maintaining operational security throughout the Union as the two RSCs shall coordinate all activities during the regional operational security analysis of the CCR Nordic and CCR Core as it is stated in Article 6.

e. This methodology ensures the condition for maintaining a frequency quality level of all synchronous areas throughout the Union by enhancing standardization for coordinating operational security analysis.

f. This methodology promotes the coordination of system operation and operational planning.

g. This methodology ensures and enhances transparency as described in Article 27.

h. RSCs of CCR Hansa shall coordinate their actions prior to cross-CCR coordination to ensure consistent and efficient operation of the CCR Hansa region.

2. When applying the SO Regulation:

a. This methodology ensures operational security in a fair and non-discriminatory treatment of TSOs. It ensures regional operational security coordination whereby Hansa RSCs are used as intermediary to facilitate regional coordination.

b. This methodology ensures transparency as it states in Article 27(1) that remedial actions will be reported by TSOs as described in Article 13(1) of the Transparency Regulation (EC) 543/2013 and in Article 27(2) that RSCs shall record and share all necessary data.

c. This methodology states in Article 20(5) that the RSC primarily shall recommend non-costly remedial actions and if there are no non-costly remedial actions which relieve operational security limit violations or their efficiency is insufficient the RSC shall recommend also costly remedial actions. It is further stated in Article 21 that the RSC shall access the technical effectiveness and economic efficiency of the remedial actions. The RSC shall define a merit order list and the selection of the remedial action shall reflect the balance of the flow sensitivity and the economic efficiency. Furthermore in accordance with Article 77(5) of the SO Regulation, the RSCs shall coordinate the execution of services and shall, to the extent possible, harmonise processes to avoid duplication and thereby ensure efficiency and continuity of services as stated in Article 4(4) and 4(5).

d. As in Article 21(2) the RSC shall define a merit order list per bidding-zone border of the most economically efficient remedial actions and share it with the TSOs.

e. This methodology states in Article 4(3) that the responsibility for security of supply, secure system operation and any decision taken based on services from the RSCs shall remain with the TSOs in line with national laws and regulations.

f. Each TSO will coordinate with the DSOs connected to its system in order to take account of potential impact of their system, with regards to available remedial actions and system configuration as well as the RSCs and TSOs of the Hansa CCR.

g. This methodology has been designed based on agreed European standards and technical specifications with representatives from all TSOs in region Hansa.

Article 27.
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 CRC Methodology, Hansa RCCS Methodology and Article 17 of the SO Regulation.

Article 28.
Timescale for implementation

1. All TSOs and RSCs of CCR Hansa shall implement the Hansa ROSC Methodology without undue delay after the approval of the methodology, ensuring the following provisions are met:

   a. Regulatory approval and implementation of the amendments of CSAM in accordance with Article 27 (3), Article 21 (6) and Article 30 of CSAM;

   b. Implementation of regional CGMs and CSA process in CCR Core and CCR Nordic for the interim solution.

   c. Implementation of Common Grid Model Methodology in accordance with Articles 67(1) and 70(1) of the SO Regulation for the target solution;

   d. Development, testing and implementation of the IT tools, systems and procedures required to support the Hansa ROSC Methodology;

   e. Compliance with existing and new legislations;

2. The implementation of this target solution shall consider the following steps:

   a. High-level business solution consisting, among others, on drafting of the business process, performing the gap analysis with the current situation, screening the market for potential solution to fill the gaps and drafting related business, IT and service level requirements for tools and hardware and determining the acceptance criteria for validating the accuracy and robustness of the solution;

   b. Tendering consisting in preparing and performing the selection and contracting of the vendors for the different tools and hardware solution identified in the step 2(a);

   c. Development of the solution including the negotiation of performance requirements, Functional Acceptance Test, Site Acceptance Test and User Acceptance Test;

d. Experimentation of the solution by Core TSOs and Core RSCs experts and key users aiming at tuning the different parameters to ensure accuracy and robustness of the solution towards the acceptance criteria defined in the step 2(a);

e. Parallel operational run where Core TSOs and Core RSCs will train their operators and perform operational runs in parallel with the existing operational processes to assess the accuracy and robustness of the solution towards the acceptance criteria defined in step 2(a);

3. The full implementation of this methodology depends on processes outside the control of the TSOs and RSCs in CCR Hansa, most notably the implementation of the CGMM. Interim steps in the implementation are therefore necessary, as described in Articles 6 and 7.

4. The implementation of the interim 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.

5. TSOs and RSCs shall report the progress of the implementation to National Regulatory Authorities of the Hansa CCR TSOs.

Chapter 8
Final Provisions

Article 29.
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 30.
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.

Annex 1

For the purpose of proposing and justifying additional Secured Elements to TSOs in accordance with Article 15(6) of this methodology, RSCs may use influence computation method described in Annex 1 of CSAM. In order to apply the influence computation method, variables "r", "i" and "t", each one representing network elements of the IGM, must be defined. The variable "r" in the context of Hansa ROSC is defined as the interconnector and "i" as the respective contingency of "t", the potential Secured Element. The power flow identification influence threshold is set to 10 % and power flow filtering influence threshold to 5 %. Both criteria must be equally met. Alternatively, the usage of the voltage influence threshold of 2 % must be met.