

**Nordic TSOs' common methodology for regional operational security coordination in accordance with Article 76 and Article 77 of the "Commission Regulation (EU) 2017/1485 of 2 August 2017" establishing a guideline on electricity transmission system operation**

**Nordic ROSC Methodology**

**Version for public consultation**

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**DISCLAIMER**

This document is for public consultation and should be considered as "work in progress". Feedback from public consultation will be considered as input for the finalization of Nordic ROSC Methodology.

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### Whereas

- (1) Commission Regulation (EU) 2017/1485 establishes a guideline on electricity transmission system operation (hereafter referred to as “**SO Regulation**”) which entered into force on 2 August 2017. The objective of 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 according Article 75 of SO Regulation respectively within capacity calculation regions according Article 76 of SO Regulation. Standardisation shall be achieved through a common methodology for coordinating operational security analysis according Article 75 of SO Regulation (hereafter referred to as “**CSA Methodology**” or “**CSAM**”).
- (2) This document is the common methodology of the transmission system operators (hereafter referred to as “**Nordic TSOs**”) of the Nordic capacity calculation region (hereafter referred to as “**Nordic CCR**”) and defines the methodology for regional operational security coordination within Nordic CCR (hereafter referred to as “**Nordic ROSC Methodology**” or “**NROSC**”) in accordance with articles 76 and 77 of SO Regulation.
- (3) Nordic ROSC Methodology considers the general principles and goals set in SO Regulation as well as Commission Regulation (EC) 2015/1222 establishing a guideline on capacity allocation and congestion management (hereafter referred to as “**CACM Regulation**”).
- (4) Article 76 of SO Regulation constitutes the legal basis for this Nordic ROSC Methodology. Article 76 of SO Regulation defines that Nordic ROSC Methodology should include at least following requirements: (a) conditions and frequency of intraday coordination of operational security analysis and updates to the common grid model by the regional security coordinator; (b) the methodology for the preparation of remedial actions managed in a coordinated way, considering their cross-border relevance as determined in accordance with article 35 of CACM Regulation, taking into account the requirements in articles 20 to 23 of SO Regulation and determining at least: (i) the procedure for exchanging the information of the available remedial actions between relevant TSOs and the RSC; (ii) the classification of constraints and the remedial actions in accordance with article 22 of SO Regulation; (iii) the identification of the most effective and economically efficient remedial actions in case of operational security violations referred to in article 22 of SO Regulation; (iv) the preparation and activation of remedial actions in accordance with article 23(2) of SO Regulation; (v) the sharing of the costs of remedial actions referred to in article 22 of SO Regulation, complementing, where necessary, the common methodology developed in accordance with article 74 of CACM Regulation.
- (5) Nordic ROSC Methodology contributes to and does not in any way hinder the achievement of the objectives of article 4 of SO Regulation. Nordic ROSC Methodology defines how regional operational security coordination shall be applied in a coordinated manner in day-ahead and intraday within Nordic CCR. Furthermore, Nordic ROSC Methodology defines the principles of the organisation of regional operational security coordination within Nordic CCR.
- (6) Nordic ROSC Methodology considers and, where necessary, complements the CSA Methodology in accordance with article 75 of SO Regulation. The Agency for the Cooperation of Energy Regulators (hereafter referred to as “**ACER**”) published its decision on CSAM on 19 June 2019.
- (7) Nordic ROSC Methodology considers and, where necessary, complements the common Nordic methodology for coordinated redispatching and countertrading (hereafter referred to as “**Nordic CRC Methodology**”) in accordance with article 35 of CACM Regulation.

- (8) Nordic ROSC Methodology considers and, where necessary, complements the common Nordic methodology for coordinated redispatch and countertrading cost sharing (hereafter referred to as “**Nordic CRCCS Methodology**”) in accordance with article 74 of CACM Regulation.
- (9) In accordance with article 6(6) of SO Regulation, Nordic ROSC Methodology includes a timescale for its implementation and a description of its expected impact on the objectives of the SO Regulation.
- (10) Furthermore, Nordic ROSC Methodology ensures application of the principles of proportionality and non-discrimination, transparency, optimisation between the highest overall efficiency and lowest costs for all parties involved and use of market-based mechanisms as far as possible to ensure network security and stability.
- (11) In conclusion, Nordic ROSC Methodology shall contribute to the general objectives of the SO Regulation to the benefit of all TSOs, ACER, regulatory authorities and market participants.

## **Title 1**

### **General Provisions**

#### **Article 1**

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

1. Nordic ROSC Methodology shall be the methodology of Nordic TSOs in accordance with article 76 of SO Regulation and for organisation for regional operational security coordination in accordance with Article 77 of SO Regulation.
2. Nordic ROSC Methodology shall cover the day-ahead and intraday regional operational security coordination within Nordic CCR. Nordic ROSC Methodology shall apply to all TSOs and RSCs within Nordic CCR.
3. Nordic ROSC Methodology is subject to NRA approval in accordance with article 6(3)(b) of SO Regulation.

#### **Article 2**

##### **Acronyms, definitions and interpretation**

1. Nordic ROSC Methodology uses the following acronyms:
  - a. 'CGM' means the 'Common Grid Model';
  - b. 'CGMES' means 'Common Grid Model Exchange Standard';
  - c. 'CGMM' means 'Common Grid Model Methodology' regarding the common grid model methodology in accordance with articles 67(1) and 70(1) of SO Regulation (also referred to CGMM-v3);
  - d. 'CNE' means 'Critical Network Element';
  - e. 'CCR' means 'Capacity Calculation Region';
  - f. 'D-1' means 'day-ahead';
  - g. 'D-1 IGM' means 'day-ahead individual grid model';
  - h. 'ID' means 'intraday';
  - i. 'ID IGM' means 'intraday individual grid model';
  - j. 'IGM' means 'individual grid model';
  - k. 'CROSA' means 'Coordinated Regional Operational Security Assessment';
  - l. 'CSA' means 'Coordinated Security Analysis';
  - m. 'Nordic D-1 CGM' means 'Nordic day-ahead common grid model';
  - n. 'Nordic ID CGM' means 'Nordic intraday common grid model';
  - o. 'NRA' means 'National Regulatory Authority';

- p. 'RA' means 'Remedial Action';
  - q. 'ROSC' means 'Regional Operational Security Coordination';
  - r. 'XNE' means 'cross-border relevant network element';
  - s. 'XRA' means 'cross-border relevant remedial action'.
2. For the purpose of Nordic ROSC Methodology, the terms used shall have the meaning of the definitions included in article 3 of SO Regulation, article 2 of CACM Regulation, article 2 of Commission Regulation (EU) No 543/2013 of June 2013 on submission and publication of data in electricity markets, article 2 of CSAM and the other items of legislation referenced therein. In addition, the following definitions shall apply:
- a. 'adjacent CCR' means a CCR directly connected to Nordic CCR such as Baltic CCR, Core CCR and Hansa CCR;
  - b. 'affected TSO' means a TSO affected by an activation of a remedial action:
    - i. requesting TSO responsible for the operation of the control area where the violation of operational security limits is detected;
    - ii. connecting TSO responsible for the control area where the remedial action is located or connected or activated;
  - c. 'agreed remedial action' means a remedial action for which all affected TSOs have given their agreement for the activation of this remedial action on the system, when it will become necessary. Before its activation, such a remedial action is expected to be necessary based on security analyses performed during regional operational security coordination;
  - d. 'regional operational security coordination' in accordance with article 78 of SO Regulation in order to support Nordic TSOs fulfilling their obligations for the day-ahead and intraday timeframes;
  - e. 'coordinated regional operational security assessment' means an operational security analysis performed by Nordic RSC on a common grid model, in accordance with article 78 of the SO Regulation;
  - f. 'coordinated operational security analysis' means an operational security analysis performed by a Nordic TSO on a common grid model, in accordance with article 72(3) and 72(4) of the SO Regulation;
  - g. 'costs' are the actual costs and income incurred by activation of agreed remedial actions in real-time operation to relieve violations of operational security limits;
  - h. 'D-1 IGM' means the TSO's day-ahead individual grid models used in day-ahead coordinated regional operational security assessment or coordinated operational security analysis;
  - i. 'ID IGM' means the TSO's intraday individual grid models used in intraday coordinated regional operational security assessment or coordinated operational security analysis;
  - j. 'cross-border relevant network element' or 'XNE' means a network element identified as cross-border relevant on which operational security violations need to be managed in a coordinated way between Nordic TSOs and Nordic RSC;

- k. '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 between Nordic TSOs and Nordic RSC;
  - l. 'overlapping cross-border relevant network element' means a network element located between a control area of a Nordic TSO and a control area of a TSO in adjacent CCR identified as cross-border relevant on which operational security violations need to be managed in a coordinated way between Nordic TSOs and Nordic RSC as well as TSOs and RSCs of adjacent CCRs;
  - m. 'overlapping cross-border relevant remedial action' means a remedial action identified as cross-border relevant and needs to be applied in a coordinated way between Nordic TSOs and Nordic RSC as well as TSOs and RSCs of adjacent CCRs;
  - n. 'Nordic D-1 CGM' means the Nordic day-ahead common grid model used in day-ahead coordinated regional operational security assessment or coordinated operational security analysis;
  - o. 'Nordic ID CGM' means the Nordic intraday common grid model used in intraday coordinated regional operational security assessment or coordinated operational security analysis;
  - p. 'Nordic TSO' means a single TSO of Nordic CCR;
  - q. 'Nordic TSOs' means all TSOs of Nordic CCR;
  - r. 'Nordic RSC' means the appointed regional security coordinator of Nordic CCR in accordance with Article 22 of NROSC;
  - s. 'RSCs of adjacent CCRs' means RSCs located in adjacent CCRs to Nordic CCR providing services to one or several TSOs of this adjacent CCR. RSCs of adjacent CCRs are CORESO, TSCNET and Baltic RSC;
  - t. 'secured element' means a network element in Nordic CCR subject to day-ahead and intraday coordinated regional operational security assessment, on which operational security limits violations need to be managed in a coordinated way. A secured element is an element identified as cross-border relevant network element;
  - u. 'scanned element' means an assessed network element in Nordic CCR on which the electrical state (at least flows) shall be computed and shall be subject to an observation rule during day-ahead and intraday coordinated regional operational security assessment. Such observation rule can be for example to avoid increasing a constraint or avoiding creating a constraint on this network element, as a result of the design of remedial actions needed to relieve violations on the secured element;
3. In this Nordic ROSC Methodology, unless the context requires otherwise:
- a) The singular indicates the plural and vice versa;
  - b) Headings are inserted for convenience only and do not affect the interpretation of this Nordic ROSC Methodology;
  - c) Any references to an "Article" are, unless otherwise stated, references to an Article of this Nordic ROSC Methodology; and



- 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.

## **Title 2**

### **Nordic regional operational security coordination**

#### **Chapter 1**

#### **Nordic day-ahead and intraday regional operational security coordination**

##### **Article 3**

##### **General provisions for Nordic day-ahead and intraday regional operational security coordination**

1. Nordic TSOs in coordination with Nordic RSC shall perform day-ahead and intraday regional operational security coordination managing violations of operational security limits and cross-border relevant remedial actions within Nordic CCR.
2. Nordic TSOs and Nordic RSC shall perform the day-ahead regional operational security coordination in accordance with articles 23 and 33 of CSAM.
3. Nordic TSOs and Nordic RSC shall perform the intraday regional operational security coordination at least three times in intraday timeframe in accordance with Article 24 of CSAM.
4. The day-ahead and intraday regional operational security coordination process shall at least contain of the following steps:
  - a. Input data preparation, such as individual grid models as described in Article 7 of NROSC, secured and scanned elements as described in Article 10 of NROSC, contingency list as described in Article 11 of NROSC and available remedial actions as described in Article 15 of NROSC;
  - b. Building and update of the common grid model as described in Article 8 of NROSC;
  - c. Operational security analysis in accordance with articles 23 and 24 of CSAM;
  - d. Determination and preparation of remedial actions as described in Article 13 and Article 14 of NROSC;
  - e. Coordination of remedial actions as described in Article 16 of NROSC;
  - f. Inter-CCR coordination as described in Article 18 of NROSC;
  - g. Activation of remedial actions as described in Article 17 of NROSC.
5. Nordic TSOs shall determine the cross-border relevant network elements in accordance with Article 10 of NROSC on which violations of operational security limits have to be identified and managed in a coordinated way. The list of cross-border relevant network elements in accordance with Article 10 of NROSC shall at least include all CNEs of Nordic CCR.
6. Nordic regional operational security coordination shall ensure that
  - a. violations of operational security limits on a cross-border relevant network element with contingency identified are relieved using at least the remedial actions provided by TSOs,

- b. each TSO affected by a cross-border relevant remedial action is informed about the violations of operational security limits to be solved by this remedial action.
7. Nordic TSOs and Nordic RSC shall perform the day-ahead regional operational security coordination based on Nordic day-ahead common grid model.
8. Nordic TSOs and Nordic RSC shall perform the intraday regional operational security coordination based on the Nordic intraday common grid model.
9. Nordic TSOs shall have the right to perform local preliminary assessments in order to detect any violations of operational security limits on internal network elements. When preparing individual grid models, each Nordic TSO shall have the right to include remedial actions resulting from these preliminary assessments in accordance with article 21(3) of CSAM.
10. The following conditions for the implementation of proposed cross-border relevant remedial action shall be met:
  - a. Cross-border relevant remedial action is considered available in a consistent manner from the time frame of its decision to all the subsequent timeframes of security analyses, up to real time;
  - b. Cross-border relevant remedial action is considered economically efficient to relieve violations of operational security limits;
  - c. When the cross-border relevant remedial action is preventive, it is not setting the affected TSO's network in an alert state based on the common grid models used for its decision,
  - d. When the cross-border relevant remedial action is curative, it is not leading to a violation of an operational security limit in the affected TSO's network after the simulation of the corresponding contingency based on the common grid models used for its decision.
11. When the conditions established in paragraph 10 are not met, each affected TSO shall accept or reject the implementation of the proposed remedial action. In case of rejection of the remedial action by one or several Nordic TSOs, the concerned Nordic TSOs shall provide an explanation for the decision.
12. When providing cross-border relevant remedial actions to Nordic RSC, each Nordic TSO shall assure that the remedial actions are available for the regional operational security coordination of the respective hour of the day.
13. When relieving violations of operational security limits, each Nordic TSO shall take into consideration all the remedial actions already agreed during previously performed regional operational security coordination of the same hour of the day. If an unscheduled outage has made a remedial action unavailable or the remedial action has become technically unavailable, this remedial action shall not be considered in the subsequent regional operational security coordination.
14. When a Nordic TSO wants to modify the consistency of a remedial action which has been previously coordinated and agreed, this Nordic TSO shall again assess the cross-border relevance of the new remedial action and, where necessary, shall coordinate it with the affected TSOs.
15. Each Nordic TSO shall include in the individual grid model all remedial actions already agreed as a result of previous regional operational security coordination.

16. Nordic TSOs shall ensure that the coordination of cross-border relevant remedial actions and the coordination of remedial actions as determined in accordance with Nordic CRC Methodology are treated in a consistent way.
17. Nordic TSOs in coordination with Nordic RSC shall assess at least every three years the operational performance of day-ahead and intraday regional operational security coordination set forth in Article 5 and Article 6 of NROSC.
18. Unless otherwise defined, the following default values shall be applied for day-ahead regional operational security coordination as described in Article 5 of NROSC:
  - a. T0(D-1) = 18:00 (CET)
  - b. T1(D-1) = 19:00 (CET)
  - c. T2(D-1) = 20:00 (CET)
  - d. T3(D-1) = 20:45 (CET)
  - e. T4(D-1) = 21:30 (CET)
  - f. T5(D-1) = 22:00 (CET)

#### **Article 4**

##### **Specific provisions for Nordic intraday regional operational security coordination**

1. Nordic TSOs in coordination with Nordic RSC shall perform obligatory intraday regional operational security coordination at the reference times 00:00 (CET), 08:00 (CET) and 16:00 (CET).
2. Unless otherwise agreed upon by all Nordic TSOs in coordination with Nordic RSC the following hours of the day shall be analysed during the three intraday coordinated regional operational security assessments:
  - a. for reference time 00:00 CET all hours of the day between 00:00 (CET) and 08:00 (CET);
  - b. for reference time 08:00 CET all hours of the day between 08:00 (CET) and 16:00 (CET);
  - c. for reference time 16:00 CET all hours of the day between 16:00 (CET) and 24:00 (CET).
3. Nordic TSOs in coordination with Nordic RSC may perform additional intraday regional operational security coordination when one or several of the following conditions are met:
  - a. Outage of a relevant asset;
  - b. Significant change of forecasted generation or load;
  - c. Significant changes in physical flows;
  - d. Congestions on CNEs;
  - e. Violation of operational security limits;
  - f. Small amount of remaining cross-zonal intraday capacity;
  - g. Upon request by a Nordic TSO.
4. When performing an additional intraday regional operational security coordination in accordance with paragraph 3, Nordic TSOs in coordination with Nordic RSC shall agree on the hours of the day to be analysed in intraday coordinated regional operational security assessment.
5. In accordance with Article 31(3) of NROSC, Nordic TSOs in coordination with Nordic RSC shall define the business process hours of T0(ID) to T5(ID) for intraday regional operational security coordination as described in Article 6 of NROSC.

## Article 5

### **Nordic day-ahead regional operational security coordination**

1. Nordic TSOs in coordination with Nordic RSC shall perform the day-ahead regional operational security coordination, where the respective business process hours for the coordination are defined in Article (3)(18) of NROSC:
  - a. At latest by T0(D-1), Nordic TSOs shall deliver the D-1 IGMs covering all hours of the next day.
  - b. Nordic RSC shall check the consistency of the D-1 IGMs provided by each Nordic TSO. In case of detected issues with D-1 IGMs, Nordic RSC shall contact the concerned Nordic TSO to solve the issue. If necessary, the concerned Nordic TSO shall provide an update of the D-1 IGMs in accordance with Article 7 of NROSC.
  - c. Nordic RSC shall merge the D-1 IGMs to the Nordic day-ahead common grid model and shall provide it before T1(D-1) to Nordic TSOs.
  - d. At latest by T1(D-1), Nordic RSC shall perform the first run of day-ahead coordinated regional operational security assessment on the Nordic D-1 CGM.
  - e. At latest by T2(D-1), Nordic RSC shall deliver the results of the day-ahead coordinated regional operational security assessment to Nordic TSOs.
  - f. In case of detected violations of operational security limits, at latest by T2(D-1) Nordic RSC shall propose to the concerned Nordic TSOs an appropriate remedial action provided by the Nordic TSOs in accordance with Article 15 of NROSC. The proposal for remedial actions shall be accompanied by an explanation to the concerned Nordic TSOs.
  - g. Nordic RSC may also propose remedial actions other than those provided by the Nordic TSOs in accordance with Article 16 of NROSC.
  - h. When Nordic RSC is not able to propose to the concerned Nordic TSOs an appropriate cross-border relevant remedial action to relieve the violations of operational security limits on a cross-border relevant network element, Nordic RSC shall attempt to determine a remedial action in coordination with concerned Nordic TSOs. Nordic RSC may also coordinate with RSCs of adjacent CCRs in accordance with Article 18 of NROSC in order to find and propose a remedial action. Nordic RSC shall inform the concerned Nordic TSOs about the results of the inter-RSC coordination.
  - i. The concerned Nordic TSOs shall evaluate the remedial action proposed by Nordic RSC. When the concerned Nordic TSOs accept the proposed remedial action, the respective remedial action shall be included in the Nordic TSO's update of the D-1 IGMs in accordance with Article 7 of NROSC. When the concerned Nordic TSO rejects the proposed remedial action, the Nordic TSO shall provide an explanation for this decision to Nordic RSC and the other affected Nordic TSOs and propose a more effective or economically more efficient remedial action or any other appropriate solution to solve the violations of operational security limits.
  - j. If necessary, Nordic RSC shall organize a videoconference, where the results of the first run of day-ahead coordinated regional operational security assessment shall be shared and discussed.

- k. Nordic RSC shall prepare a report with the results of the first run of day-ahead coordinated regional operational security assessment and submit it to all Nordic TSOs.
- l. Each Nordic TSO shall include the agreed remedial actions in its D-1 IGMs in accordance with Article 7 of NROSC for the next run of day-ahead coordinated regional operational security assessment.
- m. If necessary, Nordic TSOs in coordination with Nordic RSC shall perform a second run of day-ahead coordinated regional operational security assessment:
  - i. Before T3(D-1), all Nordic TSOs shall deliver for the second run of day-ahead coordinated regional operational security assessment updated D-1 IGMs with remedial actions agreed during the first run.
  - ii. At latest by T3(D-1), Nordic RSC shall begin to merge the updated D-1 IGMs including agreed remedial actions to the updated Nordic D-1 CGM and shall provide the updated Nordic D-1 CGM before T4(D-1) to Nordic TSOs. In case of detected issues with updated D-1 IGM provided by a Nordic TSO, Nordic RSC shall contact the concerned Nordic TSO to resolve the issue. If necessary, the concerned Nordic TSO shall provide an update of the D-1 IGM to Nordic RSC in accordance with Article 7 of NROSC.
  - iii. At latest by T4(D-1), Nordic RSC shall perform an update of the day-ahead coordinated regional operational security assessment based on the updated Nordic D-1 CGM.
  - iv. At latest by T5(D-1), Nordic RSC shall organize a videoconference where the results of the second run of day-ahead coordinated regional operational security assessment shall be shared and discussed. During the videoconference, Nordic TSOs and Nordic RSC shall consolidate the final outcomes of the day-ahead regional operational security coordination process.
  - v. Nordic RSC shall update the day-ahead report with the results of the second run of day-ahead coordinated regional operational security assessment and submit it to Nordic TSOs.
  - vi. Each Nordic TSO shall include the agreed remedial actions in its ID IGM in accordance with Article 7 of NROSC for the subsequent intraday coordinated regional operational security coordination.
2. If necessary, all TSOs and Nordic RSC shall perform additional runs of day-ahead coordinated regional operational security assessment after T5(D-1) applying the coordination steps in accordance with paragraph 1 (a-l).
3. Nordic TSOs and Nordic RSC shall consider the results and agreed remedial actions of the day-ahead regional operational security coordination in the intraday regional operational security coordination. Where violations of operational security limits remain unresolved at the end of the day-ahead regional operational security coordination, the concerned Nordic TSOs and Nordic RSC shall agree on the objectives and the required steps to follow in intraday regional operational security coordination in order to coordinate the management of these remaining violations of operational security limits.

## Article 6

### Nordic intraday regional operational security coordination

1. Nordic TSOs in coordination with Nordic RSC shall perform the intraday regional operational security coordination, where the respective business process hours for the coordination shall be defined in accordance with Article 4(5) of NROSC:
  - a. At latest by T0(ID), Nordic TSOs shall deliver the ID IGM covering all relevant hours of the day in accordance with Article 4 (2) of NROSC.
  - b. Nordic RSC shall check the consistency of the ID IGM provided by each Nordic TSO. In case of detected issues with ID IGM, Nordic RSC shall contact the concerned Nordic TSO to solve the issue. If necessary, the concerned Nordic TSO shall provide an update of the ID IGM in accordance with Article 7 of NROSC.
  - c. Nordic RSC shall merge the ID IGMs to the Nordic ID CGM and shall provide the Nordic ID CGM before T1(ID) to Nordic TSOs.
  - d. At latest by T1(ID), Nordic RSC shall perform the first run of intraday coordinated regional operational security assessment on the Nordic ID CGM.
  - e. At latest by T2(ID), Nordic RSC shall deliver the results of the intraday coordinated regional operational security assessment all Nordic TSOs.
  - f. In case of detected violations of operational security limits, at latest by T2(ID) Nordic RSC shall propose to the concerned Nordic TSOs an appropriate remedial action provided by the TSOs in accordance with Article 15 of NROSC. The proposal for remedial actions shall be accompanied by an explanation to the concerned Nordic TSOs.
  - g. Nordic RSC may also propose remedial actions other than those provided by the TSOs in accordance with Article 16 of NROSC.
  - h. When Nordic RSC is not able to propose to the concerned Nordic TSOs an appropriate cross-border relevant remedial action to relieve the violations of operational security limits on a cross-border relevant network element, Nordic RSC shall attempt to determine a remedial action in close coordination with concerned Nordic TSOs. Nordic RSC may also coordinate with RSCs of adjacent CCRs in accordance with Article 18 of NROSC in order to find and propose a remedial action. Nordic RSC shall inform the concerned Nordic TSOs about the results of the inter-RSC coordination.
  - i. The concerned Nordic TSOs shall evaluate the remedial action proposed by Nordic RSC. When the concerned Nordic TSOs accept the proposed remedial action, the respective remedial action shall be included in the Nordic TSO's update of the ID IGM in accordance with Article 7 of NROSC. When the concerned Nordic TSO rejects the proposed remedial action, the Nordic TSO shall provide an explanation for this decision to Nordic RSC and the other affected Nordic TSOs and propose a more effective or economically more efficient remedial action or any other appropriate solution to solve the violations of operational security limits.
  - j. If necessary, Nordic RSC shall organize a videoconference, where the results of the first run of intraday coordinated regional operational security assessment shall be shared and discussed.
  - k. Nordic RSC shall prepare a report with the results of the first run of intraday coordinated regional operational security assessment and submit it to all Nordic TSOs.

- i. Each Nordic TSO shall include the agreed remedial actions in its ID IGM in accordance with Article 7 of NROSC for the next run of intraday coordinated regional operational security assessment.
  - m. If necessary, Nordic TSOs in coordination with Nordic RSC shall perform a second run of intraday coordinated regional operational security assessment:
    - i. Before T3(ID), all Nordic TSOs shall deliver for the second run of intraday coordinated regional operational security assessment updated ID IGMs with remedial actions agreed during the first run.
    - ii. At latest by T3(ID), Nordic RSC shall begin to merge the updated ID IGM including agreed remedial actions to the updated Nordic ID CGM and shall provide the updated Nordic ID CGM before T4(ID) to Nordic TSOs. In case of detected issues with updated ID IGM provided by a Nordic TSO, Nordic RSC shall contact the concerned Nordic TSO to resolve the issue. If necessary, the concerned Nordic TSO shall provide an update of the ID IGM to Nordic RSC in accordance with Article 7 of NROSC.
    - iii. At latest by T4(ID), Nordic RSC shall perform an update of the intraday coordinated regional operational security assessment based on the updated Nordic ID CGM.
    - iv. At latest by T5(ID), Nordic RSC shall organize a videoconference where the results of the second run of intraday coordinated regional operational security assessment shall be shared and discussed. During the videoconference, Nordic TSOs and Nordic RSC shall consolidate the final outcomes of the intraday coordinated regional operational security assessment.
    - v. Nordic RSC shall update the report with the results of the second run of intraday coordinated regional operational security assessment and submit it to Nordic TSOs.
    - vi. Each Nordic TSO shall include the agreed remedial actions in its ID IGM in accordance with Article 7 of NROSC for the subsequent intraday coordinated regional operational security coordination.
2. Nordic TSOs shall consider the results and agreed remedial actions of the intraday regional operational security coordination in real-time operation. Where security violations remain unresolved at the end of each intraday regional operational security coordination, the concerned Nordic TSOs shall agree on the necessary actions in real-time operation in order to coordinate the management of these remaining violations of operational security limits.

## **Chapter 2**

### **Individual and common grid model**

#### **Article 7**

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

1. Each Nordic TSO shall prepare and deliver day-ahead and intraday individual grid models for day-ahead and intraday coordinated regional operational security assessments as defined in CSAM and CGMM.
2. Each TSO shall include in its day-ahead and intraday individual grid models:
  - a. all agreed remedial actions as a result of previous regional operational security coordination;
  - b. all planned outages of relevant assets already agreed as a result of previous outage planning coordination;
  - c. all unplanned or forced outages or changes of outage schedules of relevant assets.
3. When preparing individual grid models, each Nordic TSO shall have the right to include remedial actions resulting from local preliminary assessments in accordance with Article 3 (9) of NROSC and article 21 (4) of CSAM.
4. If necessary, each Nordic TSO shall update the individual grid models during day-ahead and intraday regional operational security coordination.

#### **Article 8**

##### **Update of Nordic common grid model by Nordic RSC**

1. Nordic RSC shall check the consistency of the individual grid models provided by each Nordic TSO. In case of detected issues with an individual grid model, Nordic RSC shall contact the concerned Nordic TSO to resolve the issue. If necessary, the concerned Nordic TSO shall provide an update of the individual grid model in accordance with Article 7 of NROSC.
2. Nordic RSC shall merge the updated individual grid models to the updated Nordic common grid model.
3. When a Nordic TSO is not able to provide an individual grid model or an update of the individual grid model for the day-ahead and intraday coordinated regional operational security assessment in due time, Nordic RSC shall apply the substitution rules for individual grid models in accordance with article 20(4) of CGMM. Nordic RSC shall take topology changes such as planned outages into account when substituting individual grid models.

#### **Article 9**

##### **Consistency and quality check of input data**

1. Nordic RSC shall assess the consistency and quality of input data referred to in Article 3(4a) of NROSC provided by each Nordic TSO for day-ahead and intraday regional operational security coordination.



2. Nordic RSC shall inform the concerned Nordic TSO on the identified issues in accordance with paragraph 1 in an appropriate time frame before the start of day-ahead and intraday regional operational security coordination. The concerned Nordic TSO shall provide an update of the input data to Nordic RSC and, if necessary, to the other Nordic TSOs.
3. When a Nordic TSO is not able to provide input data referred to in Article 3(4a) of NROSC for day-ahead and intraday coordinated regional operational security assessment in due time, Nordic RSC shall apply substitution rules in coordination with Nordic TSOs.
4. When Nordic RSC identifies that an agreed remedial action has not been included by a Nordic TSO in the update of the day-ahead or intraday individual grid model, Nordic RSC shall contact the concerned Nordic TSO. The concerned Nordic TSO shall update its individual grid model and provide the individual grid model in accordance with Article 7 of NROSC.

### **Chapter 3**

#### **Determination of secured and scanned elements, contingency list, constraints and remedial actions**

#### **Article 10**

##### **Secured and Scanned Elements**

1. Secured elements represent a set of network elements in Nordic CCR with a voltage level higher than or equal to 400 kV in accordance with article 15(1) of CSAM subject to day-ahead and intraday coordinated regional operational security assessment, on which operational security limits violations need to be managed in a coordinated way. Nordic TSOs shall adjust the voltage level, if necessary.
2. Nordic TSOs shall agree upon additions and exclusions of secured elements on which operational security violations have to be identified and managed in a coordinated way.
3. Secured elements shall at least include all CNEs of Nordic CCR in accordance with Nordic CCR capacity calculation methodology in accordance with Article 20 (2) of CACM Regulation.
4. Nordic TSOs shall classify network elements as overlapping cross-border relevant network elements which have been assessed as cross-border relevant in Nordic CCR and any adjacent CCR in accordance with article 27 of CSAM.
5. Each Nordic TSO may classify any network element as scanned element, which shall be considered in day-ahead and intraday coordinated regional operational security assessment.
6. Each Nordic TSO shall provide the secured and scanned elements to Nordic RSC. Each Nordic TSO shall inform Nordic RSC about any update of secured and scanned elements.
7. Nordic RSC shall consider the secured and scanned elements in day-ahead and intraday coordinated regional operational security assessment.
8. Nordic RSC shall evaluate the secured elements and may propose to Nordic TSOs other network elements as secured elements on which operational security violations have to be identified and managed in a coordinated way during day-ahead and intraday coordinated regional operational security assessment.

9. Nordic RSC shall evaluate the scanned elements and may propose to Nordic TSOs other scanned elements.

### **Article 11** **Contingency list**

1. Each Nordic TSO shall define the list of contingencies to be simulated in day-ahead and intraday coordinated regional operational security assessment in accordance with article 10 of CSAM.
2. Each Nordic TSO shall provide the Nordic RSC with the contingency list to be applied in day-ahead and intraday coordinated regional operational security assessment.
3. Each Nordic TSO shall inform Nordic RSC about any update of the contingency list in accordance with article 11 of CSAM.
4. Nordic RSC shall evaluate the contingency lists provided by the Nordic TSOs and may propose to Nordic TSOs other contingencies that should be applied in day-ahead and intraday coordinated regional operational security assessment.
5. Each Nordic TSO shall inform the TSOs in its observability area about the external contingencies included in its contingency list.
6. Each TSO shall regularly update its contingency list and shall perform a full assessment of the list, when necessary.
7. Nordic RSC shall use the latest available contingency lists of all Nordic TSOs in in day-ahead and intraday coordinated regional operational security assessment.

### **Article 12** **Determination of constraints**

1. When preparing remedial actions, each Nordic TSO shall consider constraints which may limit the implementation of remedial actions. The following types of constraints shall be considered:
  - a. Constraints in line with SO Regulations means a situation in which there is a need to prepare and activate a remedial action in order to respect operational security limits. The constraints consist of the following:
    - i. Power flows and voltages exceeding operational security limits;
    - ii. Violations of stability limits of the transmission system identified in accordance with article 38 (2) and article 38 (6) of SO Regulation;
    - iii. Violations of short-circuit current limits of the transmission system.
  - b. Constraints related to all aspects required to be considered when using remedial actions and classified as following:
    - i. Technical limitations such as ramping restrictions, min/max output power, min/max redispatch or power change through HVDC systems;
    - ii. Operational constraints and rules such as switching limitations, available range of taps, dependencies between topology measures;

- iii. Procedural constraints resulting from timing constraints due to local, regional or cross-regional processes;
    - iv. Legal constraints are the legal requirements stated in national laws regarding the priority of activation of remedial actions.
  - c. System constraints are all the optimisation constraints added by Nordic TSOs, expressed as flow limitation on one or a set of secured elements a necessary to respect stability limit or operational security limits other than power flow limits.
    - i. Each Nordic TSO shall have the right to make available to Nordic RSC system constraints for the purpose of dynamic stability, voltages exceeding operational limits in the N-situation and after occurrence of a contingency from the contingency list described in Article 12 of NROSC.
    - ii. The system constraints, for the purpose of dynamic stability, shall be defined based on the criteria on dynamic system stability in accordance with articles 38 and 39 of SO Regulation.
- 2. If relevant, each Nordic TSO shall provide to Nordic RSC updated constraints for the subsequent day-ahead and intraday coordinated regional operational security assessment.

### **Article 13**

#### **Determination and preparation of remedial actions**

- 1. Each Nordic TSO shall define remedial actions in accordance with Article 14 of CSAM.
- 2. Nordic TSOs in coordination with Nordic RSC shall assess the cross-border relevance of a remedial actions in accordance with Article 14 of NROSC.
- 3. When defining remedial actions each Nordic TSO shall consider the following principles:
  - a. Classify the remedial actions in accordance with article 22 of SO Regulation;
  - b. Consider the provisions stated in Nordic CRC Methodology;
  - c. Assess the availability of cross-border relevant remedial actions in accordance with Article 15 of NROSC;
  - d. Consider non-cross-border relevant remedial actions as defined in accordance with Article 14(5) of NROSC which could have an impact on any of the secured element of the control area of a Nordic TSO;
  - e. Assess the availability of remedial actions which were available for the previously performed day-ahead and intraday coordinated regional security assessments or capacity calculation of the same hour of the day;
  - f. Not consider the remedial actions which are not available following:
    - i. an unforeseen event, or
    - ii. an unplanned outage of a network element, or
    - iii. a declaration of unavailability status of a remedial action, or
    - iv. a new and more effective and efficient remedial action has become available, or
    - v. any other cause outside of the responsibility of the Nordic TSO;

- g. Identify whether a remedial action provided to Nordic CCR is an overlapping cross-border relevant remedial action according to article 27 (9) of CSAM;
      - h. Classify remedial actions as non-costly and costly remedial actions and determine the costs for costly remedial actions. In case costs cannot be established, the concerned Nordic TSO shall provide cost estimates.
4. If necessary, after the coordination run each Nordic TSO shall provide to Nordic RSC updated remedial actions for the subsequent coordination run in day-ahead or intraday coordinated regional operational security assessment, considering
  - a. The agreed cross-border relevant remedial actions of the last coordination run;
  - b. Any unplanned or forced outages or changes of outage schedules of relevant assets;
  - c. Latest schedules of load and generation.
5. If necessary, Nordic RSC shall assess in coordination with the Nordic TSOs the technical effectiveness and economic efficiency of a new remedial action before its implementation in day-ahead and intraday coordinated regional operational security assessment.
6. Nordic RSC shall define a merit order of the most effective and economically efficient remedial actions and share it with the Nordic TSOs.

#### **Article 14**

##### **Assessing the cross-border relevance of remedial actions**

1. Nordic TSOs shall aim at agreeing on a qualitative approach to determine the cross-border relevance of remedial actions.
2. If Nordic TSOs cannot agree on a qualitative approach in accordance with paragraph 1 for a certain remedial action, a quantitative approach in accordance with article 15(4) and article 15(5) of CSAM shall be applied.
3. When applying the quantitative approach in accordance with article 15(5) of CSAM, Nordic TSOs may define a different threshold than 5% for assessing the cross-border relevance of a remedial action.
4. Nordic TSOs shall jointly define in coordination with Nordic RSC a list of remedial actions that are deemed cross-border relevant and share the cross-border relevant remedial actions with Nordic RSC.
5. When a remedial action is not determined as cross-border relevant in accordance with paragraph 1 and 2, the respective remedial action is considered as non-cross-border relevant remedial action.
6. Nordic TSOs in coordination with Nordic RSC shall reassess the cross-border relevance of remedial actions at least once a year.
7. Nordic TSOs may delegate tasks concerning the quantitative approach in accordance with article 15(4) and article 15(5) of CSAM to Nordic RSC.

## **Article 15**

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

1. Each Nordic TSO shall provide the list of available remedial actions to Nordic RSC for the purpose of day-ahead and intraday regional operational security coordination.
2. The list of available remedial actions shall include information in accordance with Article 12 and Article 13 of NROSC.
3. When providing to Nordic RSC the list of remedial actions, each Nordic TSO shall consider as available the remedial actions which were available for the previously performed coordinated regional operational security assessments of the same hour of the day, 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 necessary, each Nordic TSO shall provide to Nordic RSC an updated list of remedial actions at the end of any coordination run of day-ahead or intraday regional operational security coordination.
5. A common list for cross-border relevant and non-cross border relevant remedial actions shall be defined by Nordic RSC based on the list of remedial actions provided by Nordic TSOs.
6. Each Nordic TSO shall inform the other Nordic TSOs and Nordic RSC without delay about unavailable remedial actions for day-ahead and intraday regional operational security coordination.
7. Each Nordic TSO shall inform Nordic RSC whether a remedial action, provided to Nordic RSC, is offered simultaneously to RSCs of adjacent CCRs.
8. When receiving possible remedial actions from Nordic TSOs as well as RSCs and TSOs of adjacent CCRs, Nordic RSC shall share this information with the other Nordic TSOs.

## **Chapter 4**

### **Coordination and activation of remedial actions**

## **Article 16**

### **Coordination of remedial actions**

1. In day-ahead and intraday regional operational security coordination Nordic TSOs in coordination with Nordic RSC shall manage in a coordinated way operational security violations on all cross-border relevant network elements (secured elements) considering all cross-border relevant remedial actions and taking into account technical restrictions limiting the use of certain remedial actions.
2. In case of a detected violation of operational security limits on a cross-border relevant network element, Nordic RSC shall propose to the concerned TSOs an appropriate remedial action prepared by the Nordic TSOs in accordance with Article 13 of NROSC.

3. Nordic RSC may propose remedial actions other than those provided by the TSOs. Such recommendation for remedial actions shall be accompanied by an explanation to, and validation by the concerned Nordic TSOs.
4. Each TSO shall assess that the proposed remedial actions meet the following conditions:
  - a. the remedial action is considered available for the specific hour of the day in a consistent manner from the time frame of its decision in day-ahead and intraday coordination up to all the subsequent timeframes of security analyses including real time;
  - b. the remedial actions relieve all congestions on the affected network elements;
  - c. the remedial action is not setting the affected Nordic TSO's network in a warning or alert state based on the common grid model used in the coordination process;
  - d. the remedial action is not leading to any violations of operational security limits in the affected Nordic TSO's network after the simulation of the corresponding contingency based on the common grid model used in the coordination process;
  - e. the remedial action is considered as most effective and economically efficient to relieve the congestion.
5. When the concerned Nordic TSO accepts the proposed remedial action, the respective remedial action shall be included in the Nordic TSO's update of the individual grid model in accordance with Article 7 of NROSC.
6. When the concerned Nordic TSO rejects the proposed remedial action, the Nordic TSO shall provide an explanation for its decision to Nordic RSC and the other affected Nordic TSOs and propose a more effective or economically more efficient remedial action or any other appropriate solution to solve the violations of operational security limits.
7. When Nordic RSC is not able to propose to the concerned Nordic TSOs an appropriate remedial action to relieve the violations of operational security limits, Nordic RSC shall determine a remedial action in close coordination with concerned Nordic TSOs.
8. If necessary, Nordic RSC shall exchange the results of day-ahead and intraday coordinated regional operational security assessment with relevant RSCs of adjacent CCRs for the purpose of inter-CCR coordination in accordance with Article 18 of NROSC. Nordic RSC shall coordinate with RSCs of adjacent CCRs in order to detect and propose remedial actions. Nordic RSC shall inform the Nordic TSOs about the results of such inter-CCR coordination.

## **Article 17**

### **Activation of remedial actions**

1. Each Nordic TSO shall activate the remedial actions agreed upon in day-ahead and intraday regional operational security coordination at the latest time compatible with technical, operational and procedural constraints in accordance with article 19 of CSAM.
2. Where security violations occur in between coordination runs of day-ahead and intraday regional operational security coordination, the concerned Nordic TSOs shall agree on the necessary remedial actions in real-time operation in order to coordinate the management of these remaining violations of operational security limits.

3. If an agreed remedial action becomes unnecessary, the concerned Nordic TSOs can decline an activation of a remedial action or can deactivate an already activated remedial action. The concerned Nordic TSOs shall ensure that declining the activation or the deactivation of the remedial action is not deemed cross-border relevant and does not affect other Nordic TSOs. The concerned Nordic TSOs shall provide an explanation for this decision to Nordic RSC and the other Nordic TSOs.
4. Each Nordic TSO shall consider activated remedial actions in the update of the individual grid models for the next day-ahead and intraday regional operational security coordination.

### **Article 18** **Inter-CCR coordination**

1. Nordic TSOs and Nordic RSC shall relieve operational security limits violation on overlapping cross-border relevant network elements and shall coordinate cross-border relevant remedial actions impacting these overlapping cross-border relevant network elements in accordance with the proposal for amendment to be developed in accordance with Article 27(3) of CSAM.
2. Nordic TSOs and Nordic RSC shall perform the coordinated cross-regional operational security assessment in accordance with Article 30 of CSAM.

## **Chapter 5** **Sharing of costs of activated remedial actions**

### **Article 19** **General provisions for cost sharing of activated remedial actions**

1. Each Nordic TSO shall provide the relevant information about the expected costs for activated cross-border relevant remedial actions in accordance with Article 15 of NROSC.
2. Cost sharing principles for activated costly redispatching and countertrading measures shall be subject to Nordic CRCCS Methodology according to the following:
  - a. For activated costly redispatching and countertrading for secured elements owned by one Nordic TSO in Nordic CCR as a result of the day-ahead and intraday regional operational security coordination, cost sharing provisions shall apply in the same manner as stated for network elements described in article 3 (1)(a) of Nordic CRCCS Methodology;
  - b. For activated costly redispatching and countertrading for secured elements owned by more than one Nordic TSO in Nordic CCR as a result of the day-ahead and intraday regional operational security coordination, cost sharing provisions shall apply in the same manner as stated for network elements described in article 3 (1)(b) or (c) of Nordic CRCCS Methodology.
3. Cost sharing principles pursuant to Article 20 of NROSC shall be applied for any additional activated cross-border relevant remedial actions agreed upon in day-ahead and intraday regional operational security coordination.

4. When calculating the costs to be shared between the concerned Nordic TSOs, the price for the activated cross-border relevant remedial action shall be based on the actual bid prices or the costs calculated transparently based on incurred costs.

#### **Article 20**

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

1. For activated cross-border relevant remedial actions agreed upon in Nordic day-ahead and intraday regional operational security coordination to relieve violations of operational security limits on cross-border relevant network elements (secured elements), the cost sharing principles in accordance with paragraph 2 shall be applied.
2. Costs and income incurred by activation of cross-border relevant remedial action in accordance with paragraph 1 shall be shared equally between those Nordic TSOs in whose control areas the operational security limits violation of the cross-border relevant network element was relieved.
3. Costs and income incurred by activation of non-cross-border relevant remedial actions shall be borne by those Nordic TSOs in whose control areas the violations of operational security limits of the network element were relieved.

#### **Article 21**

##### **Cost sharing principles for activation of overlapping cross-border relevant remedial actions between Nordic CCR and adjacent CCRs**

1. For the following activated overlapping cross-border relevant remedial actions agreed upon in inter-CCR day-ahead and intraday regional operational security coordination in accordance with Article 18 of NROSC, Nordic TSOs may enter into separate cost sharing agreements with TSOs of adjacent CCRs:
  - a. Overlapping cross-border relevant remedial actions to relieve operational security limits violations on overlapping cross-border relevant network elements;
  - b. Overlapping cross-border relevant remedial actions to relieve operational security limits violation on network elements located in control areas of Nordic TSO;
  - c. Overlapping cross-border relevant remedial actions to relieve operational security limits violation on network elements located in control areas of TSOs in adjacent CCRs.
2. Nordic TSOs shall amend this article in accordance with the amendment to be developed in accordance with Article 27(3)(e) of CSAM.

#### **Article 22**

##### **Reporting**

1. Remedial actions will be reported by Nordic 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. Nordic RSC shall record and share all necessary data to enable Nordic TSOs to fulfil the obligations regarding this Nordic ROSC Methodology, Nordic CRC Methodology, Nordic CRCCS Methodology and article 17 of the SO Regulation.

### **Title 3**

## **Organisation for Nordic regional operational security coordination**

### **Chapter 1**

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

### **Article 23**

#### **Appointment of the regional security coordinator in Nordic CCR**

1. In accordance with article 77(1)(a) of SO Regulation, Nordic TSOs appoint Nordic RSC as regional security coordinator of Nordic CCR that will perform tasks set forth in Article 24 of NROSC.

### **Article 24**

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

1. Nordic RSC shall be the service provider for Nordic TSOs. Nordic RSC shall perform the tasks delegated to it by the Nordic TSOs in accordance with Article 25 of NROSC.
2. Nordic RSC shall
  - a. provide to all Nordic TSOs coordination services for the secure and efficient operation of the Nordic transmission system;
  - b. build consistent regional data;
  - c. facilitate regional operational security coordination and perform the coordinated regional operational security assessment;
  - d. make recommendations to Nordic TSOs in relation to the services they provide; and
  - e. support the harmonisation of operational procedures and standards supporting Nordic TSOs to maintain security of supply.
3. The security of supply will remain the responsibility of each individual Nordic TSO according to national laws and regulations. The responsibility for secure system operation and any decision taken based on services provided by Nordic RSC shall remain with the Nordic TSOs.
4. For the avoidance of doubt, these rules do not replace any provision of national or European law that may apply to any of the Nordic 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.
5. Nordic TSOs with services delegated to Nordic RSC shall enter into an agreement to define specific rules concerning the governance and operation of the regional security coordinator Nordic RSC.

## **Chapter 2**

### **Tasks of the regional security coordinator**

#### **Article 25**

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

1. Nordic TSOs shall agree on delegation of tasks and responsibilities to Nordic RSC.
2. In accordance with Article 77(3)(a), (b), (c) and (d) of SO Regulation, Nordic TSOs delegate the following tasks to Nordic RSC in accordance with Article 22 of NROSC:
  - a. Regional operational security coordination in accordance with article 78 of SO Regulation and Article 25 of NROSC;
  - b. Building of common grid model in accordance with article 79 of SO Regulation and Article 26 of NROSC;
  - c. Regional outage coordination in accordance with article 80 of SO Regulation and Article 27 of NROSC;
  - d. Regional adequacy assessment in accordance with article 81 of SO Regulation and Article 28 of NROSC.
3. Nordic TSOs shall develop in close cooperation with Nordic RSC operational procedures and instructions related to the tasks delegated to Nordic RSC as set forth in Articles 26, 27, 28 and 29 of NROSC. Each Nordic TSO with services delegated to Nordic RSC shall provide Nordic RSC with all relevant data and information to allow execution and coordination of the tasks set forth in Articles 26, 27, 28 and 29 of NROSC.
4. Nordic RSC with services delegated by Nordic TSOs shall coordinate with RSCs of other CCRs on the delegated tasks set forth in Articles 26, 27, 28 and 29 of NROSC.

#### **Article 26**

##### **Regional operational security coordination**

1. Nordic TSOs delegate tasks about regional operational security coordination as described in this Nordic ROSC Methodology to Nordic RSC.
2. In accordance with Articles 77(2)(a) and 77(3)(a) of SO Regulation, Nordic RSC shall facilitate the regional operational security coordination within Nordic CCR in accordance with Nordic ROSC Methodology.

#### **Article 27**

##### **Building of common grid model**

1. In accordance with Articles 77(3)(b) SO Regulation, Nordic RSC shall build a common grid model in accordance with CGMM established pursuant to articles 67(1) and 70(1) of SO Regulation.
2. Nordic TSOs delegate the following tasks to Nordic RSC:
  - 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 the common grid model;
  - d. Coordination with RSCs of other CCRs.

## **Article 28**

### **Regional outage coordination**

1. In accordance with Articles 77(2)(a) and 77(3)(c) of SO Regulation, Nordic RSC shall facilitate the regional outage coordination of the Nordic TSOs.
2. Nordic TSOs delegate the following tasks to Nordic RSC:
  - a. Detecting and analysing of outage planning incompatibilities;
  - b. Proposing solutions for resolving outage planning incompatibilities;
  - c. Preparing an annual report on outage planning incompatibilities;
  - d. Facilitating the regional outage planning coordination process;
  - e. Coordination with RSCs of other CCRs.

## **Article 29**

### **Regional adequacy assessment coordination**

1. In accordance with Articles 77(2)(a) and 77(3)(d) of SO Regulation, Nordic RSC shall facilitate the regional adequacy assessment coordination of the Nordic TSOs.
2. Nordic TSOs delegate the following tasks to Nordic RSC:
  - a. Performing regional adequacy assessment;
  - b. Detecting absence of adequacy and proposing solutions to mitigate/solve adequacy issues;
  - c. Develop and provide reports on adequacy assessment results;
  - d. Facilitating regional adequacy assessment coordination process;
  - e. Coordination with RSCs of other CCRs.

## **Title 4**

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

## **Article 30**

### **Impact Assessment**

1. Nordic ROSC Methodology contributes to and does not in any way hinder the achievement of the objectives of article 4 of SO Regulation. In particular, Nordic ROSC Methodology serves the objectives to (1)(a) determining common operational security requirements and principles, 1(b) determining common interconnected system operational planning principles, (1)(d) ensuring the conditions for maintaining operational security throughout the Union (and Norway), (1)(f) promoting the coordination of system operation and operational planning, (1)(g) ensuring and enhancing the transparency and reliability of information on transmission system operation and (1)(h) contributing to the efficient operation and development of the electricity transmission system and electricity sector in the Union (and Norway). Nordic ROSC Methodology contributes to these objectives by specifying common provisions for regional operational security coordination and the organisation of regional operational security coordination.

### **Article 31**

#### **Timescale for implementation**

1. After approval of Nordic ROSC Methodology, and unless differently stipulated in the previous articles or in the following paragraphs of this article, Nordic TSOs and Nordic RSC shall implement the requirements set forth in Nordic ROSC Methodology by 12 months after its approval.
2. In accordance with article 46(5) of CSAM, Nordic TSOs and Nordic RSC shall implement the requirements set forth in Nordic ROSC Methodology concerning cross-regional operational security coordination six months after the requirements have been implemented in accordance with Article 31(1) of NROSC.
3. Nordic TSOs and Nordic RSC shall implement the requirements set forth in Article 6 of NROSC by 18 months after approval of Nordic ROSC Methodology.

## **Title 5**

### **Final provisions**

#### **Article 32**

##### **Publication of Nordic ROSC Methodology**

1. Upon approval of this Nordic ROSC Methodology, Nordic TSOs shall publish it on the internet in accordance with Article 8(1) of SO Regulation.

#### **Article 33**

##### **Language**

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