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# 1 Introduction

## 1.1 Interaction with other agreements

This Annex is part of the System Operation Agreement. This Annex makes references to the requirements set up in:

- Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation (hereinafter referred to as "FCA"); FCA
- Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereinafter referred to as "SOGL"); SOGL
- "Cooperation Agreement regarding Regional Security Coordination in the Nordic region, Nordic RSC" (hereinafter referred to as "Nordic RSC Agreement");
- Multilateral Agreement on Participation in Regional Security Coordination Initiatives" (hereinafter referred to as "MLA");
- All TSOs' of the Nordic Capacity Calculation Region proposal for capacity calculation methodology in accordance with Article 10(1) of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation;
- The Danish TSO, Energinet's, proposal for the Nordic Capacity Calculation Region methodology for splitting long-term cross-zonal capacity in accordance with Article 16 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation.

## 1.2 Background

The guideline on Forward Capacity Allocation (hereinafter referred to as "FCA") lays down detailed rules on cross-zonal capacity allocation in the forward markets, on the establishment of a common methodology to determine long-term cross-zonal capacity, on the establishment of a single allocation platform at European level offering long-term transmission rights, and on the possibility to return long-term transmission rights for subsequent forward capacity allocation or transfer long-term transmission rights between market participants.

In this Annex the Nordic TSOs agree upon the main principles and requirements for ensuring a coordinated preparation of system operation of the Nordic TSO's transmission systems.

## 1.3 This Annex

This Annex shall be considered in addition to the principles, requirements and conditions included in the FCA. FCA

The Annex is also in addition to the methodologies that have been approved by the NRAs in accordance with articles 4(6) and 4(7) of FCA. This Annex includes references to these methodologies. Where NRAs approved an implementation date in future, this Annex describes the existing situation.

FCA 4(6)  
FCA 4(7)

The Nordic TSOs anticipate regular updates in order to keep the agreements and methodologies in this Annex up-to-date. Consequently, this Annex includes mainly the agreements between the Nordic TSOs related to the existing situation. Changes shall be first approved by all Nordic TSOs, before the change will be implemented in the SOA at the latest when the change enters into force. The SOA maintenance group will follow the change agreed.

## 1.4 Geographic area

The geographical area to which the SOA/FCA annex applies is the Nordic Capacity Calculation Region (hereafter referred to as "Nordic CCR"). Chapter 2.1.2 of CACM Annex shall apply accordingly.

## 1.5 Structure

This Annex addresses the following topics:

- Chapter 2: Forward capacity calculation
  - Chapter 2.1: Capacity calculation methodology;
  - Chapter 2.2: Splitting long-term cross-zonal capacity;
  - Chapter 2.3: Common grid model;
  - Chapter 2.4: Capacity calculation process.

## 1.6 Definitions

For the purpose of this Annex, the terms used shall have the meaning of the definitions included in article 2 of CACM, article 2 of FCA and the other items of legislation referenced therein.

# 2 Forward capacity calculation

## 2.1 Capacity calculation methodology

### 2.1.1 Objective

Long-term capacity calculation for the year- and month-ahead market time frames should be coordinated by the transmission system operators (hereinafter referred to as "TSOs") at least at regional level to ensure that capacity calculation is reliable, and that optimal capacity is made available to the market.

FCA  
Whereas (4)

### 2.1.2 Roles & Responsibilities

The roles and responsibilities are defined in the Nordic RSC Agreement, Appendix 2: Service Level Agreement Joint Office.

### 2.1.3 Rules & Methodologies

The TSOs agree that the document "*All TSOs' of the Nordic Capacity Calculation Region proposal for the long-term capacity calculation methodology in accordance with Article 10(1) of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation*" that has been submitted to NRAs on 16 January 2019 and that has been approved by all NRAs according to Article 4(7)(a) of FCA on 30 October 2019, is accepted by all TSOs.

FCA 10

### 2.1.4 Operational Procedures

The operational procedures are defined in the Nordic RSC Agreement, Appendix 2: Service Level Agreement Joint Office.

## 2.2 Splitting long-term cross-zonal capacity

### 2.2.1 Objective

At border DK1 – DK2, splitting of long-term cross-zonal capacity is applied. FCA requires the development and submission of a methodology for splitting long-term cross-zonal capacity. The methodology is only applied by Energinet.

### 2.2.2 Rules & Methodologies

The TSOs agree that the document "*The Danish TSO, Energinet's, proposal for the Nordic Capacity Calculation Region methodology for splitting long-term cross-zonal capacity in accordance with Article 16 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation*" that has been submitted to Danish NRA on 16 January 2019 and that is subject to approval according to Article 4(7)(b) of FCA, is acknowledged by the other TSOs.

FCA 16

## 2.3 Common grid model

### 2.3.1 Objective

A common grid model for long-term capacity calculation purposes representing the European interconnected system should be established to calculate cross-zonal capacity in a coordinated way. The common grid model should include a model of the transmission system with the location of generation units and loads relevant to calculating cross-zonal capacity. The provision of accurate and timely information by each TSO is essential to the creation of the common grid model.

CACM  
Whereas (8)

Each TSO should be required to prepare an individual grid model of its system and send it to TSOs responsible for merging them into a common grid model. The individual grid models should include information from generation and load units.

CACM  
Whereas (9)

Nordic TSOs have delegated the task of building the Nordic common grid model to Nordic RSC.

### 2.3.2 Roles & Responsibilities

The roles and responsibilities are described in the MLA. The detailed roles and responsibilities are described in Nordic RSC Agreement, Appendix 2.

### 2.3.3 Rules & Methodologies

The TSOs agree that the document *"All TSOs' proposal for a generation and load data provision methodology in accordance with Article 17 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation"* (hereinafter referred to as "GLDPM Proposal") that has been approved according to Article 4(6)(a) of FCA on 1 March 2018 by all NRAs, is accepted by all TSOs.

FCA 17

The Parties agree that the document *"All TSOs' proposal for a common grid model methodology in accordance with Article 18 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation"* (hereinafter referred to as "CGM Proposal") that has been approved according to Article 4(6)(b) of FCA on 2 July 2018 by all NRAs, is accepted by all TSOs.

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### 2.3.4 Operational Procedures

The operational procedures are described in the MLA. The detailed operational procedures are described in Nordic RSC Agreement, Appendix 2.

## 2.4 Capacity calculation process

### 2.4.1 Objective

The process of merging the individual grid models established in accordance with Article 27 of CACM shall apply when merging the individual grid models into a common grid model for each long-term time frame. TSOs shall jointly develop operational rules for long-term capacity calculation time frames supplementing the rules defined for the operation to merge the individual grid models.

FCA 21(1)

The coordinated capacity calculator shall calculate long-term cross-zonal capacities for their capacity calculation region. TSOs shall jointly develop operational rules for long-term capacity calculation time frames supplementing

FCA 21(2)

the rules defined for the operation of the coordinated capacity calculators pursuant to Article 27 of CACM.

#### 2.4.2 Roles & Responsibilities

The high-level concept is described in the MLA. The detailed concept is described in the Nordic RSC Agreement, Appendix 2.

Each TSO shall validate the results of the calculation for long-term cross-zonal capacity on its bidding zone borders or critical network elements for each long-term capacity calculation time frame. Each TSO shall validate the results of the calculation for splitting of long-term cross-zonal capacity on its bidding zone borders or critical network elements. Each TSO shall send its capacity validation and validated splitting of this capacity for each forward capacity allocation to the relevant coordinated capacity calculators and to the other TSOs. Coordinated capacity calculator shall provide validated splitting of long-term cross-zonal capacity.

FCA 24

TSOs shall coordinate curtailments of already allocated long-term cross-zonal capacity, if the curtailments concern a time frame of more than 48 hours ahead of the start of the delivery day. If a TSO needs to curtail already allocated long-term cross-zonal capacity, it shall send a request to the responsible coordinated capacity calculator to launch the coordinated calculation of necessary curtailments of long-term cross-zonal capacity for the capacity calculation region. The TSO shall support its request with all relevant information. The coordinated capacity calculator shall provide the updated cross-zonal capacity to the relevant TSOs for validation. Each TSO shall validate the updated cross-zonal capacity on its bidding zone borders or critical network elements. The coordinated capacity calculator shall provide the validated updated cross-zonal capacity to the relevant TSOs and single allocation platform to perform curtailment.

FCA 25

#### 2.4.3 Operational Procedures

The operational procedures are described in the MLA. The detailed operational procedures are described in Nordic RSC Agreement, Appendix 2.