

# Nordic System Operation Agreement (SOA) – Operational Procedure for Nordic Adequacy Assessment

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# 1 Background

This document is the common operational procedure for Nordic adequacy assessment within Nordic adequacy coordination region (hereafter referred to as “Nordic ACR” as defined in chapter 5.2 of OP Annex) in accordance with article 81 of SOGL.

## 2 Objective

Adequacy assessment will be performed in different time frames (day-ahead to week-ahead (D-1 to D-7) and the period between week-ahead and seasonal outlook)<sup>1</sup> and within defined adequacy coordination regions.

Nordic adequacy assessment will be performed at cross-regional level and at Nordic level within Nordic ACR. The cross-regional adequacy assessment will be performed on a rotating principle by RCCs including Nordic RCC. The Nordic adequacy assessment will be performed by Nordic TSOs in cooperation with Nordic RCC.

Nordic TSOs perform, with support of Nordic RCC, Nordic adequacy assessment within Nordic ACR in order to monitor the level of adequacy and coordinate necessary actions in case of absence of adequacy to ensure transmission capacity and operational security of the Nordic transmission system.

All TSOs agree to perform the week-ahead Nordic adequacy assessment on a daily basis for the next seven days. The adequacy assessment shall be performed on day D for D-1 to D-7.

All TSOs agree to develop a procedure for the time period between week-ahead and seasonal outlook at a later stage.<sup>2</sup>

## 3 Roles and Responsibilities

Several roles are involved in the Nordic adequacy assessment. Nordic TSOs are the main stakeholders of the adequacy assessment. Nordic RCC supports the Nordic adequacy assessment of the Nordic TSOs.

The roles and responsibilities of Nordic TSOs and Nordic RCC are described in more detail below.

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<sup>1</sup> According Multilateral Agreement, adequacy assessment will start with week-ahead (phase 1), day-ahead (phase 2) and period between week-ahead and seasonal outlook (phase 3)

<sup>2</sup> The time period between week-ahead and seasonal outlook is obligatory according Multilateral Agreement.

## 3.1 Nordic TSOs

Nordic TSOs operate the transmission systems and are responsible for the security of supply within their control area. All Nordic TSOs participate in the Nordic adequacy assessment of Nordic ACR and apply this Operational Procedure for Nordic Adequacy Assessment.

The main responsibilities of the Nordic TSOs in the Nordic adequacy assessment are the following:

- Provide necessary data to Nordic RCC for Nordic adequacy assessment;
- Update input data in case of significantly expected changes of the adequacy;
- Check and validate results and solutions proposed by Nordic RCC;
- Assess the probability and expected duration of an absence of adequacy and the expected energy not supplied or excess of energy as a result of such absence;
- Inform all relevant stakeholders in case of absence of adequacy.

## 3.2 Nordic RCC

Nordic RCC supports Nordic TSOs in Nordic adequacy assessment within Nordic ACR.

The main responsibilities of Nordic RCC in Nordic adequacy assessment are the following:

- Perform quality check and validate Nordic TSOs input data;
- Gather data sets from Nordic TSOs and generate a common data set;
- Support Nordic TSOs in Nordic adequacy assessment in accordance with this Operational Procedure for Nordic Adequacy Assessment;
- Detect absence of adequacy and propose solutions to Nordic TSOs to mitigate/solve adequacy issues;
- Provide Nordic TSOs with results of the Nordic adequacy assessment;
- When acting as Adequacy Alignment Agent (hereafter referred to as “AAA”)<sup>3</sup>, perform cross-regional adequacy assessment;
- When acting as AAA, provide Nordic TSOs and other RCCs with results of the cross-regional adequacy assessment;
- Develop and provide reports on adequacy assessment results.

# 4 Adequacy Assessment Coordination

## 4.1 Provision of input data

Unless otherwise agreed, each TSO shall provide input data for cross-regional adequacy assessment to ENTSO-E Operational Planning Data Environment (OPDE).

Each TSO shall provide input data for Nordic adequacy assessment directly to Nordic RCC according agreed principles for secure information exchange.

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<sup>3</sup> A reference to the role “AAA” is provided in the document “Coordinated Week-Ahead Adequacy Assessment – Short Term Adequacy (STA)”

## 4.2 Validation of input data

Nordic RCC shall validate the input data provided by TSOs. Nordic RCC shall submit the results of the data validation to each TSO and, if necessary, shall propose solutions to improve input data quality. Each TSO shall verify the validation results and, if necessary, shall provide an update of the input data to Nordic RCC.

If necessary, each TSO shall submit an update of the input data to OPDE after validation procedure between Nordic TSOs and Nordic RCC has been accomplished.

## 4.3 Cross-Regional adequacy assessment

The cross-regional adequacy assessment will be performed by RCCs including Nordic RCC on a rotating principle. When acting as AAA, Nordic RCC shall provide the service on cross-regional adequacy assessment to the other RCCs and other TSOs.

The cross-regional adequacy assessment will be performed as a coordination process amongst all participating RCCs. The results of the cross-regional adequacy assessment will be documented by the AAA and the report will be provided to other RCCs and other TSOs.

All TSOs in cooperation with Nordic RCC shall assess the results of the cross-regional adequacy assessment results provided by the AAA. If necessary, each TSO shall submit an update of the input data to OPDE.

All TSOs and Nordic RCC shall consider the results of the cross-regional adequacy assessment in the Nordic adequacy assessment.

## 4.4 Nordic adequacy assessment

### 4.4.1 Principles of Nordic adequacy assessment

All TSOs agree to perform the week-ahead Nordic adequacy assessment on a daily basis for the next seven days. The Nordic adequacy assessment shall be performed on day D for D-1 to D-7.

### 4.4.2 Provision of input data

Nordic RCC shall consider the latest available input data provided by each TSO and the results of the cross-regional adequacy assessment in Nordic adequacy assessment.

### 4.4.3 Nordic adequacy assessment

Nordic RCC in cooperation with TSOs shall perform Nordic adequacy assessment within Nordic ACR in order to detect any absence of adequacy.

Nordic RCC shall share the results of the Nordic adequacy assessment with the TSOs and shall propose remedial actions to the TSOs to mitigate/resolve absence of adequacy.

Each TSO shall assess the preliminary results of the initial Nordic adequacy assessment provided by Nordic RCC and proposals for mitigation/resolving of absence of adequacy.

All TSOs and Nordic RCC shall coordinate the remedial actions to mitigate/resolve the detected absence of adequacy. If necessary, each TSO shall submit updated input data considering proposed remedial actions by Nordic RCC.

If necessary, Nordic RCC shall repeat Nordic adequacy assessment based on updated input data in order to determine whether any absence of adequacy remains. In case no absence of adequacy remains or in case each TSO confirms that assessment results are acceptable and manageable in real-time operation, Nordic RCC shall inform all TSOs about final status of their adequacy status.

If absence of adequacy in Nordic ACR still remains Nordic RCC shall coordinate with RCCs of other ACRs and determine appropriate solutions to mitigate/resolve absence of adequacy in Nordic ACR. Nordic RCC shall coordinate with Nordic TSOs in case an RCC of another ACR requests support for mitigation/resolving of absence of adequacy in that ACR.

All TSOs shall analyse and validate the results of the RCC coordination on Nordic adequacy assessment, including the proposals provided by the Nordic RCC.

If necessary, Nordic RCC in cooperation with all TSOs shall perform Nordic adequacy assessment until no absence of adequacy is detected or absence of adequacy is acceptable and manageable for concerned TSO in real-time. If absence of adequacy remains unsolved, the concerned TSOs in coordination with Nordic RCC shall trigger the critical grid situation procedure. Nordic RCC shall provide the results of the Nordic adequacy assessment to all TSOs. Each TSO shall assess the results of Nordic adequacy assessment and shall confirm the final proposals to mitigate/resolve absence of adequacy.

All TSOs shall define specific operational procedures and routines for the week-ahead Nordic adequacy assessment considering the operational procedure "Coordinated Week-Ahead Adequacy Assessment – Short Term Adequacy (STA)".

#### 4.4.4 Reporting

Nordic RCC shall prepare the report on Nordic adequacy assessment results and provide it to all TSOs.

Each TSO shall confirm the report. Nordic RCC shall submit the report on Nordic adequacy assessment results to OPDE.