DSO ENTITY
DSOs FOR EUROPE

European Network of Transmission System Operators for Electricity

entsoe

PROVISIONAL ELECTRICITY CYBERSECURITY IMPACT INDEX (ECII)

Provisional Electricity Cybersecurity Impact Index by ENTSO for Electricity in cooperation with the EU DSO entity in accordance with Article 48 (2) of the Commission Regulation (EU) 2024/1366 of 11 March 2024 establishing a network code for cybersecurity aspects of cross-border electricity flows

ENTSO-E asbl | Rue de Spa, 8 | 1000 Brussels | info@entsoe.eu | www.entsoe.eu | @entso_e
DSO Entity | Rue du Luxembourg, 3 | 1000 Brussels | info@eudsoentity.eu | www.eudsoentity.eu |

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Introduction

This document provides provisional Electricity Cybersecurity Impact Index (ECII). According to Article 48(2) of the Commission Delegated Regulation (EU) 2024/1366 of 11 March 2024 supplementing Regulation (EU) 2019/943 of the European Parliament and of the Council by establishing a network code on sector-specific rules for cybersecurity aspects of cross-border electricity flows (OJ L, 2024/1366, 24.5.2024), hereinafter referred to as the 'NCCS regulation', ENTSO-E in cooperation with the EU DSO entity shall develop a recommendation for such provisional ECII and notify them to the competent authorities.

The competent authorities shall then use the provisional ECII to identify and notify candidates for high-impact and critical-impact entities (Article 48(3) of the NCCS regulation). These candidate high-impact and critical-impact entities may voluntarily fulfil the obligations in the NCCS regulation.

This document defines provisional ECII for processes and entities together with provisional high-impact and critical-impact thresholds. The provisional ECII and thresholds are a recommendation to the competent authorities. They are not legally binding.

As part of the Union-wide risk assessment, ENTSO-E in cooperation with the EU DSO entity shall develop a proposal for the (non-provisional) ECII (Article 19(3)(b) of the NCCS regulation). The ECII from the Union-wide risk assessment will replace the provisional ECII in this document when they have been approved.

Definitions

For the purposes of this document, the terms used shall have the meaning given to them in Article 3 of the NCCS regulation, Article 6 of the Directive (EU) 2022/2555 of 14 December 2022 on measures for a high common level of cybersecurity across the Union ('NIS 2 Directive'), Article 2 of the Regulation (EU) 2019/941 of the European Parliament and of Council of 5 June 2019 on risk-preparedness in the electricity sector and repealing Directive 2005/89/ ('Risk Preparedness Regulation'); and Article 2 of the Regulation (EU) 2019/943 of the European Parliament and of Council of 5 June 2019 on the Internal Market for Electricity (recast) ('Electricity Regulation').

The following definitions also apply:

(a) 'total load', including losses without power used for energy storage, means a load equal to generation and any imports deducting any exports and power used for energy storage as defined in Article 2(27) of

Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (OJ L 158, 14.6.2019, p. 54–124), hereinafter the 'Electricity Regulation;

(b) 'DSO load' is the sum, at a given moment, of the powers measured on all the primary substations operated by the DSO;

(c) 'aggregated generation output' means the aggregated generation output per market time unit over all production types as calculated for Article 16(1)(b) of Regulation (EU) 543/2013;

(d) 'previous year' the last calendar year before the identification of the high-impact and critical-impact entities by the competent authorities pursuant Article 48(3) of the NCCS regulation;

(e) 'maximum capacity' or 'Pmax' means the maximum continuous active power which a power-generating module can produce, less any demand associated solely with facilitating the operation of that power-generating module and not fed into the network as specified in the connection agreement or as agreed between the relevant system operator and the power-generating facility owner as defined in Article 2 (16) of Regulation (EU) 2016/631.

Provisional ECII for developing the provisional list of high- and critical-impact entities

When the competent authorities develop a provisional list of high-impact and critical-impact entities according to Article 48(3) of the NCCS regulation, it is recommended that they use the provisional ECII in Table 1. For each entity type identified in the provisional list of high-impact and critical-impact processes, the competent authorities should determine the value of the provisional ECII in Table 1. They should then compare this value with the provisional thresholds in Table 2 to identify the provisional list of high-impact and critical-impact entities.

Table 1: Provisional ECII for entities. All ECII are measured in megawatt (MW).

Type of entity	ECII
Distribution system operators	The maximum DSO load over the previous year
Transmission system operators	The highest of the following values: • the maximum total load over the previous year; • the maximum aggregated generation output over the previous year; • the maximum imports over the previous year; • the maximum exports over the previous year.
Producers	The sum of the maximum capacity of all generating units operated by the entity at the end of the previous year (in MW).
Aggregator	The highest of the following values: • the maximum power used by customers of the aggregator over the previous year that is aggregated by the aggregator;

	• the sum of the maximum capacity of all generating units aggregated by the aggregator at the end of the previous year.
Nominated electricity market operators ('NEMOs')	The maximum amount of power traded on the market over the previous year.
Organised markets	The maximum amount of power traded on the market over the previous year.
Balance responsible party	The highest of the following values: • the maximum power used by the party over the previous year; • the sum of the maximum capacity of all generating units operated by the party at the end of the previous year.
Operator of recharging points	Total charging capacity of all recharging points operated by the entity at the end of the previous year.

When an entity delegates responsibilities to another entity or outsources responsibilities to a critical ICT service provider, the latter should be classified according to the highest classification of the business processes delegated or outsourced to it.

No provisional ECII are defined for managed security service providers, Regional Coordination Centres (RCCs), ENTSO-E, and the EU DSO entity.

If data from the previous year is not available yet to calculate the ECII, competent authorities may instead use data from the year before the last year.

Using the provisional ECII for identifying high- and critical-impact processes within an entity

If high-impact and critical-impact entities identified in the provisional list want to voluntarily fulfil their obligations as laid down in the NCCS regulation following Article 48(3) of the NCCS regulation, they need to determine their high- and critical-impact perimeters following the steps in Article 26(4)(c) of the NCCS regulation. In particular, according to Article 26(4)(c), they should perform a business impact assessment for each business process supporting the processes on the transitional list of Union-wide high-impact and critical-impact processes.

For the business impact assessment, it is recommended that entities use the provisional ECII in **Table 1**. When performing the business impact assessment for business processes, entities should evaluate the ECII by only considering the portion of the power measured by the ECII that:

- can be controlled by the process if the process directly controls the power, or;
- can be affected by a cyber-attack on the process in if the process does not directly control the power. In this case, entities should consider the worst-case scenario, in which the cyber-attack successfully bypasses the preventive measures that were taken and fully compromises the confidentiality, integrity, and availability of data used by the process.

In addition to the provisional ECII in **Table 1**, it is recommended that TSOs directly apply the impact metrics that will be defined in the risk assessment methodologies to the processes related to:

- Frequency management
- Voltage management
- Managing frequency reserves
- Black start capabilities[1]

If the possible consequences of a cyber-attack on such a process are estimated as high or critical using these impact metrics, the process should be considered high-impact or critical-impact respectively.

High-impact and critical-impact thresholds

Provisional thresholds for identifying high-impact and critical-impact processes are given in **Table 2**. The same thresholds apply to entities and processes.

Table 2: Provisional thresholds.

Member state	High-impact threshold	Critical-impact threshold
Austria	500 MW	3,000 MW
Belgium	1,500 MW	3,000 MW
Bulgaria	250 MW	3,000 MW
Croatia	250 MW	3,000 MW
Cyprus	250 MW	800 MW
Czech Republic	500 MW	3,000 MW
Denmark	1,000 MW	3,000 MW
Estonia	500 MW	900 MW
Finland	1,500 MW	3,000 MW
France	1,500 MW	3,000 MW
Germany	1,500 MW	3,000 MW
Greece	500 MW	3,000 MW
Hungary	500 MW	3,000 MW
Ireland	500 MW	700 MW
Italy	1,500 MW	3,000 MW
Latvia	500 MW	900 MW

[1] See Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration (OJ L 312, 28.11.2017, p. 54–85) for the definition of this capability.

Lithuania	500 MW	900 MW
Luxembourg	1,500 MW	3,000 MW
Malta	250 MW	250 MW
Netherlands	1,500 MW	3,000 MW
Poland	1,000 MW	3,000 MW
Portugal	250 MW	3,000 MW
Romania	1,000 MW	3,000 MW
Slovakia	500 MW	3,000 MW
Slovenia	1,000 MW	3,000 MW
Spain	1,000 MW	3,000 MW
Sweden	1,500 MW	3,000 MW