

**ENTSO-E Proposal for Regional
Coordination Centre Post-
Operation and Post-Disturbances
Analysis and Reporting
Methodology in accordance with
Article 37 (1) (i) of the Regulation
(EU) 2019/943 of the European
Parliament and of the Council of 5
June 2019 on the internal market
for electricity**

- 3 January 2022

Implementation date: See Article 10

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ENTSO-E, taking into account the following,

Whereas

1. The Regulation (EU) 2019/943 on the internal market for electricity adopted by the European Union and of the Council of 5 June 2019 (hereafter referred to as “Regulation”¹. The Regulation was developed and adopted as part of the European Union’s Clean Energy Package for All Europeans.
2. Article 35 of this Regulation establishes regional coordination centres (RCCs) while Article 37 enlists the RCCs tasks and their roles. Article 37(i), mandates the RCCs to carry out post-operation and post-disturbances analysis and reporting while Annex I of the Regulation provides further details:
 - i. “6.1 Regional coordination centres shall investigate and prepare a report on any incident above the threshold referred to in point 4.2² (of Annex I in Regulation (EU) 2019/943). The regulatory authorities in the system operation region and ACER may be involved in the investigation upon their request. The report shall contain recommendations aiming to prevent similar incidents in future.
 - ii. 6.2 Regional coordination centres shall publish the report. ACER may issue recommendations aiming to prevent similar incidents in future.”
3. This document is a methodology developed by the European Network of Transmission System Operators for Electricity (ENTSO-E), with consultations from RCCs, in accordance with the Regulation (EU) 2019/943 and in particular, Article 37 (1) (i) and (5) on the obligation of the RCCs to carry out post-operation and post-disturbances analysis and reporting. It provides definitions, describes the RCC Investigation, defines the RCC investigation threshold, explains the data collection process, prescribes the work of the Expert Panel and guides the RCCs in the process of preparation of the post-disturbances report. This document is hereafter referred to as the ‘methodology’.
4. The ENTSO-E’s methodology on the “Incident Classification Scale (ICS)” approved by ENTSO-E System Operations Committee on 04 December 2019³ was used to support the development of the Regional Coordination Centre Post-Operation and Post-Disturbances Analysis and Reporting Methodology.
5. This methodology is subject to public consultation and ACER approval according to Article 27 of the Regulation (EU) 2019/943.
6. According to the Regulation (EU) 2019/943 on the internal market for electricity adopted by the European Union and of the Council of 5 June 2019, Article 42(3) the RCCs shall issue recommendations to the transmission system operators in relation to the tasks listed in points (c) to (p) of Article 37(1) or assigned in accordance with Article 37(2). Where a transmission system operator decides to deviate from a recommendation as referred to in paragraph 1, it shall submit a justification for its decision to regional

¹ European Union (2019), Regulation (EU) 2019/943 on the internal market for electricity adopted by the European Union and of the Council of 5 June 2019, Brussels, Belgium <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0943>.

² All transmission system operators shall agree on a threshold above which the impact of actions of one or more transmission system operators in the emergency, blackout or restoration states is considered significant for other transmission system operators synchronously or non-synchronously interconnected

³ ENTSO-E (2019), Incidents Classification Scale, Brussels, Belgium [https://eepublicdownloads.entsoe.eu/clean-documents/SOC%20documents/Incident Classification Scale/200629 Incident Classification Scale Methodology revised and in use as of 2020.pdf](https://eepublicdownloads.entsoe.eu/clean-documents/SOC%20documents/Incident%20Classification%20Scale/200629%20Incident%20Classification%20Scale%20Methodology%20revised%20and%20in%20use%20as%20of%202020.pdf).

coordination centres and to the other transmission system operators of the system operation region without undue delay.⁴

7. Non-European Union countries (Third-countries), their Transmission System Operators (TSOs) and Regional Coordination Centres (RCCs) are not legally mandated to abide with processes described by this methodology however they are invited to follow it together by the EU Member States.

⁴ European Union (2019), Regulation (EU) 2019/943 on the internal market for electricity adopted by the European Union and of the Council of 5 June 2019, Brussels, Belgium <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0943>.

Title 1 Definitions and provisions

Article 1 Definitions and interpretation

1. For the purpose of this document, the definitions included in the Article 3 of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation shall apply.
2. Additionally, the following abbreviations and definitions shall apply to this methodology:
 - a. “ACER” refers to European Agency for the Cooperation of Energy Regulators
 - b. “EAS” refers to ENTSO-E Awareness System
 - c. “ENTSO-E” refers to European Network of Transmission System Operators for Electricity
 - d. “ICS” means Incident Classification Scale
 - e. “ICS Methodology” refers to the ENTSO-E Incident Classification Scale Methodology⁵.
 - f. “ICS Subgroup” refers to the group that is responsible for building and maintaining the ICS Methodology within the ENTSO-E. This group is responsible for the Incident Classification Scale (ICS) data.
 - g. “ICS Expert Panel” refers to the Expert Panel that conducts the investigation on scale 2 and scale 3 incidents as described in the ICS Methodology⁶.
 - h. “Factual Report” refers to a report produced by the ICS Expert Panel. The report is produced latest 6 months after the end of the incident, and provides factual basis for the final report⁷;
 - i. “Final Report” refers to a report produced by the ICS Expert Panel which contains results of the investigation of the scale 2 or scale 3 incident⁸.
 - j. “RCC Investigation Threshold” means threshold, assessed for at least scale 2 incidents as defined by the ICSM, that is defined as being exceeded if as a result of certain actions taken by a transmission system operator (TSO) being in Emergency, Blackout or Restoration system state, another TSO has moved from Normal or Alert System State to Emergency System State (see article 5).
 - k. “RCC Investigation” means post-operation and post-disturbances analysis performed by the Regional Coordination Centres (RCCs), that is a sub-procedure of the ICS Expert Panel, as described in Title 2 of this document.

⁵ ENTSO-E (2019), Incidents Classification Scale, Brussels, Belgium [https://eepublicdownloads.entsoe.eu/clean-documents/SOC%20documents/Incident Classification Scale/200629 Incident Classification Scale Methodology revised and in use as of 2020.pdf](https://eepublicdownloads.entsoe.eu/clean-documents/SOC%20documents/Incident%20Classification%20Scale/200629%20Incident%20Classification%20Scale%20Methodology%20revised%20and%20in%20use%20as%20of%202020.pdf).

⁶ Chapter 6.2 of ENTSO-E (2019), Incidents Classification Scale, Brussels, Belgium [https://eepublicdownloads.entsoe.eu/clean-documents/SOC%20documents/Incident Classification Scale/200629 Incident Classification Scale Methodology revised and in use as of 2020.pdf](https://eepublicdownloads.entsoe.eu/clean-documents/SOC%20documents/Incident%20Classification%20Scale/200629%20Incident%20Classification%20Scale%20Methodology%20revised%20and%20in%20use%20as%20of%202020.pdf).

⁷ Chapter 6.3 of ENTSO-E (2019), Incidents Classification Scale, Brussels, Belgium [https://eepublicdownloads.entsoe.eu/clean-documents/SOC%20documents/Incident Classification Scale/200629 Incident Classification Scale Methodology revised and in use as of 2020.pdf](https://eepublicdownloads.entsoe.eu/clean-documents/SOC%20documents/Incident%20Classification%20Scale/200629%20Incident%20Classification%20Scale%20Methodology%20revised%20and%20in%20use%20as%20of%202020.pdf).

⁸ Ibid.

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- l. “RCC Investigation Subgroup” refers to a subgroup created within the ICS Expert Panel once the RCC Investigation Threshold is confirmed.
 - m. “NRA” refers to National Regulatory Authority.
 - n. “RCC” refers to Regional Coordination Centres.
 - o. “RCC investigation member” refers to a member nominated by each RCC to participate in the RCC Investigation and all related discussions with the ICS Expert Panel (herein after referred to as “RCC member”).
 - p. “TSO” refers to Transmission system operator.

Article 2 Subject matter and scope

- 1. This methodology establishes the process to carry out a post-operation and post-disturbances analysis and reporting performed by the Regional Coordination Centres (RCCs).
- 2. The investigation process for incidents on scale 2 and scale 3 is described in the ICS Methodology and performed by the ICS Expert Panel. The RCCs’ process to carry out the post-operation and post-disturbances analysis and reporting uses the existing Expert Panel of the ICS regarding the post-operation and post-disturbance analysis. An RCC Investigation Subgroup is created within the ICS Expert Panel, in case the RCC Investigation Threshold is met.

Title 2

RCC members and incident reporting

Article 3 RCC investigation member

1. Each RCC shall nominate a main and a backup RCC member responsible to participate in the RCC investigation with the ICS Subgroup and the ICS Expert Panel.
2. RCCs shall nominate RCC members within one week after the incident occurred and before classification of the incident.
3. The RCCs shall inform the ENTSO-E ICS Subgroup on their appointed members and share their contact details via email.
4. The RCC members shall analyse and assess, with the ICS Subgroup, if the RCC Investigation Threshold was met for that incident (see Article 4).

Article 4 Incident reporting and the RCC Investigation Threshold validation

1. TSOs shall report all incidents that are suspected to be classified as scale 2 incidents in accordance with the ICS Methodology, by using the ICS reporting process as prescribed in the ICS Methodology.
2. If a reported incident affects two or more TSOs, the ICS Subgroup shall classify the incident according to the ICS Methodology and invite all RCCs members to verify whether the RCC Investigation Threshold was met. The ICS Subgroup shall send an email to the RCC members with an invitation to participate in a meeting where this is discussed.
3. The ICS Subgroup and the RCCs members shall assess whether the RCC Investigation Threshold was met using the initial available data. This initial data will be updated with a more recent and accurate data, to the extent available, during the ICS Expert Panel meetings.
4. If, based on the initial data, it is confirmed that the RCC Investigation Threshold was met, at least one representative from the RCCs shall participate in the ICS Expert Panel meetings for the applicable incident under investigation. The participating RCC(s) will represent all RCCs in the Expert Panel. The ICS Expert Panel shall include at least one RCC member from the RCC whose region was not affected by the incident.
5. In the factual report of the ICS Expert Panel, a final decision is made whether the RCC Investigation Threshold was met.

Title 3 Relevant incidents and data collection

Article 5 Incidents that classify for the RCC Investigation Threshold

1. The incident classifies as meeting the RCC Investigation Threshold if following criteria are met:
 - a. As a result of actions taken by a TSO being in Emergency, Blackout or Restoration system state, another TSO has moved from Normal or Alert System State to Emergency System State; and
 - b. At least scale 2 incident as defined by the ICS Methodology has been confirmed.
2. The occurrence of the “Emergency states”, shall be re-assessed and validated by the ICS Expert Panel in the ICS factual report. This assessment is necessary to validate if the RCC Investigation Threshold was met.
3. The EAS shall remain an operational tool, that is created to inform other TSOs about the system states. The ICS Expert Panel shall validate whether the incident is relevant for the RCC investigation by performing post-analysis. During the post-analysis the ICS Expert Panel will determine the factual system states for the relevant control areas during the incident.
4. The RCC Investigation Threshold shall be confirmed in the ICS factual report, where the incident data and sequence of events is analysed.

Article 6 Data Collection

1. The RCC Investigation Subgroup, once it is established within the ICS Expert Panel, shall use data gathered by the ICS Expert Panel.
2. The RCC Subgroup shall define what additional data is necessary for each investigation, which can only be related to the RCCs’ tasks, which are indicated in the Article 37 or Annex I of the Regulation 2019/943.
3. Data requested shall be specific for each incident.
4. Collection of additional data required for the RCC investigation is gathered by the RCC Investigation Subgroup.
5. The additional data required from the RCCs and TSOs is gathered through a questionnaire provided by the RCC Investigation Subgroup. The questionnaire is distributed by the RCC Investigation Subgroup through the ICS Expert Panel.
6. The additional data required by the RCC Investigation Subgroup shall be provided by the requested parties (RCC and TSOs) as soon as possible and ultimately within 14 calendar days, unless if gathering the additional data would require more time. Extended deadline has to be decided and announced via email by the RCC Investigation Subgroup.

Title 4

RCC investigation, results and reporting

Article 7 Investigation handling

1. If reaching the RCC Investigation Threshold is confirmed in the factual report, a subgroup of the ICS Expert Panel called “RCC Investigation Subgroup” shall be created consisting of impacted RCCs and a neutral RCC that is not impacted by the incident. The neutral RCC shall lead the RCC Investigation Subgroup.
2. The regulatory authorities in the system operation region and ACER may be involved in the investigation upon their request.
3. The ICS Expert Panel shall appoint a TSO representative that will participate to the RCC Investigation Subgroup.
4. The RCC Investigation Subgroup of the ICS Expert Panel shall investigate further the incident as per RCCs’ tasks in accordance with the Article 37 and Annex I of the Regulation 2019/943⁹.
5. RCC Investigation Subgroup shall meet regularly to analyse the incident related to the RCC tasks.
6. The method used to analyse the incidents shall be based on a well-known method such as the “fault tree analysis”.
7. RCC Investigation Subgroup shall regularly update the ICS Expert Panel on its work, timeline, preliminary results and conclusions.
8. The ICS Expert Panel shall discuss with the RCC Investigation Subgroup about the results and conclusions and may ask for additional analysis or clarifications.

Article 8 Results of the RCC investigation and reporting

1. The conclusions of the RCC investigation shall be added in a dedicated chapter of the ICS final report.
2. The RCC investigation conclusions shall include at least:
 - a. description of the functioning of the RCC(s) affected tasks and how these impacted the incident;
 - b. explanations of the reasons for the incident;
 - c. recommendations based on the findings of the RCC investigation with the aim to avoid future similar incidents.
3. The RCC investigation chapter of the ICS final report shall include only content related to the RCC tasks.
4. The Final Report of the ICS Expert Panel, including the RCC investigation chapter, shall be published by the RCCs as indicated in Article 6.2 of Annex I of the Regulation (EU) 2019/943¹⁰.

⁹ European Union (2019), Regulation (EU) 2019/943 on the internal market for electricity adopted by the European Union and of the Council of 5 June 2019, Brussels, Belgium <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0943>.

¹⁰ European Union (2019), Regulation (EU) 2019/943 on the internal market for electricity adopted by the European Union and of the Council of 5 June 2019, Brussels, Belgium <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0943>.

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5. The Final Report of the ICS Expert Panel, including the RCC investigation chapter, shall be published at latest by the publication of the Annual Incident Classification Scale report for the year in which the incident occurred.

Article 9 RCC recommendations

1. The RCC Investigation Subgroup shall issue recommendations, in the RCC investigation chapter of the ICS final report. The aim of the recommendations is to prevent similar incidents in the future.
2. The recommendations shall be provided with respect to the RCCs' tasks, in accordance with Article 37 and Annex I of the Regulation 2019/943¹¹.
3. Recommendations, not related to the RCC tasks, shall be gathered through the ICS Expert Panel.

¹¹ European Union (2019), Regulation (EU) 2019/943 on the internal market for electricity adopted by the European Union and of the Council of 5 June 2019, Brussels, Belgium <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0943>.

Title 5

Implementation and language

Article 10 Implementation of the Proposal

1. The RCCs shall apply this methodology within 6 months from 1st of June 2022 or 6 months after the decision has been taken by ACER in accordance with Article 37(5) of the Regulation 2019/943¹² and published on ACER's website, if ACER's decision was issued after 1st of June 2022.

Article 11 Language

1. The reference language for this Proposal shall be English. For the avoidance of doubt, where TSOs need to translate this Proposal into their national language(s), in the event of inconsistencies between the English version published by ACER and any version in another language, the relevant TSOs shall, in accordance with national legislation, provide the relevant national regulatory authorities with an updated translation of the Proposal.

¹² European Union (2019), Regulation (EU) 2019/943 on the internal market for electricity adopted by the European Union and of the Council of 5 June 2019, Brussels, Belgium <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0943>.