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| ENTSO-E proposal for System Operation Regions (SOR) in accordance with Article 36(1) of the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity |
| For Public Consultation |
| 24 October 2019 |

**DISCLAIMER**

This document is released only for the purposes of the public consultation on the ENTSO-E proposal for System Operation Regions (SOR) in accordance with Article 36(1) of the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity. This version of the Proposal does not in any case represent a firm, binding or definitive ENTSO-E position on the content.

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ENTSO-E, taking into account the following,

Whereas

1. ENTSO-E is mandated to develop a proposal defining the system operation regions (hereafter referred to as “SOR”) in accordance with Article 36 of Commission Regulation (EU) 2019/943 on the internal market for electricity (hereafter referred to as “Electricity Regulation”). This proposal is hereafter referred to as “SOR Proposal”.
2. The SOR Proposal takes into account the general principles and goals set in the Electricity Regulation as well as :
   1. Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity
   2. Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13  July 2009 on conditions for access to the network for cross-border exchanges in electricity (hereafter referred to as “Regulation (EC) No 714/2009”).
   3. All applicable NCs and GLs implementing Regulation 714/2009, in particular Regulation (EU) 2017/1485.
3. The goal of the SOR Proposal is to specify which transmission system operators, bidding zones, bidding zone borders, capacity calculation regions and outage coordination regions are covered by each of the system operation regions, in accordance with article 36 of Electricity Regulation.
4. The SOR Proposal intends to specify the geographical scope in which technical processes need to be coordinated in a harmonised way between TSOs, while preserving a smooth and efficient system of electricity exchanges with third countries, which safeguards the security of operation for the European electricity system.
5. According to Article 36 of the Electricy Regulation, the Proposal shall describe how the coordination between the bidding borders adjacent to SOR is to take place.
6. SOR Proposal contributes to the general objectives of the Electricity Regulation to the benefit of all market participants and electricity end consumers and to contribute effectively to enhance system security and market efficiency.
7. SOR Proposal is created without prejudice of the creation of Regional Coordination Centres (hereafter referred to as “RCC(s)”) in line with Article 35(1) of Electricity Regulation. Since competent authorities for taking the decision of creation of the RCCs are relevant NRAs of the SOR, in consultation with NRAs of TSOs which are affected by the coordination of the SOR, SOR Proposal cannot be interpreted as direct or indirect TSOs intention to create relevant RCC. Consequently, when establishing RCCs, TSOs should be allowed for flexibility, in order to ensure the suitable level of the coordination of technical processes within the geographical scope of SOR and with borders adjacent to SOR.
8. TSOs of the SOR should have the flexibility to describe the business processes in the region in the way which is best adapted to their needs.
9. ENTSO-E structures and regional agreements will be best used by TSOs to ascertain and clarify operational coordination between SOR.

SUBMIT THE FOLLOWING SOR PROPOSAL TO ACER:

Article 1  
Subject matter and scope

This SOR Proposal specifies which transmission system operators, bidding zones, bidding zone borders, capacity calculation regions and outage coordination regions are covered by each of the system operation regions, taking into account the grid topology, including the degree of interconnection and interdependency of the electricity system in terms of flows.

Article 2  
Definitions and interpretation

1. For the purposes of the SOR Proposal, terms used in this document shall have the meaning of the definitions included in Article 2 of the Electricity Regulation, Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on Common Rules for the Internal Market for Electricity and Amending Directive 2012/27/EU (hereafter referred to as ”Directive 2019/944”), Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereafter referred to as ”SO GL”) and Regulation (EU) 2015/1222 establishing a guideline on capacity allocation and congestion management (hereafter refered to as ”CACM GL”).
2. In this SOR Proposal, the following acronyms are used:
   1. CCR means Capacity Calculation Region;
   2. OCR means Outage Coordination Region;
   3. BZ means Bidding Zone.
3. In this SOR Proposal, unless the context requires otherwise:
4. the singular indicates the plural and vice versa;
5. the table of contents and headings are inserted for convenience only and do not affect the interpretation of this SOR Proposal; and
6. any reference to legislation, regulations, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it then in force.

Article 3  
Proposal for System Operation Regions (SOR)

Only TSOs that have obligations that are relevant for system operations, such as but not limited to: calculation of capacity of its interconnectors, assessment of needed remedial actions to ensure security of the whole system, coordination of all the outages to ensure security and efficiency, adequacy assessment and tasks related to the provision of balancing (reserves), shall be included in the relevant SOR.

Moyle, EWIC, NGIC, NGIFA2, NEMO, BritNed, and Eleclink are included in CCRs as TSOs and in that respect may be affected by the regional cooperation of the TSOs of the SOR. For this reason, these TSOs are considered relevant stakeholders for the purpose of the SOR Proposal and shall be properly consulted.

1. **Baltic SOR**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CCR** | **OCR** | **TSOs** | **BZ** | **BZ borders** |
| Baltic CCR | Baltic (1) | LITGRID AB, AST, ELERING AS, | LT,  LV,  EE, | LT-PL  LT-SE4  LT-LV  LV-EE  EE-FI |

1. Baltic OCR equals the Baltic CCR.
2. **Nordic SOR**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CCR** | **OCR** | **TSOs** | **BZ** | **BZ borders** |
| Nordic | Nordic (2) | Energinet  Svenska Kraftnät  Statnett  Fingrid | DK1  DK2  NO1  NO2  NO3  NO4  NO5  FI  SE1  SE2  SE3  SE4 | DK1-SE3  DK2-SE4  DK1-DK2  SE4-SE3  SE3-SE2  SE2-SE1  SE3-FI  SE1-FI  DK1-NO2  SE3-NO1  SE2-NO3  SE2-NO4  SE1-NO4  NO3-NO5  NO3-NO4  NO1-NO3  NO1-NO5  NO1-NO2  NO2-NO5 |

1. Nordic OCR equals the Nordic SOR.

Where a SOR encompasses the European Economic Area, reference is made to the EEA Agreement.

1. **IU SOR**

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| --- | --- | --- | --- | --- |
| **CCR** | **OCR** | **TSOs** | **BZ** | **BZ borders** |
| IU  Channel | IU (3)  Channel (4) | SONI  NGESO  EirGrid | GB  SEM | GB-FR  GB-NL  GB-SEM  GB-BE |

1. IU OCR is the Outage Co-ordination Region associated to the IU CCR.
2. Channel OCR is the Outage Co-ordination Region associated to the Channel CCR.

Following the Withdrawal of the United Kingdom from the European Union and where a SOR encompasses the United Kingdom, the Proposal for the IU SOR shall take into account the contractual framework applicable in the relations between the United Kingdom and the European Union.

1. **Central Europe SOR**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CCR** | **OCR** | **TSOs** | **BZ** | **BZ borders** |
| Core  Italy North | OCR based on Core  OCR based on Italy North (5) | RTE – Réseau de transport d’electricité,  ELIA System Operator NV/SA  TenneT TSO B.V.,  Amprion GmbH,  TransnetBW GmbH,  TenneT TSO GmbH,  50Hertz Transmission GmbH,  Creos Luxembourg S.A:,  PSE S.A.,  ČEPS, a.s.,  Austrian Power Grid AG, Vorarlberger Übertragungsnetz GmbH,  MAVIR Hungarian Independent Transmission Operator Company Ltd.,  ELES d.o.o.,  Slovenská elektrizačná prenosová sústava, a.s.,  HOPS d.o.o.,  Compania Nationalã de Transport al Energiei Electrice“ Transelectñc&’ S.A.  Swissgrid AG  TERNA Rete Elettrica Nazionale S.p.A. | FR BE  NL DE/LU PL  CZ  AT HU SI  SK HR  RO  CH IT NORD | FR-BE  BE-NL  FR-DE/LU  NL-DE/LU  BE-DE/LU  DE/LU-PL  DE/LU-CZ  AT-CZ  AT-HU  AT-SI  CZ-SK  CZ-PL  HU-SK  PL-SK  HR-SI  HR-HU  RO-HU  HU-SI[[1]](#footnote-2)  DE/LU-AT  CH-DE/LU  CH-AT  CH-FR  BA-HR (in SEE and Central)  RS-HR (in SEE and Central)  RS-HU (in SEE and Central)  RS-RO (in SEE and Central)  IT NORD-FR  IT NORD-AT  IT NORD-SI  IT NORD-CH |

1. the Outage Coordination Regions involving the TSOs of the Synchronous Area Continental Europe are defined in the Synchronous Area Framework Agreement for RG CE – Annex 4: Policy on Coordinated Operational Planning, Article C-2-1.

The Transmission System Operator of Switzerland is included in the proposal in order to mitigate the effects on secure system operation resulting from the exclusion of Switzerland from day-ahead and intraday market coupling as per Art. 1.4. of Regulation (EU) 2015/1222 and in particular its potential impacts on Coordinated Security Analysis as per Art. 74, 75 and 76 of Regulation (EU) 2017/1485.

The inclusion of the Transmission System Operator of Switzerland in the relevant SOR is in line with Article 3 of CACM Regulation, namely ensuring optimal use of the transmission infrastructure and operational security. This inclusion is also necessary in order to effectively implement the arrangements under Article 13 of Regulation (EU) 2017/1485, which provide that EU TSOs shall endeavour to establish “cooperation concerning secure system operation” with non-EU TSOs belonging to the same synchronous area via an agreement with these non-EU TSOs.

The inclusion of the Transmission System Operator of Switzerland in the relevant SOR ensures an appropriate representation of the electricity transmission systems synchronously/physically connected with the relevant SOR in all relevant operational procedures. In this respect, the EU TSOs of the relevant SOR should include the Swiss Transmission System Operator to bring its view and expertise in order to ensure secure system operation for the Continental European electricity transmission system. All EU TSOs in the relevant SOR shall endeavour to conclude with the Swiss Transmission System Operator, not bound by Regulation (EU) 2019/943, an agreement setting forth the arrangements for their compliance with, including but not limited to, all necessary technical procedures, governance structures and cost sharing obligations with the obligations set out in the aforementioned Regulation(s). This agreement shall be subject to NRAs’ approval of the respective SOR.

1. **SEE SOR**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CCR** | **OCR** | **TSOs** | **BZ** | **BZ borders** |
| SEE | OCR based on SEE (6) | ESO  IPTO  OST  NOS BiH  [Crnogorski elektroprenosni sistem](http://cges.me/)  MEPSO  EMS | BG  GR  AL  BA  ME  MK  RS | GR-BG  BG-RO  GR-AL  GR-MK  AL-MK  AL-ME  AL-RS  ME-BA  ME-RS  RS-BA  GR-AL  GR-MK  BA-HR (in both SEE and Central Europe)  RS-HR (in SEE and Central)  RS-HU (in SEE and Central)  RS-RO (in SEE and Central)  RS-BG  RS-MK  BG-MK |

1. the Outage Coordination Regions involving the TSOs of the Synchronous Area Continental Europe are defined in the Synchronous Area Framework Agreement for RG CE – Annex 4: Policy on Coordinated Operational Planning, Article C-2-1.

Where a SOR encompasses both Union TSOs and Energy Community Transmission System Operators, all Union TSOs in that SOR shall endeavour to conclude with the Energy Community Transmission System Operators not bound by Regulation (EU) 2019/943 agreements setting forth the arrangements for their compliance with, including but not limited to, all necessary technical procedures, governance structures and cost sharing obligations with the obligations set out in the aforementioned Regulation. This agreement shall be subject to NRAs’ approval of the respective SOR.

ENTSOE will further clarify, by making best use of ENTSOE structures and projects the technical needs for SEE SOR with regards to interconnection between ITCSUD and Montenegro (ITCSUD- ME).

1. **GRIT SOR**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CCR** | **OCR** | **TSOs** | **BZ** | **BZ borders** |
| GRIT | GRIT (7) | TERNA Rete Elettrica Nazionale S.p.A.,  Independent Power Transmission Operator S.A | IT NORD  IT CNOR  IT CSUD  IT SUD  IT SICI  IT SARD  IT ROSN | IT NORD-IT CNOR  IT CNOR-IT CSUD  IT CNOR-IT SARD  IT SARD-IT CUSD  IT CSUD-IT SUD  IT SUD-IT FOGN  IT SUD-IT ROSN  IT ROSN-IT SICI  IT SUD-GR  IT CSUD-ME |

(7) GRIT OCR is equal to GRIT CCR.

Where a SOR encompasses both Union TSOs and Energy Community Transmission System Operators, all Union TSOs in that SOR shall endeavour to conclude with the Energy Community Transmission System Operators not bound by Regulation (EU) 2019/943 agreements setting forth the arrangements for their compliance with, including but not limited to, all necessary technical procedures, governance structures and cost sharing obligations with the obligations set out in the aforementioned Regulation. This agreement shall be subject to NRAs’ approval of the respective SOR.

1. **SWE SOR**

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| --- | --- | --- | --- | --- |
| **CCR** | **OCR** | **TSOs** | **BZ** | **BZ borders** |
| SWE | SWE (8) | RTE – Réseau de transport d’electricité,  REE - Red Eléctrica de España S.A.U.  REN / Rede Eléctrica Nacional, S.A. | FR  ES  PT | FR-ES  ES-PT |

(8) SWE OCR is equal to SWE CCR

Article 4  
Coordination of the bidding zone borders adjacent to SORs

1. **Bidding Zone borders adjacent to Baltic SOR and Nordic SOR**
2. The bidding zone borders adjacent to Baltic SOR and Nordic SOR are :
3. Estonia - Finland (EE - FI)
4. Lithuania – Sweden fourth bidding zone (LT-SE4)
5. RCC established in the Baltic region shall coordinate the tasks of regional relevance for the Baltic SOR pursuant to article 35(1)(b) of El.Regulation with regards to the EE-FI and LT-SE4 bidding zone borders and shall allow SvK and Fingrid to participate in the the coordination of the borders through the Nordic RCC, which will have a contractual relationship with Baltic RCC.
6. **Bidding Zone borders adjacent to Baltic SOR and Central Europe SOR**
7. The bidding zone border adjacent to Baltic SOR and Central Europe SOR is Lithuania- Poland (LT-PL).
8. RCC established by TSOs in Baltic SOR shall coordinate the tasks of regional relevance for the Baltic SOR pursuant to article 35(1)(b) of El.Regulation with regards to this border in cooperation with PSE, which will have contractual relationship with Baltic RCC.
9. **Bidding Zone borders adjacent to Nordic SOR and Central Europe SOR**

[[2]](#footnote-3)

1. The bidding zone borders adjacent to Nordic SOR and Central Europe SOR are :
   1. Denmark 1 - Germany/Luxembourg (DK1-DE/LU)
   2. Denmark 2 - Germany/Luxembourg (DK2-DE/LU)
   3. Sweden 4 - Poland (SE4 – PL)
   4. Norway2– Netherlands (NO2-NL)
   5. Norway2-Germany (NO2-DE/LU)
   6. Denmark1-Netherlands (DK1-NL)

All of the borders belong to CCR Hansa.

1. Nordic SOR and Central Europe SOR shall coordinate those bidding zone borders in accordance with :
   1. The Hansa Capacity Calculation Methodology pursuant to articles 20 et 21 of CACM and articles 21 of FCA
   2. The Hansa Coordinated Security Analysis Methodology pursuant to article 76 of SO Regulation
   3. The Common Grid Model Methodology pursuant to articles 67 and 70 of SO Regulation
   4. The Hansa Regional Outage Coordination according to article 80 of SO Regulation
   5. The Regional Adequacy assessments according to article 81 of SO Regulation
   6. The cooperative processes established for the interface between Nordic SOR and Central Europe SOR pursuant to article 35.1.e of El.Regulation
2. **Bidding Zone borders adjacent to IU SOR and Central Europe SOR**
3. The bidding zone borders adjacent to IU SOR and Central Europe SOR are :
4. France – Great Britain (FR-GB)
5. Netherlands-Great Britain (NL-GB)
6. Belgium- Great Britain (BE-GB)

They all belong to Channel CCR.

1. RCC established by the TSOs in IU SOR and RCC established by the TSOs in Central Europe shall coordinate those three bidding zone borders in accordance with :
2. The Channel Capacity Calculation Methodology pursuant to articles 20 et 21 of CACM and articles 21 of FCA
3. The Channel Coordinated Security Analysis Methodology pursuant to article 76 of SO Regulation
4. The Common Grid Model Methodology pursuant to articles 67 and 70 of SO Regulation
5. The Channel Regional Outage Coordination according to article 80 of SO Regulation
6. The Regional Adequacy assessments according to article 81 of SO Regulation
7. The cooperative processes established for the interface between IU SOR and Central Europe SOR pursuant to article 35.1.e of El.Regulation
8. Following the Withdrawal of the United Kingdom from the European Union and where a SOR encompasses the United Kingdom, the proposal for the IU SOR shall take into account the contractual framework applicable in the relations between the United Kingdom and the European Union.
9. **Bidding zone borders adajcent to GRIT SOR and Central Europe SOR**
10. Taking into account that bidding zone Italy NORD is part of both SOR, the bidding zone borders adjacent to GRIT SOR and Central Europe SOR are :
11. Italy NORD – France (IT NORD-FR)
12. Italy NORD – Austria (IT NORD-AT)
13. Italy NORD – Slovenia (IT NORD-SL)
14. Italy NORD – Switzerland (IT NORD-CH)

which are integrated in Central Europe SOR

1. Italy NORD – Italy CNORD (IT NORD- IT CNORD)

which is integrated in GRIT SOR.

1. RCC established by TSOs in GRIT SOR shall coordinate Italy NORD-Italy CNORD bidding zone border in accordance with the tasks of regional relevance for the GRIT SOR pursuant to article 35(1)(b) of Regulation (EU) 2019/943.
2. RCC established in Central Europe SOR shall coordinate Italy NORD-FR, Italy NORD-AT, Italy NORD-SL and Italy NORD-CH bidding zone borders in accordance with the tasks of regional relevance for the Central Europe SOR pursuant to article 35(1)(b) of Regulation (EU) 2019/943.
3. RCC established in Central Europe SOR and in GRIT SOR shall coordinate bidding zone Italy NORD in accordance with the cooperative processes established for the interface between Central Europe RCC and GRIT RCC pursuant to article 38 of Regulation (EU) 2019/943.
4. **Bidding zone borders adjacent to SEE SOR and GRIT SOR**
5. The bidding zone borders adjacent to SEE SOR and GRIT SOR are:
   1. Italy Sud – Greece (IT SUD-GR), which belongs to GRIT CCR
   2. Italy Centre Sud - Montenegro (IT CSUD-ME) between Balkans countries and GRIT SOR

which are integrated in GRIT SOR

1. RCC established by EU-TSOs in GRIT SOR shall coordinate the tasks of regional relevance for the GRIT SOR pursuant to article 35(1)(b) of Regulation (EU) 2019/943, with regards Italy SUD-Greece bidding zone border and shall allow Crnogorski Elektroprenosni Sistem to participate in the coordination of Italy Centre Sud – Montenegro bidding zone border through agreements with RCC established in GRIT SOR.
2. **Bidding Zone borders adjacent to SWE SOR and Central Europe SOR**
3. Taking into account that the BZ France is part of both SOR, the bidding zone borders adjacent to SWE SOR and Central Europe SOR are :
4. France – Spain (FR-ES), which is integrated in SWE SOR, and
5. France- Belgium (FR-BE)
6. France-Germany/Luxembourg (FR-DE/LU)
7. France-Switzerland (FR-CH)
8. Italy NORD – France (NORD – FR),

which are integrated in Central Europe SOR.

1. RCC established by TSOs in SWE shall coordinate FR-ES bidding zone border in accordance with the tasks of regional relevance for the SWE SOR pursuant to article 35(1)(b) of Regulation (EU) 2019/943.
2. RCC or RCCs established by TSOs in Central Europe shall coordinate FR-BE, FR-DE/LU, FR-CH and NORD-FR bidding zone borders in accordance with the tasks of regional relevance for the Central Europe SOR pursuant to article 35(1)(b) of Regulation(EU) 2019/943.
3. **Bidding Zone borders adjacent to SEE SOR and Central Europe SOR**
4. The bidding zone borders adjacent to SEE SOR and Central Europe SOR are :
   1. Bulgaria-Romania (BG-RO), which is integrated in the SEE SOR
   2. Bidding zone borders between Balkans countries and Central Europe SOR, ie :
      1. Croatia-Bosnia (HR-BA)
      2. Croatia-Serbia (HR-RS)
      3. Hungary-Serbia (HU-RS)
      4. Romania-Serbia (RO-RS)
5. The RCC established by EU-TSOs in the SEE SOR shall coordinate BG-RO bidding zone border in accordance with the tasks of regional relevance for the SEE SOR pursuant to article 35(1)(b) of Regulation (EU) 2019/943 and in cooperation with Transelectrica.
6. The RCC established by EU-TSOs in the SEE SOR and the RCC established by TSOs in Central Europe SOR shall coordinate their proposals in line with cooperative processes established in line with article 38 Regulation (EU) 2019/943.
7. Interface between SEE and Central SOR will be further clarified by cooperation between RCCs established in both regions and by making best use of the regional agreements and structures within ENTSO-E.

Article 5  
Consultation with the NRAs and relevant stakeholders

1. Where the SOR definition includes BZ borders and transmission assets that span into a TSO(s) control area of a different SOR, the TSOs of that SOR shall consult in the development of the applicable co-operative processes with all relevant stakeholders which will include, where required, the NRA(s) established in the other TSOs control area.
2. When clarifying cooperative processes in accordance with Article 38, TSOs of SOR shall describe the operational procedures to be applied for the existing grid. These procedures can describe also the foreseen evolution applicable in line with network, or other legal developments. Otherwise, TSOs shall send updated coordination procedures to the affected NRAs when network is developed or there is an evolution of the regional applicable methodologies.

Article 6  
Publication and implementation of the Proposal

1. ACER shall publish the SOR Proposal without undue delay after having approved the SOR Proposal in accordance with Article 36(3) of the Electricity Regulation.
2. The TSOs shall apply the SORs as described in Article 3 as soon as the decision has been taken by the Agency in accordance with Article 36(3) of the Electricity Regulation.

Article 7  
Language

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 in accordance with Article 36(3) of the Electiricty Regulation 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.

1. Effective from the date of operation of the interconnection on this biding zone border. [↑](#footnote-ref-2)
2. Where a SOR encompasses the European Economic Area, reference is made to the EEA Agreement [↑](#footnote-ref-3)