

**DECISION No 30/2020
OF THE EUROPEAN UNION AGENCY
FOR THE COOPERATION OF ENERGY REGULATORS**

of 30 November 2020

**ON THE CORE CCR TSO's PROPOSAL FOR THE METHODOLOGY FOR
COST SHARING OF REDISPATCHING AND COUNTERTRADING**

THE EUROPEAN UNION AGENCY FOR THE COOPERATION OF ENERGY REGULATORS,

Having regard to Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators¹, and, in particular, the second subparagraph of Article 5(3) and point (a) of the second subparagraph of Article 6(10) thereof,

Having regard to Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management², and, in particular, Article 9(11) thereof,

Having regard to the outcome of the consultation with the concerned regulatory authorities and transmission system operators,

Having regard to the outcome of the consultation with ACER's Electricity Working Group,

Having regard to the favourable opinion of the Board of Regulators of 18 November 2020, delivered pursuant to Article 22(5)(a) of Regulation (EU) 2019/942,

¹ OJ L 158, 14.6.2019, p. 22.

² OJ 197, 25.7.2015, p. 24.

Whereas:

1. INTRODUCTION

- (1) Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (the ‘CACM Regulation’) laid down a range of requirements for cross-zonal capacity allocation and congestion management in the day-ahead and intraday markets in electricity. These requirements also include the development of common methodology for redispatching and countertrading cost sharing (hereafter referred to as the ‘cost sharing methodology’) in each of the capacity calculation regions (‘CCR’) in accordance with Article 74 of the CACM Regulation.
- (2) Pursuant to Article 9(1) and Article 9(7)(h) as well as Article 74(1) of the CACM Regulation, transmission system operators (‘TSOs’) of each CCR are required to develop a common proposal for a cost sharing methodology within the respective CCR and submit it to the concerned regulatory authorities for approval. Then those regulatory authorities should reach an agreement and take a decision on the proposal for the cost sharing methodology within six months after the receipt of the proposal by the last regulatory authority according to Article 9(10) of the CACM Regulation. Pursuant to the third subparagraph of Article 6(10) of Regulation (EU) 2019/942, the six-month period may be extended. When the regulatory authorities fail to reach an agreement within the six-month (or the extended) period, ACER, pursuant to Article 9(11) of the CACM Regulation and the second subparagraph of Article 5(3) of Regulation (EU) 2019/942, is called upon to adopt a decision concerning the TSOs’ proposal in accordance with point (b) of the second subparagraph of Article 6(10) of Regulation (EU) 2019/942.
- (3) This Decision follows from the failure of all the regulatory authorities of the Core CCR (‘Core regulatory authorities’) to reach an agreement within an extended period of twelve months following the proposal which the TSOs of the Core CCR (‘Core TSOs’) submitted to all Core regulatory authorities for approval. Annex I to this Decision sets out the cost sharing methodology for Core CCR pursuant to Article 74 of the CACM Regulation as decided by ACER.

2. PROCEDURE

2.1. Proceedings before regulatory authorities

- (4) Article 74 of the CACM Regulation requires all TSOs of each CCR to submit a proposal for a cost sharing methodology for their region, no later than sixteen months after the approval of the proposal for the CCR. As the CCRs were determined by ACER’s

Decision on 17 November 2016³, the Core TSOs were required to submit a proposal for a cost sharing methodology by 17 May 2018.

- (5) Core TSOs did not submit a proposal for a cost sharing methodology for their region by 17 May 2018. Instead, they informed Core regulatory authorities and ACER about the failure to submit such a proposal in accordance with Article 9(4) of the CACM Regulation. The reported reason for the failure was that Core TSOs need more time for the development and testing of different concept of the cost sharing methodology. In accordance with the same Article, ACER informed European Commission about this failure. European Commission consulted with Core TSOs, regulatory authorities and ACER and provided guidance to Core TSOs to develop a proposal and submit it for approval as early as possible, with the understanding that further testing and development of the cost sharing methodology can be performed during the proceedings of Core regulatory authorities and that the latter can require amendments to the first proposal.
- (6) On 27 March 2019, the Core TSOs submitted to the Core regulatory authorities a ‘Common methodology for redispatching and countertrading cost sharing for the Core CCR in accordance with Article 74 of Commission Regulation (EU) 2015/1222 of 24 July 2015’ (hereinafter referred to as the ‘Proposal’). Core TSOs did not publicly consult on the Proposal prior to its submission. The Proposal was accompanied with the supporting document ‘Explanatory document to the common methodology for redispatching and countertrading cost-sharing for single day-ahead and intraday coupling for capacity calculation region Core’ (‘Explanatory document’).
- (7) On 26 September 2019, by Decision No 11/2019⁴, ACER extended the period for Core regulatory authorities to reach an agreement on the Proposal by 6 months, i.e. until 27 March 2020. A decision was therefore required by Core regulatory authorities by that date.
- (8) On 13 March 2020, Core TSOs published the Experimentation report, which provides the results of the experimentation performed by the Core TSOs on the coordination optimisation of cross-border relevant remedial actions and experimentation of different possible cost sharing solutions, made upon 10 selected hours.

³ Agency Decision No 06/2016 on the Electricity Transmission System Operators’ Proposal For The Determination Of Capacity Calculation Regions

⁴ Agency Decision No 11/2019 on the Request Of Regulatory Authorities Of the Core Capacity Calculation Region To Extend The Period For Reaching An Agreement On The Proposal For The Methodology For The Coordination And The Cost Sharing Of Redispatching And Countertrading

2.2. Proceedings before ACER

- (9) In a letter received by ACER on 27 March 2020, the Chair of the Core Energy Regulators' Regional Forum, on behalf of all Core regulatory authorities, informed ACER that Core regulatory authorities were not able to reach a decision on the Proposal by 27 March 2020.
- (10) In the letter, all Core regulatory authorities considered that the Proposal was largely incomplete, to such an extent that Core regulatory authorities were not able to approve nor request an amendment of the Proposal.
- (11) ACER closely cooperated with all Core regulatory authorities and TSOs and further consulted on the amendments to the proposed cost sharing methodology during numerous teleconferences and meetings and through exchanges of amendments. In particular, the following procedural steps were taken:
- 9 April 2020: teleconference with all Core regulatory authorities;
 - 16 April 2020: teleconference with all Core regulatory authorities and TSOs;
 - 30 April 2020: teleconference with all Core regulatory authorities and TSOs;
 - 7 May 2020: teleconference with all Core regulatory authorities;
 - 14 May 2020: teleconference with all Core regulatory authorities and TSOs;
 - 19 May 2020: teleconference with all Core regulatory authorities;
 - 25 May 2020: teleconference with all Core regulatory authorities and TSOs;
 - 5 June 2020: teleconference with all Core regulatory authorities;
 - 8 June 2020: ACER circulated a draft of the proposed amendments to the cost sharing methodology to all Core regulatory authorities and TSOs;
 - 12 June 2020: teleconference with all Core regulatory authorities and TSOs;
 - 24 June 2020: ACER circulated a draft of the proposed amendments to the cost sharing methodology to all Core regulatory authorities and TSOs;
 - 24 June 2020: Discussion with all regulatory authorities in the framework of ACER electricity working group ('AEWG');
 - 25 June 2020: teleconference with all Core regulatory authorities and TSOs;
 - 9 July 2020: teleconference with all Core regulatory authorities;

- 10 July 2020: ACER circulated a draft of the proposed amendments to the cost sharing methodology to all Core regulatory authorities and TSOs;
- 15 July 2020: teleconference with all Core regulatory authorities and TSOs;
- 24 July 2020: teleconference with all Core TSOs on flow decomposition;
- 27 July 2020: ACER circulated a draft of the proposed amendments to the cost sharing methodology to all Core regulatory authorities and TSOs;
- 28 July 2020: teleconference with all Core regulatory authorities and TSOs;
- 31 July 2020: ACER circulated the draft of the cost sharing methodology to all Core regulatory authorities and TSOs, including mapping options;
- 6 August 2020: ACER circulated the proposal for the cost sharing methodology to all Core regulatory authorities and TSOs for hearing phase;
- During the hearing phase, ACER held several meetings with regulatory authorities and TSOs discussing their specific concerns, such as monitoring, usage of generation shift key and mapping;
- 20 August 2020: At the end of the hearing phase, ACER circulated the updated proposal for the cost sharing methodology which included all the comments received during the hearing as well as ACER's responses to how these comments were tackled;
- 3 September 2020: Discussion with all regulatory authorities in the framework of ACER electricity working group ('AEWG');
- 25 September 2020: the Director's proposal of a decision did not receive a favourable opinion from the Board of Regulators;
- 28 October 2020: Discussion with all regulatory authorities in the framework of AEWG.

3. ACER'S COMPETENCE TO DECIDE ON THE PROPOSAL

- (12) According to point (b) of the first subparagraph of Article 5(3) of Regulation (EU) 2019/942, all regulatory authorities of the region concerned shall unanimously agree on proposals for terms and condition or methodologies for the implementation of those network codes or guidelines that were adopted before 4 July 2019 and, according to the second subparagraph of Article 5(3) of Regulation (EU) 2019/942, where no unanimous agreement has been reached, shall refer the relevant proposal to ACER for approval in accordance with point (a) of the second subparagraph of Article 6(10) of Regulation (EU) 2019/942.

- (13) According to Article 9(7)(h) of the CACM Regulation, which has been adopted as a guideline before 4 July 2019, the proposal for a common methodology for redispatching and countertrading cost sharing in accordance with Article 74(1) of that Regulation shall be subject to approval by all regulatory authorities of the concerned region(s).
- (14) According to Article 9(10) of the CACM Regulation, where the approval of the terms and conditions or methodologies requires a decision by more than one regulatory authority, the competent regulatory authorities shall consult and closely cooperate and coordinate with each other in order to reach an agreement, and they shall take decisions concerning the submitted terms and conditions or methodologies in accordance with paragraphs 6, 7 and 8, within six months following the receipt of the terms and conditions or methodologies by the last regulatory authority concerned.
- (15) According to Article 9(11) of the CACM Regulation, where the regulatory authorities have not been able to reach an agreement on the terms and conditions or methodologies within the six-month deadline, ACER shall adopt a decision concerning the submitted proposal for terms and conditions or methodologies within six months, in accordance with Article 6(10) of Regulation (EU) 2019/942.
- (16) By Decision No 11/2019 of 26 September 2019, ACER extended the period for Core regulatory authorities to reach an agreement on the Proposal until 27 March 2020.
- (17) In a letter from the Chair of the Core Energy Regulators' Regional Forum, on behalf of all Core regulatory authorities of 27 March 2020 on behalf of all Core regulatory authorities, Core regulatory authorities informed ACER that they were not able to approve nor request an amendment to the Proposal by 27 March 2020.
- (18) Therefore, under the provisions of the second subparagraph of Article 5(3) and point (a) of the second subparagraph of Article 6(10) of Regulation (EU) 2019/942 and of Article 9(11) of the CACM Regulation, ACER became responsible to adopt a decision concerning the submitted Proposal on 27 March 2020.

4. SUMMARY OF THE PROPOSAL

- (19) The Proposal consists of the following elements:
 - (a) The 'whereas' section;
 - (b) The general provisions, which includes subject, matter and scope, the description of the impact on the objectives of the CACM Regulation as well as definitions;
 - (c) Title 2 of the Proposal describes the eligible costs for cost sharing;
 - (d) Title 3 of the Proposal includes articles on cost sharing principles, which includes deviations between recommendations and real-time operation, cost sharing key calculation, the flow decomposition, transformation, mapping and multiplication;

- (e) Title 4 of the Proposal includes articles on the monitoring of the costs incurred, Reporting to National Regulatory Authorities, Annual Review, Implementation and Settlement of Costs; and
- (f) Title 5 includes the provisions on language.

5. SUMMARY OF THE OBSERVATIONS RECEIVED BY ACER

5.1. Initial observations of the Core regulatory authorities

- (20) According to the email of the Chair of the Core Energy Regulators' Regional Forum of 27 March 2020, Core regulatory authorities were not able to reach an agreement to approve or request an amendment of the Proposal within the deadline of six months after the ACER's decision to grant an extension which was 27 March 2020.
- (21) The Chair of the Core Energy Regulators' Regional Forum informed ACER that the Proposal is largely incomplete and that during the proceedings of Core regulatory authorities, TSOs have performed further analyses and the results were submitted to Core regulatory authorities.
- (22) The letter of Chair of the Core Energy Regulators' Regional Forum was accompanied by the 'Non-paper of all Core regulatory authorities on the Core CCR TSOs' regional proposals of redispatching and countertrading coordination and cost sharing methodologies in accordance with Articles 35 and 74 of Commission Regulation (EU) 2015/1222 of 24 July 2015'.
- (23) In this non-paper, Core regulatory authorities expressed the following views and concerns:
 - (a) Regarding action plans and eligibility to cost sharing, most regulatory authorities were of the opinion that the costs of congestions on network elements concerned by the action plan in accordance with Article 16(8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity ('Electricity Regulation') should be borne by the TSOs of the Member State applying the concerned action plan. Few regulatory authorities opposed this view.
 - (b) Regarding the identification of flow categories and priorities in the contribution to congestion, a majority of Core regulatory authorities agreed that flows should be considered as polluters only if they result from transactions internal to bidding zones and that they should be considered as equally contributing to congestion. Three Core regulatory authorities considered that loop flows should be the first identified contribution to congestion whereas internal flows as the second contributor. All Core regulatory authorities agreed that phase shifting transformer

(‘PST’) flows should not be identified as flows contributing to congestion, when the setting of these PSTs is coordinated.

- (c) Regarding the acceptable level of flows resulting from transactions internal to bidding zones, all Core regulatory authorities agreed that the flows below the defined threshold should be borne by the TSO responsible for the area to which the congested network element belongs. All Core regulatory authorities but two agreed that a common threshold should apply to all flows resulting from transactions internal to bidding zones.
- (d) Regarding the congestions eligible for cost sharing, different opinions amongst regulatory authorities were expressed; one group of regulatory authorities considered only the critical network elements as eligible for cost sharing, while another group advocated a broader group of network elements to be considered as cross border relevant network elements (‘XNEs’).

5.2. Consultation of the Core regulatory authorities and TSOs

- (24) During the close cooperation phase between ACER and all Core regulatory authorities and TSOs as detailed in paragraph (11) above, and beyond the above-mentioned issues, ACER:
 - (a) discussed the eligibility of cross-border relevant network elements (XNEs) for cost sharing based on the CACM Regulation and the Electricity Regulation;
 - (b) clarified the details of applied flow decomposition methodology, including the definition of flow components;
 - (c) discussed the methodological aspects of cost sharing, including netting, application of loop flow threshold and prioritisation of flows;
 - (d) discussed possible solutions on mapping of costs to cross-border relevant network elements (XNEs), by exploring different options, including the improved volume based mapping, which was tested by TSOs, and proposed several other options for consideration to TSOs and regulatory authorities;
 - (e) provided simulation results for all the choices and options which were discussed during consultation to allow the TSOs and regulatory authorities to consider the concrete impact of these choices and options; and
 - (f) discussed all other relevant topics related to data provision to regulatory authorities, transparency, monitoring and implementation of cost sharing methodology.
- (25) During the consultation process, Core TSOs provided to ACER also the ‘Non-paper of all Core transmission system operators on the Core CCR TSOs’ regional proposals of redispatching and countertrading coordination and cost sharing methodologies’

(hereinafter referred to as ‘Non-paper of Core TSOs’). In this document, Core TSOs expressed their individual positions on the numerous choices and points of disagreements among Core TSOs.

5.3. Hearing phase

- (26) ACER initiated a hearing phase on 31 July 2020 by providing all Core TSOs and regulatory authorities with the draft amendments to the Proposal representing the draft of the adopted cost sharing methodology for the Core CCR. The end of the hearing period was announced as 14 August 2020.
- (27) On 6 August 2020, ACER provided to all Core TSOs and regulatory authorities an updated proposal of the draft amendments to the Proposal with additional details related to mapping solution. Due to this updated proposal, the end of hearing period was extended until 20 August 2020.
- (28) During the hearing, the Core TSOs and regulatory authorities provided their individual comments and concerns regarding the cost sharing methodology proposed by ACER. Some Core TSOs and regulatory authorities also requested a meeting and ACER accepted this request and organised dedicated teleconferences during the hearing period. The main concerns expressed by the Core TSOs and regulatory authorities during the hearing were:
- (a) Regarding the eligibility of cross-border relevant network elements for cost sharing, some TSOs and regulatory authorities alleged that Article 16(13) of the Electricity Regulation requires only network elements located on bidding zone borders to be subject to the cost sharing.
 - (b) Regarding the mapping solution, some Core TSOs and regulatory authorities expressed the concern that the least-cost based mapping method proposed by ACER would require an additional assessment and experience.
 - (c) Regarding the flow decomposition, some TSOs and regulatory authorities disagreed with the selection of the power flow colouring (‘PFC’) method and the related principles, such as treatment of high voltage direct current (‘HVDC’) flows.
 - (d) Regarding the calculation of allocated flows, loop flows and internal flows in the flow decomposition, several TSOs and NRAs expressed concerns that the generation shift key used in capacity calculation is not appropriate for calculating allocated flows, loop flows and internal flows for bidding zones that import electricity.
 - (e) Regarding the netting solution, some Core TSOs and regulatory authorities opposed the solution of not applying the netting of relieving and burdening flows.

- (f) Regarding the threshold application, some Core TSOs and regulatory authorities commented that a common loop flow threshold of 10% is not the result of a study or expert-based opinion.
 - (g) Regarding the prioritisation of flows, some Core TSOs and regulatory authorities opposed the proposal that loop flows are the first priority and internal flows are the second priority when identifying contributors to congestion. They considered this to be a discrimination towards the TSOs creating large loop flows.
 - (h) Regarding the socialisation of congestion costs arising from flows originating outside the Core CCR, some TSOs and regulatory authorities commented that the loop flows from outside the Core CCR should be treated equally as the loop flows within the Core CCR.
- (29) In the adopted cost sharing methodology, ACER integrated all plausible comments and proposals and provided additional examples of specific calculation principles. After the end of the hearing period, ACER also provided the Core TSOs and regulatory authorities with the responses to all the received comments as well as how they were taken into account and why.

6. ASSESSMENT OF THE PROPOSAL

6.1. Legal framework

- (30) Article 9(1) and (7)(h) of the CACM Regulation requires TSOs of each CCR to provide the proposal for a redispatching or countertrading cost sharing methodology in accordance with Article 74(1) of the CACM Regulation to their regulatory authorities for approval.
- (31) Article 9(9) of the CACM Regulation requires that the proposal for a redispatching or countertrading cost sharing methodology includes a proposed timescale for its implementation and a description of its impact on the objectives of the same Regulation.
- (32) Article 74 of the CACM Regulation sets general requirements regarding the development of a proposal for a redispatching or countertrading cost sharing methodology and its implementation.
- (33) Article 74(1) of the CACM Regulation requires TSOs in each capacity calculation region to develop a proposal for cost sharing methodology no later than 16 months after the decision on the capacity calculation regions is taken in accordance with Article 15(1) of the CACM Regulation.
- (34) Article 74(2) of the CACM Regulation specifies that redispatching and countertrading cost sharing methodology needs to include cost-sharing solutions for actions of cross-border relevance.

- (35) Article 74(3) of the CACM Regulation specifies that redispatching and countertrading costs eligible for cost sharing between relevant TSOs shall be determined in a transparent and auditable manner.
- (36) Article 74(4) of the CACM Regulation sets out requirements that the cost sharing methodology must include at least: (i) the determination of costs considered in capacity calculation that are eligible for cost sharing, (ii) the determination of costs eligible for cost sharing that are used to guarantee the firmness of cross-zonal capacities and (iii) the rules for region-wide cost sharing.
- (37) Article 74(5) of the CACM Regulation specifies further elements that need to be included in the cost sharing methodology related to auditing and monitoring of the costs and their sharing.
- (38) Article 74(6) of the CACM Regulation specifies that the cost sharing methodology must:
- (a) provide incentives to manage congestion, including remedial actions and incentives to invest effectively;
 - (b) be consistent with the responsibilities and liabilities of the TSOs involved;
 - (c) ensure a fair distribution of costs and benefits between the TSOs involved;
 - (d) be consistent with other related mechanisms, including at least:
 - i. the methodology for sharing congestion income set out in Article 73;
 - ii. the inter-TSO compensation mechanism, as set out in Article 13 of Regulation (EC) No 714/2009 and Commission Regulation (EU) No 838/2010;
 - (e) facilitate the efficient long-term development and operation of the pan-European interconnected system and the efficient operation of the pan-European electricity market;
 - (f) facilitate adherence to the general principles of congestion management as set out in Article 16 of Regulation (EC) No 714/2009;
 - (g) allow reasonable financial planning;
 - (h) be compatible across the day-ahead and intraday market time-frames; and
 - (i) comply with the principles of transparency and non-discrimination.
- (39) Recital 31 of the Electricity Regulation specifies that at the end of the implementation of action plans by Member States, such Member States should have a possibility to

choose whether to opt for a reconfiguration of the bidding zone(s) or whether to opt for addressing remaining congestion through remedial actions for which they bear the costs. Similarly, Article 15(6) of the Electricity Regulation specifies that six months before the expiry of the action plan, the Member State with identified structural congestion shall decide whether to address remaining congestion by amending its bidding zone or whether to address remaining internal congestion with remedial actions for which it shall cover the costs.

- (40) Article 15(3) of the Electricity Regulation specifies that the cost of remedial actions necessary to achieve the linear trajectory referred to in Article 15(2) of the Electricity Regulation or make available cross-zonal capacity on critical network elements concerned by the action plan shall be borne by the Member State(s) implementing such action plan.
- (41) Finally, Article 16(13) of the Electricity Regulation specifies that when allocating the costs of remedial actions between transmission system operators, regulatory authorities shall analyse to what extent flows resulting from transactions internal to bidding zones contribute to the congestion between two bidding zones observed, and allocate the costs based on the contribution to the congestion to the transmission system operators of the bidding zones creating such flows, except for costs induced by flows resulting from transactions internal to bidding zones that are below the level that could be expected without structural congestion in a bidding zone. This Article further specifies that this level shall be jointly analysed and defined by all transmission system operators in a capacity calculation region for each individual bidding zone border, and shall be subject to the approval of all regulatory authorities in the capacity calculation region.

6.2. Assessment of the legal requirements

6.2.1. Assessment of the requirements for the development and for the content of a proposal

6.2.1.1. *Development of the proposal*

- (42) This Proposal fulfils the requirements of Article 74 of the CACM Regulation, as all Core TSOs jointly developed a proposal for a common methodology for cost sharing of redispatching and countertrading for the Core CCR and submitted it for approval to all Core regulatory authorities.
- (43) However, the Proposal was not submitted to Core regulatory authorities within the deadline defined in Article 74(1) of the CACM Regulation. This Article requires that all TSOs in each capacity calculation region shall develop a proposal for a common methodology for redispatching and countertrading cost sharing no later than 16 months after the decision of CCRs is taken, which is by 17 May 2018. However, as explained in paragraph (5) above, the Proposal has been submitted to Core regulatory authorities

by 27 March 2019. Nevertheless, no specific amendments to the Proposal are required due to this incompliance.

6.2.1.2. Required content of the proposal

- (44) The Proposal does not meet the requirements of Article 74 of the CACM Regulation as it does not include a concrete cost-sharing solution for actions of cross-border relevance, but rather general principles of cost sharing which do not enable concrete implementation of the methodology.
- (45) Also, the Proposal does not explicitly address the requirements of Article 74(5) and (6) of the CACM Regulation.
- (46) Therefore, the Proposal does not include the content as required pursuant to the CACM Regulation.

6.2.1.3. Proposed timescale for implementation

- (47) Article 14 of the Proposal provides a timescale for implementation of the cost sharing methodology. However, the proposed timescale is not clear and specified in a way that would define implementation in an unambiguous way, since it conditions the implementation on specific conditions and future amendments of the methodology that aims to specify the details of the implementation.
- (48) The Proposal therefore does not fulfil the requirement of Article 9(9) of the CACM Regulation with regard to implementation timeline and therefore needs to be amended as follows.
- (49) ACER first clarified that Core TSOs shall publish this cost sharing methodology without undue delay after the decision has been taken by ACER in accordance with Article 9(12) of the CACM Regulation.
- (50) Further ACER removed all the conditions for the implementation of the cost sharing methodology and replaced those conditions with an exact implementation deadline. As this cost sharing methodology is only required once the methodology pursuant to Article 35 of the CACM Regulation or the methodology pursuant to Article 76 of the SO Regulation have been implemented, the implementation deadline has been set to the implementation deadline of these two methodologies, whichever is implemented first.
- (51) Finally, ACER clarified that the implementation process of this cost sharing methodology starts with the adoption of the methodology and shall ensure provision of regular information to Core regulatory authorities and stakeholders on the development and testing of this methodology. The implementation process shall also provide to Core regulatory authorities regular reports on the results of testing.

6.2.1.4. Description of the expected impact on the objectives of the CACM Regulation

- (52) Article 2 of the Proposal includes the description of the expected impact of the Proposal on some of the objectives of Article 3(a), (e), (f) and (g) of the CACM Regulation.
- (53) The Proposal does not comply with Article 9(9) of the CACM Regulation as it does not provide the description of the expected impact on all the objectives listed in Article 3 of the same Regulation.
- (54) ACER first moved the description of the expected impact to the ‘whereas’ section of the methodology. Then ACER added the description of the impact for the missing objectives of Article 3(b), (c), (d), (h), (i) and (j) of the CACM Regulation. Finally, ACER complemented and improved the description of the impact on the objectives of Article 3(a), (e), (f) and (g) of the CACM Regulation. All these amendments reflect the finally adopted cost sharing methodology, thereby including the amendments to it introduced by ACER pursuant to this Decision.

6.2.2. Assessment of the cost sharing solution

- (55) Article 74(2) of the CACM Regulation requires the Proposal to determine cost sharing solutions for actions of cross-border relevance. In accordance with Article 16(13) of the Electricity Regulation the cost sharing solutions for congestions between two bidding zones observed shall be based on the analysis to what extent flows resulting from transactions internal to bidding zones contribute to such congestions. Then the costs of such congestions shall be allocated to transmission system operators of the bidding zones creating such flows, except for costs induced by flows resulting from transactions internal to bidding zones that are below the level that could be expected without structural congestion in a bidding zone.
- (56) The Proposal includes several steps to share the costs of cross-border relevant redispatching and countertrading actions.
- (57) First, the TSOs are to decompose the flows on congested cross-border relevant network elements for which these actions have been activated. Article 7 of the Proposal determines this flow decomposition, by determining the following flow components: loop flows, internal flows, import/export flows, transit flows and PST flows.
- (58) In the second step, Article 8 of the Proposal defines transformation of these flow components into percentage shares for each bidding zone by applying the following steps:
 - (a) netting of flow components in opposite direction of the congestion, but the Proposal does not specify how this netting is performed;

- (b) application of thresholds by which some flow components are split into two types (i.e. one below threshold and one above the threshold), but the Proposal does not specify how and to which flow components these thresholds are applied;
- (c) prioritisation of flow components by which these components are sorted into certain priority list and then only the flow components that exceed the maximum capacity of a network element are penalised. However, the Proposal does not specify such prioritisation and how the final penalisation of flow components is determined;
- (d) the Proposal mentions the flow components, which are attributed to the origins of flows outside of the Core CCR and specifies that these shares shall be reallocated to bidding zones in the Core CCR, but without specifying exactly how; and
- (e) the percentage shares for each bidding zone are then determined, but the Proposal does not specify how. Also, the solution for sharing the costs within a bidding zone consisting of several TSOs is not defined.
- (59) Once the percentage shares are determined for each cross-border relevant network element, the Proposal provides that TSOs determine how the total costs of cross-border relevant redispatching and countertrading actions are split between different network elements, which, according to the Proposal, can be cross-border relevant network elements and network elements which are not cross-border relevant. The mapping process is to determine the share of costs for both types. While the Proposal specifies few principles by which the total costs of cross-border relevant redispatching and countertrading actions are mapped to cross-border relevant network elements and non-cross-border relevant network elements, it does not specify the exact sharing key by which these costs are mapped.
- (60) As a final step in the cost sharing solution, the Proposal provides a multiplication by which the costs allocated to cross-border relevant network elements are multiplied with percentage shares identified for each cross-border relevant network element and then these costs are summed up for each cross-border relevant network element per each bidding zone. The costs mapped to non-cross-border relevant network elements are attributed to a bidding zone in which such network elements are located.
- (61) Finally, Article 74(2) of the CACM Regulation and Article 16(13) of the Electricity Regulation require a cost sharing solution to determine the sharing between TSOs, but the Proposal does not specify how the shares of each bidding zone are split between TSOs within each bidding zone.
- (62) The Proposal therefore does not comply with Article 74(2) of the CACM Regulation and Article 16(13) of the Electricity Regulation as it does not specify all the necessary elements to determine the cost sharing solution for sharing the costs of redispatching and countertrading actions of cross-border relevance among Core TSOs. The Proposal therefore needs to be amended in the following ways:

- (a) In order to determine the exact cost sharing solution for sharing the costs of redispatching and countertrading actions of cross-border relevance, the cost sharing methodology must first determine which network elements are cross-border relevant and which are not;
 - (b) The cost sharing methodology must clearly specify how the costs of redispatching and countertrading actions of cross-border relevance are split among different network elements (whether they are cross-border relevant or not);
 - (c) The cost sharing methodology must clearly specify which flow components are required for cost sharing and how exactly they are determined for each cross-border relevant network element in order to correctly identify how the flows resulting from transactions internal to bidding zones contribute to congestion;
 - (d) The cost sharing methodology must clearly specify why the flow components in the opposite direction of the congestion need to be netted with flows in the direction of the congestion and how this netting is performed;
 - (e) The cost sharing methodology must specify how the thresholds for splitting flow components in two parts are determined and to which flow components they are applied;
 - (f) The cost sharing methodology must clearly specify the priority of flow components by which the contributions to congestion above the maximum capacity of a network element are identified;
 - (g) The cost sharing methodology must clearly specify the shares which determine how much of the costs on cross-border relevant network element are attributed to each bidding zone;
 - (h) The cost sharing methodology must clearly specify how the costs attributed to flow components, whose origins lie outside of the Core CCR (i.e. loop flows and allocated flows originating from outside the Core CCR), are attributed to Core bidding zones;
 - (i) Finally, the cost sharing methodology must specify how the costs attributed to Core bidding zones are split among the TSOs of each bidding zone.
- (63) As the methodology requires significant improvements, revisions and detailed specifications, ACER organised these amendments in the order of the elements as mentioned in previous paragraph.

6.2.2.1. Determination of cross-border relevant network elements eligible for cost sharing

- (64) Articles 9 and 10 of the Proposal provide that the coordination process for the activation of redispatching and countertrading actions of cross-border relevance will activate these

actions to solve congestions on two types of network elements, one type would be cross-border relevant and the other type non-cross-border relevant.

- (65) However, ACER understands that this assumption is not correct, since the methodology for coordinated security assessment, adopted pursuant to Article 75(1) of the SO Regulation, determines that regional operational security coordination, which is used as the basis for the activation of redispatching and countertrading actions of cross-border relevance, shall solve congestions **only on cross-border relevant network elements**. The regional operational security coordination process that is set out in the above-mentioned methodology will not aim to resolve congestions on network elements which are not cross-border relevant network elements and therefore no redispatching and countertrading actions of cross-border relevance will be activated for such elements. This understanding is confirmed by Article 8 of the proposal for the Core methodology for regional operational security coordination⁵ pursuant to Article 76 of the SO Regulation, which specifies that cross-border relevant network elements are secured network elements and these in turn are the only elements on which the congestions are being resolved by the regional operational security coordination⁶.
- (66) ACER therefore understands that redispatching and countertrading actions of cross-border relevance can only be used for resolving congestions on cross-border relevant network elements.
- (67) Some Core TSOs and regulatory authorities expressed concerns that the cost sharing solution should not apply to all cross-border relevant network elements on the ground that Article 16(13) of the Electricity Regulation refers to cost sharing with regard to congestions between two bidding zones observed. More specifically, some of them interpreted this reference to imply that only network elements located on the border between two bidding zones should be eligible for cost sharing, while some others were of the opinion that all network elements which are concerned by the congestion as defined in Article 2(4) of the Electricity Regulation (i.e. all network elements significantly impacted by electricity trades between two bidding zones observed) are subject to cost sharing.
- (68) Article 16(13) of the Electricity Regulation specifies a clear cost sharing solution (i.e. based on contributions from flows resulting from internal transactions) for congestion between two bidding zones observed. However, Article 16(13) of the Electricity

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https://www.acer.europa.eu/en/Electricity/OERATION-CODES/SYSTEM-OPERATION/Documents/20191219_Core%20CCR%20TSOs_Core%20ROSC%20Methodology.pdf

⁶ ACER notes that this proposal also mentions scanned network elements which are not cross-border relevant network elements, but these elements will only be monitored within the regional operational security coordination and any congestions on them will not be actively resolved.

Regulation does not specify that cost sharing should be applied **only** for congestion between two bidding zones observed (regardless of the exact interpretation of what the congestion between two bidding zones observed means). Therefore, Article 16(13) of the Electricity Regulation does not prevent, *per se*, that for network elements which would not be covered by the interpretation of the ‘congestion between two bidding zones observed’, the same cost sharing solution as for congestion between two bidding zones observed (or another cost sharing solution) can be applied.

- (69) Article 74(2) of the CACM Regulation requires the cost sharing methodology to determine cost sharing solutions for redispatching and countertrading actions of cross-border relevance. Since these actions are used to solve congestions on all cross-border relevant network elements and not just on a subset of them (see paragraph 65 above), it follows that omitting some cross-border relevant network elements from cost sharing would not comply with Article 74(2) of the CACM Regulation as it would not determine a cost sharing solution for some or part of redispatching and countertrading actions of cross-border relevance.
- (70) Furthermore, Article 74(6)(i) and Article 3(e) of the CACM Regulation require that the cost sharing methodology should not discriminate between TSOs. In that regard it is to note that the cost sharing methodology must apply certain principles for cost sharing, most notably the polluter pays principle by which flows resulting from internal transactions should primarily pay for congestion costs. If the same amount of flows resulting from internal transactions would be identified on two different congested network elements, for which redispatching and countertrading actions of cross-border relevance have been applied to resolve such congestion, and only one of these two cross-border relevant network elements would be subject to cost sharing, this would lead to a discriminatory application of the polluter-pays principle, directly discriminating against the TSO owning the network element, which is excluded from the cost sharing. In such case there would be no justification why polluting flows of the same type are considered as polluters on one cross-border relevant network element, but not on the other cross-border relevant network element. Thus, the exclusion of cross-border relevant network elements from cost sharing would not be justified and would lead to a discrimination between TSOs.
- (71) Excluding some cross-border relevant network elements from cost sharing would also contradict the general principles of congestion management in accordance with Article 16(1) of the Electricity Regulation by which network congestion problems should be addressed with non-discriminatory market-based solutions which give efficient economic signals to the market participants and transmission system operators involved. This general principle was applied in ACER Decision 02/2019 of 21 February 2019 on the Core CCR TSOs’ proposals for the regional design of the day-ahead and

intraday common capacity calculation methodologies⁷. Articles 5 of Annexes I and II of this Decision set out the requirements for Core TSOs to continuously monitor and identify the most efficient congestion management method for congestions on internal network elements, among which are capacity calculation, remedial actions, reconfiguration of bidding zones and network investments. The solution by which congestion problems can be addressed with remedial actions crucially depends on the coordination of remedial actions and related cost-sharing. Thus, in the absence of cost-sharing for specific congested network elements, remedial actions could no longer be considered as an alternative congestion management method for these elements. As a consequence, this would prevent efficient congestion management as required by Article 16(1) of the Electricity Regulation.

- (72) In view of this context, Article 16(13) of the Electricity Regulation should be interpreted as not excluding a cost sharing solution that applies to all cross-border relevant network elements.
- (73) During the proceedings on this Decision, ACER explored whether regulatory authorities could support the interpretation that only network elements concerned by the congestion as defined in Article 2(4) of the Electricity Regulation are eligible for cost sharing (as outlined in paragraph 67 above). The responses from the majority of regulatory authorities showed that a Decision adopted based on this interpretation could not receive the required favourable opinion of the ACER's Board of Regulators. Thus, only a Decision where all cross-border relevant network elements are eligible for cost sharing was able to gather the required favourable opinion of the ACER's Board of Regulators.
- (74) Based on the above, ACER defined in Article 3 of the cost sharing methodology that all cross-border relevant network elements shall be subject to cost sharing.

Cross-border relevant network elements concerned by the action plans

- (75) In their non-paper a majority of Core regulatory authorities expressed the view that network elements concerned by action plans should not be eligible for cost sharing. They referred to Article 15(3) of the Electricity Regulation which stipulates that the cost of the remedial actions necessary to achieve the linear trajectory referred to in Article 15(2) of the same Regulation or make available cross-zonal capacity at the borders or on critical network elements concerned by the action plan shall be borne by the Member State or Member States implementing the action plan. These regulatory authorities therefore claim that this Article *per se* excludes all such network elements

⁷https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%202002-2019%20on%20CORE%20CCM.pdf

from cost sharing. While these regulatory authorities recognise that the costs referred to in this Article are limited only to making available cross-zonal capacities, they consider that internal network elements concerned by the action plan cannot be considered as cross-border relevant, whereas for cross-zonal network elements concerned by the action plan, the costs attached to the concerned Member State should also not be shared.

- (76) Few other Core regulatory authorities have the opposite view that Article 15(3) of the Electricity Regulation excludes from cost sharing only the costs incurred to reach the required level of minimum capacities, but it does not exclude *per se* such network elements from cost sharing. According to these regulatory authorities, the costs incurred by TSOs in order to go beyond the required minimum capacity would be eligible to cost sharing.
- (77) ACER carefully evaluated these positions and the specific situation of the network elements concerned by the action plan. First, ACER observed that the claim that internal network elements concerned by the action plan cannot be considered as cross-border relevant is not supported by Article 15(3) of the Electricity Regulation nor by any other relevant legal provision. Second, ACER notes that indeed Article 15(3) of the Electricity Regulation limits the exclusion of such network elements from cost sharing only to the extent where such costs have occurred for the purpose of achieving the linear trajectory referred to in Article 15(2) of the same Regulation or make available the required level of cross-zonal capacity in accordance with Article 16(8) of the same Regulation.
- (78) ACER considers that the costs of remedial actions which are not stemming from making available the required level of cross-zonal capacities should still be subject to cost sharing in accordance with the cost sharing methodology. With this regard ACER notes that the adopted cost sharing methodology by default allocates all the costs attributed to a specific network element to the TSO which owns such network element (i.e. the TSO in whose control area such network element is connected or located), except for the costs which are caused by congestions created by loop flows originating from other bidding zones. These costs are then borne by the TSOs of these other bidding zones that create such loop flows.
- (79) ACER understands that the remedial actions, which are required to address congestions caused by loop flows from other bidding zones cannot be considered as remedial actions necessary to achieve the linear trajectory as stipulated by Article 15(3) of the Electricity Regulation. This is because the action plan and the related linear trajectory are designed

to address the congestion⁸ identified within the bidding zone(s) of the concerned Member State in accordance with Article 15(1) and (2) of the Electricity Regulation. The action plan and linear trajectory therefore reflect the (high level of) loop flows and internal flow caused by the bidding zone of such Member State and they are not designed to solve the physical congestion problems that are caused by loop flows from other bidding zones. The action plan should gradually reduce the level of loop flows and internal flow resulting from the bidding zone of a Member State applying the action plan, which should allow for a gradual increase of cross-zonal capacities. However, this may not be possible if during this period the loop flows from other bidding zones would increase and no cost sharing with polluter-pays principle would be applied for these loop flows. Excluding all network elements concerned by the action plan from the cost sharing would not allow the Member State applying the action plan to increase cross-zonal capacities, because there would be no cost sharing for congestions caused by loop flows originating from neighbouring bidding zones. Such a solution would, on the other hand, provide perverse incentives to neighbouring Member States. With this respect, Article 15(3) of the Electricity Regulation does not aim at contradicting the polluter-pays principle in case of action plans, but rather to safeguard and reinforce it.

- (80) In conclusion, the adopted cost sharing methodology, which effectively shares the costs of remedial actions, which are related only to congestions caused by loop flows, ensures that all remedial actions necessary to achieve the linear trajectory as stipulated by Article 15(3) of the Electricity Regulation are always borne by the TSOs of Member States where such network elements are located. Therefore, the adopted cost sharing methodology ensures that the remedial actions necessary to achieve the linear trajectory on network elements concerned by the action plan as stipulated by Article 15(3) of the Electricity Regulation are always borne by the Member States implementing such action plans.
- (81) For the reasons above, the adopted cost sharing methodology does not need any specific rules regarding the network elements concerned by the action plans.

6.2.2.2. Splitting of total costs to individual cross-border relevant network elements (mapping)

- (82) The cost sharing methodology must clearly specify how the costs of redispatching and countertrading actions of cross-border relevance are mapped, i.e. split among cross-border relevant network elements.

⁸ The congestion referred here is defined in Article 2(4) of the Electricity Regulation and indicates inability of the bidding zone to accommodate all trade requests within such bidding zone. It should not be confused with the term congestion used elsewhere in this Decision which refers to physical congestion caused by physical flows on network elements.

- (83) Article 9 of the Proposal provides the high level description of process of mapping the costs of cross-border relevant remedial actions to both cross-border relevant and non-cross-border network elements. It defines the need to perform mapping on an hourly basis, the need to use the final costs resulting from remedial actions and the need to use the common grid model ('CGM') used in the relevant coordinated security analysis. The Explanatory document and the Experimentation report provide the description of potential mapping methods, however none of them is proposed to be used in the Proposal. These methods are: volume-based mapping ('VBM'), improved volume-based mapping ('iVBM'), individual optimisation-based mapping ('IOBM') and shadow price based mapping ('SBM').
- (84) ACER discussed these options with Core TSOs and regulatory authorities. Volume based mapping solution was criticised by most of the Core TSOs and regulatory authorities due to its failure to include properly the influence of non-costly remedial actions. During the common proceedings, ACER proposed the adjustment of volume-based mapping (so called advanced volume-based mapping), which partially addressed the concerns regarding the consideration of non-costly remedial actions.
- (85) Improved volume-based mapping option was the only option that was tested during the experimentation, but its results were judged as non-satisfactory by all Core TSOs and regulatory authorities. During the proceedings, some Core TSOs proposed a simplified and more robust version of the improved volume-based mapping, which significantly improved the performance of this solution as shown by simulations performed by ACER.
- (86) Individual optimisation-based mapping and shadow price mapping were considered by Core TSOs only at a theoretical level and they could not be tested by Core TSOs due to unavailability of proper IT tools.
- (87) During the proceedings with Core TSOs and regulatory authorities, ACER proposed another alternative method called the least-cost-based mapping ('LCBM'). This method identifies those cross-border relevant remedial actions (that were applied by coordination optimisation), which are sufficient to address congestion on an individual cross-border relevant network element with the least costs. Subsequently the total costs of all cross-border relevant remedial actions are split in proportion to the least costs identified for each individual network element.
- (88) Based on the above discussions, ACER performed the testing of improved volume-based mapping, advanced volume-based mapping and least-cost-based mapping and presented the testing results of these three options to Core TSOs and regulatory authorities.
- (89) The least-cost based mapping method received the support of a majority of TSOs and regulatory authorities and for this reason ACER included it in the adopted cost sharing methodology. The reason for this high support was that the least-cost-based mapping

properly takes into account the proximity of remedial actions and only their required volume such that less costs are attributed to network elements on which the congestions can be relieved with less remedial actions and with less costs. This method therefore adequately addresses the main concern of TSOs and regulatory authorities that the mapping solution needs to take into account the impact of non-costly remedial actions on cross-border relevant network elements. The test results for this method showed that the method is feasible and sufficiently robust to be implemented.

- (90) Given the complexity of the mapping solution, some Core TSOs and regulatory authorities proposed that the mapping solution is reviewed during the implementation of the cost sharing methodology and the methodology amended subject to this review. However, since the adopted mapping solution was judged by ACER and most Core TSOs and regulatory authorities as sufficiently robust, ACER deems that an amendment of the methodology to improve this mapping solution during the implementation is not required and should preferably be avoided in order not to delay the implementation. Nevertheless, if TSOs identify implementation problems related to this method, they have the right to propose amendment to the adopted cost sharing methodology in accordance with Article 9(13) of the CACM Regulation.
- (91) Some Core TSOs and regulatory authorities also expressed concerns that the final mapping solution can only be adopted once more testing on real data is performed. To address this concern, ACER introduced in Article 12 of the adopted cost sharing methodology a general obligation to review all aspects of the methodology and propose amendments where required 12 months after the implementation of the cost sharing methodology. With this regard, some TSOs and regulatory authorities pointed out the need that the mapping solution should be improved to take into account the specific effects of remedial action optimisation where congestions on network elements are not resolved directly, but rather redirected to other network elements where they can be resolved with cheaper remedial actions. The proposed current mapping solution fails to properly take into account such shifting of congestions. As it was not possible to adequately and robustly address this problem during the adoption of this cost sharing methodology, ACER invites TSOs to analyse it during and after implementation and to propose amendments to address this problem to the degree possible.

6.2.2.3. Specification of flow components

- (92) Article 7 of the Proposal defines the decomposition of flows for each cross-border relevant network element. This Article proposes a general identification of five different flow components, however, such general identification is not sufficient for the purpose of defining exact cost sharing solution. In particular, ACER has specified the following amendments to the flow components.
- (93) First, ACER merged all the market flows, i.e. import/export flows and transit flows from all bidding zones into one single flow component defined as allocated flow. This allocated flow represents the cumulative flow resulting from all cross-zonal exchanges

within and outside the Core CCR and it is therefore the result of cross-zonal capacity allocation. While Core TSOs may further split this component into different import/export flows and transit flows, for the purpose of cost sharing such splitting is not necessary, because all TSOs have agreed that in case the allocated flow is identified as contributing to the congestion, the owner of the congested cross-border relevant network element shall pay for the corresponding costs. For this reason, the cost sharing methodology does not need to identify the specific origins of allocated flow.

- (94) Second, ACER specified which loop flows need to be calculated. The cost sharing methodology must calculate loop flow resulting from each individual bidding zone in the Core CCR, whereas loop flows from bidding zones outside the Core CCR may be identified as a single flow component, because if they are identified as a contribution to congestion, the corresponding costs are to be borne by the owner of the cross-border relevant network element. Therefore, loop flow originating from bidding zones outside the Core CCR does not need to be split per individual bidding zone.
- (95) Finally, ACER provided the exact specification of the calculation method, defining how each flow component needs to be calculated. Without such specification TSOs may not be able to agree on how to calculate these components themselves, since different views have been presented by different TSOs with regard to the exact methods of calculating flow components.
- (96) During the development of the Proposal, Core TSOs considered two possible methods for the flow decomposition. The first method was power flow colouring (PFC) and the second was full line decomposition (FLD). Both methods in general follow a two-step approach for the determination of flow components, where in the first step, for each node in the common grid model, sources (i.e. positive nodal injections) and sinks (i.e. negative nodal injections) are split into components which cause particular flow components and in a second step these partial injections are multiplied with nodal power transfer distribution factors (PTDFs) that convert these nodal injections into flows on network elements, i.e. loop flows, internal flows and allocated flows.
- (97) The power flow colouring (PFC) method firstly applies a splitting of source and sink injections into injections reflecting cross-zonal exchanges and injections reflecting electricity exchanges internal to bidding zones. This splitting is done based on a generation and load shift key, which determines the share of the total export or import of a bidding zone that is attributed to each individual node and thereby determines source and sink injections reflecting the cross-zonal exchanges. The difference between total injections and injections related to cross-zonal exchanges then determine the injections related to internal exchanges. The allocated flow is calculated by multiplying the cross-zonal injections with nodal PTDFs and summing up contributions from all nodes in all bidding zones per relevant network element. Internal flows and loop flows are determined by multiplying internal injections with corresponding PTDFs and summing up contributions from all nodes per each bidding zone per relevant network element.

- (98) The full line decomposition (FLD) method performs the pairing of source and sink injections based on electrical distance, without prior decomposing each source and sink injections that would be predefined to cause internal and cross-zonal component of flows. This method calculates the flow types per network element by multiplying the corresponding nodal injections with nodal PTDFs. The flow types for individual network elements are calculated by filtering and summing the flow contributions according to the flow type definitions for the loop flows, internal flows and allocated flows.
- (99) The impact of HVDC network elements is also modelled differently in the two methods. In power flow colouring method the cross-zonal HVDC network element is assumed to transport only cross-zonal exchanges and thereby change allocated flows in surrounding alternating current ('AC') networks. On the other hand, the internal HVDC network element is assumed to transport only internal exchanges and thereby change internal and loop flows in surrounding AC networks. In full line decomposition method both internal and cross-zonal HVDC network elements transport a combination of internal and cross-zonal exchanges and thereby can change all types of flows in surrounding AC networks.
- (100) The determination of flows caused by phase shifting transformers (i.e. PST flows), which are calculated with the use of the phase shifter distribution factors ('PSDFs') is done in the same way in both methods. The PSDF expresses the impact of a change of one tap of a PST on a flow on a network element. The PST flow was thereby determined by multiplying for each PST its tap position with the corresponding PSDF and then sum all contributions from all PSTs into a single PST flow.
- (101) In the Experimentation report, Core TSOs were using the power flow colouring (PFC) method as the basis for the flow decomposition, since its representation of flow components is better reflecting the nature of the zonal European market model and provides more intuitive results. Thus, the majority of Core TSOs and regulatory authorities proposed to use this method for power flow decomposition. ACER carefully analysed both methods and consulted also with TSOs and regulatory authorities, which supported the full line decomposition method. Nevertheless, based on all the information gathered, ACER concluded that power flow colouring is more suitable for the zonal market model and is consistent with the capacity calculation when calculating allocated flows, which is not the case for the full line decomposition method. For this reason ACER included in the cost sharing methodology the flow decomposition based on power flow colouring.
- (102) Some Core TSOs and NRAs expressed concerns that the generation shift key used in capacity calculation is not appropriate for the flow decomposition for importing bidding zones (i.e. bidding zones that import electricity in a specific hour). This is because the generation shift key used in capacity calculation models the import of electricity as reduction of generation in such zone, whereas in flow decomposition the import of electricity is proposed to be modelled as increase of consumption in such bidding zone.

Therefore, flow decomposition with the generation shift key from capacity calculation would artificially increase the internal exchanges in such bidding zones (which are calculated in the absence of electricity imports) and thereby increase loop flows and internal flows. ACER agrees with these concerns and suggested that the concerned TSOs try to harmonise generation shift key methodology between capacity calculation and flow decomposition such that the same assumptions about imports of electricity are made in both areas. This is needed to ensure that the flow components calculated during capacity calculation are aligned as much as possible with the flow components calculated during cost sharing. With this regard, the generation shift key method defined in capacity calculation methodologies should be flexible enough to accommodate this consistent approach.

6.2.2.4. *Netting of flow components in the opposite direction to the congestion*

- (103) Article 8(4) of the Proposal specifies that a cost sharing solution must apply the netting of flow components that are opposite to the direction of congestion (i.e. relieving flows), but it does not specify how exactly this netting is applied. In the Experimentation report and Non-paper of Core TSOs, Core TSOs have analysed several solutions that fall into two categories. The first category determines which relieving flows are netted with which burdening flows, and here TSOs presented that first the relieving flows of the same category are netted (e.g. relieving loop flows reduce burdening loop flows) and then the remaining relieving flows, if still present, reduce all burdening flows. The second category determines how flows are netted and here the TSOs presented three solutions: (i) all relieving flows reduce all burdening flows proportionally to the size of burdening flows, (ii) all relieving flows reduce all burdening flows equally, such that each burdening flow component is reduced by the same amount and (iii) vertical shift by which the relieving flows reduce burdening flows at the bottom of the order stack, which is determined by the priorities of flows as determined in Section 4.5 of the TSOs' Explanatory document.
- (104) After careful analysis of all options presented by the TSOs and the fact that the TSOs could not agree on any of the presented options, ACER concluded that the cost sharing methodology does not require the netting of relieving flows. While netting could technically be applied, the cost sharing methodology can also work without any netting of relieving flows.
- (105) The reason for such decision is twofold. First, neither the CACM Regulation nor the Electricity Regulation explicitly requires the netting of relieving flows for establishing a cost sharing solution. Second, Article 16(13) of the Electricity Regulation only requires the identification of flows which contribute to congestion as only such flows shall be considered for cost sharing. The flows which contribute to congestion are only burdening flows whereas the relieving flows do not contribute to congestion. Furthermore, reducing burdening flows by the relieving flows would artificially reduce the contribution of burdening flows to congestion and thereby would not comply with the requirements of Article 16(13) of the Electricity Regulation, which require the

identification of flows which contribute to congestion without any reductions. For this reason, ACER removed from the cost sharing methodology the requirement to net the relieving flows as it is not required for cost sharing.

- (106) During the proceedings on this Decision, ACER explored whether regulatory authorities could support the netting of relieving flows in the form of equal netting where the equal share of relieving flows reduce all burdening flow components. The responses from the majority of regulatory authorities showed that a Decision adopted based on such proposal for netting could not receive the required favourable opinion of the ACER's Board of Regulators. Thus, only a Decision where no netting of relieving flows is applied was able to gather the required favourable opinion of the ACER's Board of Regulators.

6.2.2.5. The threshold for legitimate level of loop flows

- (107) Article 8 of the Proposal specifies the need to apply the threshold per flow type, yet it does not provide further details how and to which flow components these thresholds are applied.
- (108) In accordance with Article 16(13) of the Electricity Regulation, the cost sharing methodology must exclude from cost sharing the flows resulting from transactions internal to bidding zones that are below the level that could be expected without structural congestion in a bidding zone (i.e. the loop flow threshold). This means that loop flows from each bidding zone must be split into two components, one below the threshold and one above the threshold.
- (109) The threshold for loop flows is an indispensable part of the cost sharing methodology, because Article 16(13) of the Electricity Regulation establishes a principle by which loop flows, which are expected in bidding zones without structural congestions should not be considered as contributing to congestion and therefore penalised. This principle reflects the fundamental nature of zonal electricity market model that even in an optimal bidding zone configuration, some levels of loop flows would still persist and are therefore inherent in any zonal market model. Article 16(13) of the Electricity Regulation therefore establishes a rule by which this normal level of loop flows is legitimate and should not be penalised.
- (110) In order to define the loop flow threshold, Article 16(13) of the Electricity Regulation requires this threshold needs to be jointly analysed and defined by all transmission system operators in a capacity calculation region for each individual bidding zone border, and be subject to the approval of all regulatory authorities in the capacity calculation region. By the time of the adoption of this decision, TSOs have not performed such an analysis and no approval of Core regulatory authorities could be granted.

- (111) During its proceedings on this Decision, ACER invited Core TSOs to submit such an analysis to ACER before the expiry of the consultation deadline, i.e. by 20 August 2020; however, Core TSOs did not do so.
- (112) ACER investigated options to perform such an analysis itself. However, such an analysis would require first a determination of a situation in which no structural congestion would appear in any bidding zone as required by Article 16(13) of the Electricity Regulation. Such situation would *inter alia* require an investigation of network investments and alternative bidding zone configurations, which would address and remove all structural congestions in all bidding zones. As such analysis requires extensive investigation, ACER is not in a position to fill this gap and perform such an analysis due to constraints on resources, time and expertise.
- (113) In the absence of the analysis referred to in Article 16(13) of the Electricity Regulation which would determine the loop flow threshold and given the necessity for cost sharing methodology to apply a loop flow threshold, ACER explored an alternative and temporary solution to determine such threshold until the analysis by Core TSOs and its approval by Core regulatory authorities is completed.
- (114) To this end, ACER proposed that the temporary solution for the threshold for each bidding zone is determined in two steps. In the first step, a common threshold needs to be defined for each cross-border relevant network element regarding the total level of loop flows arising from all bidding zones in the Core CCR. In the second step the common threshold is then divided between bidding zones to establish individual threshold that determines the maximum level of loop flows from each individual bidding zone that should not be penalised in cost sharing.
- (115) With regard to the common threshold for all Core bidding zones, ACER consulted Core TSOs for their expert opinion on what would be the total level of loop flows on bidding zone borders in the absence of structural congestion in any bidding zone. The responses from Core TSOs (which can also be found in Section 1.9 of the Non-paper of Core TSOs) varied. Some TSOs were explicitly supporting 3%, 5% or up to 10% of the maximum capacity of the cross-border relevant network element. Some other Core TSOs did not respond to this directly, but considered that this threshold should be higher than 10% and should at least reflect the assumptions regarding the loop flows made in capacity calculation pursuant to Article 16(8) of the Electricity Regulation. Despite the varied responses from Core TSOs, which should be understood as driven by their particular interest (i.e. TSOs of smaller zones create lower loop flows and prefer lower threshold, whereas TSOs from larger zones create larger loop flows and prefer larger threshold), ACER summarised these expert opinions into a compromise proposal that a common threshold for loop flows from all bidding zones would be defined per each cross-border relevant network element and would be equal to 10% of maximum capacity of such network element.

- (116) This proposal was accepted as a compromise by a majority of TSOs, whereas some TSOs proposing higher threshold still considered this threshold to be too low and therefore discriminatory against big bidding zones. ACER disagrees with this assessment and considers that a common threshold for loop flows equal to 10% of maximum capacity of a network element represents a balance of different TSO positions, expert opinions and interests and does not discriminate any bidding zone, since this threshold only defines a common threshold for all bidding zones together.
- (117) To calculate the individual threshold for each bidding zone, the common threshold must be split among all Core bidding zones. For this, ACER proposed equal splitting of the common threshold among the Core bidding zones which create burdening loop flows on the concerned network element. Further, in case a bidding zone creates a loop flow that is below such individual threshold, the individual threshold can be increased until the sum of all burdening loop flows from all bidding zones below the individual threshold is equal to the common threshold. With this regard, larger bidding zones benefit from the fact that loop flows from smaller bidding zones are not utilising their individual threshold to its full extent.
- (118) Some Core TSOs and regulatory authorities from large bidding zones also argued that equal splitting of the common threshold among all bidding zones is discriminatory towards larger bidding zones and instead a proportional splitting should be applied. ACER rejected such a proposal, because a proportional splitting of a threshold would make the concept of a loop flow threshold (as defined Article 16(13) of the Electricity Regulation) void, since the proportional splitting does not ensure that bidding zones which create very small loop flows and are considered as without structural congestion do not pay any costs. This is evident from the examples provided in Tables 1 and 2 below. In Table 1, equal splitting of the 10% common threshold to five bidding zones would result in an individual threshold equal to 2%. However, since bidding zone 1 does not use the whole individual threshold, the individual threshold can be increased by 2.33%, which results in exactly 10% of total sum of the loop flows below the individual threshold. In Table 1, the equal splitting of the common threshold ensures that bidding zones, which create small loop flows and are therefore considered as being without structural congestion, do not pay anything.
- (119) In Table 2, however, the proportional splitting of 10% common threshold, provides a much higher threshold for bidding zones with higher loop flows and much lower threshold for bidding zones with lower loop flows. This results into bidding zone shares which are exactly equal before and after application of the individual threshold. Such definition of individual threshold would therefore contradict the intention of Article 16(13) of the Electricity Regulation, which requires that bidding zones which do not have structural congestions and create low amount of loop flows do not pay any part of the costs of remedial action. In other words, proportional sharing of the common threshold would lead to make the smallest bidding zones without structural congestion still pay a portion of the costs of remedial actions, which is against the intention of Article 16(13) of the Electricity Regulation. It also makes the concept of a threshold

void, since the shares before the application of a threshold and after application are completely the same.

Table 1: Example of equal splitting of common threshold of 10% to 5 bidding zones

Bidding zone	Loop flows (% of F _{max})	Percentage shares before threshold (%)	Individual threshold - equal splitting	Loop flows above individual threshold	Percentage shares after threshold (%)
Bidding zone 1	1	5.0	2.33	0.00	0.0
Bidding zone 2	3	15.0	2.33	0.67	6.7
Bidding zone 3	8	40.0	2.33	5.67	56.6
Bidding zone 4	2	10.0	2.33	0.00	0.0
Bidding zone 5	6	30.0	2.33	3.67	36.7

Table 2: Example of proportional splitting of common threshold of 10% to 5 bidding zones

Bidding zone	Loop flows (% of F _{max})	Percentage shares before threshold (%)	Individual threshold – prop. splitting	Loop flows above individual threshold	Percentage shares after threshold (%)
Bidding zone 1	1	5.0	0.5	0.5	5.0
Bidding zone 2	3	15.0	1.5	1.5	15.0
Bidding zone 3	8	40.0	4.0	4.0	40.0
Bidding zone 4	2	10.0	1.0	1.0	10.0
Bidding zone 5	6	30.0	3.0	3.0	30.0

- (120) Based on the above consideration and consultation of the Core TSOs and regulatory authorities, ACER decided that a common loop flow threshold for each cross-border relevant network element should be equal to 10% of its maximum capacity and this threshold should be split equally among bidding zones that create burdening loop flows on such cross-border relevant network element such that the sum of burdening loop flows below the individual threshold is equal to the common threshold of 10%.
- (121) ACER is of the view that this decision is a necessary and appropriate temporary solution until Core TSOs and regulatory authorities define and approve the level of a more appropriate loop flow threshold pursuant to Article 16(13) of the Electricity Regulation.
- (122) During the proceedings on this Decision, ACER explored whether regulatory authorities could support a higher common loop flow threshold equal to 15% in order to take into account the concerns of Core TSOs and regulatory authorities from large bidding zones (see paragraphs 115 and 116 above). The responses from the majority of regulatory authorities showed that a Decision adopted based on such proposal for common loop flow threshold could not receive the required favourable opinion of the

ACER's Board of Regulators. Thus, only a Decision adopting a common loop flow threshold equal to 10% or lower was able to gather the required favourable opinion of the ACER's Board of Regulators.

6.2.2.6. Priority of flow components

- (123) The cost sharing methodology must specify which flow components contribute to congestion, which is in this sense defined as a portion of physical flow exceeding the maximum flow on a network element. Article 7 of the Proposal provides a principle by which a priority list is applied to flow components and then only the flow components (sorted with such priority) that exceed the maximum flow on network elements are identified as contributions to congestion. However, the Proposal does not include the proposal for prioritisation of flow components.
- (124) In order to identify which flow components contribute to congestion and to which degree, ACER first clearly defined what congestion means in this regard, and for this purpose defined the volume of overload. This volume of overload is equal to the total flow on the cross border relevant network element before the congestion (i.e. overload) is relieved, reduced by the maximum flow on that network element.
- (125) In the Experimentation report, Core TSOs analysed three prioritisation sequences:
 - (a) Option 1: First: loop flows above threshold; second: internal flow; third: loop flow below threshold; fourth: allocated flow and PST flow;
 - (b) Option 2: First: loop flows and internal flow above threshold; second: loop flows and internal flow below threshold; third: allocated flow and PST flow; and
 - (c) Option 3: First: loop flows above threshold; second: internal flow above threshold; third: allocated flow and PST flow; fourth: loop flows below threshold; fifth: internal flow below threshold.
- (126) A majority of Core TSOs and regulatory authorities supported a version of Option 1, where the loop flows above the threshold have the first priority, internal flows have the second priority, while all the rest of the flow components are treated equally in the third priority. These TSOs and regulatory authorities supported this option, because they considered that the users which cause internal flow should be treated differently than users causing the loop flows. This is because the former are paying for the investment and maintenance of the network they are using, whereas the latter are not. They also claimed that treating loop flows and internal flows equally would not provide sufficient incentives for TSOs causing loop flows to manage congestions efficiently and to reduce the loop flows by e.g. investing in the network or reconfiguring the bidding zones which cause loop flows.
- (127) Few Core TSOs and regulatory authorities, on the other hand, supported Option 2 where the loop flows and internal flows should be equally considered within first priority.

They supported their argumentation by noting that Article 16(13) of the Electricity Regulation does not distinguish between the loop flows and internal flows when identifying the contribution to the congestion. Further, these TSOs and regulatory authorities argued that not treating loop flows and internal flows with equal priorities would not provide correct incentive to TSOs to invest in their network in case of congestions within a bidding zone.

- (128) Option 1 and 2 are presented in the figure below, which shows the stacking of different flow components in relation to the maximum capacity of the network element (denoted with 100%). In Option 1 of this example all loop flows are identified as contributors to congestion, whereas only the internal flow which is needed to cover the remaining congestion is identified as contributor to congestion. In Option 2, all loop flows and the whole internal flow are identified as contributors to congestion, however, since their sum is larger than the volume of congestion they are scaled down afterwards to become equal to the volume of congestion (i.e. volume of overload). This scaling does not change the relative shares of loop flows and the internal flow.

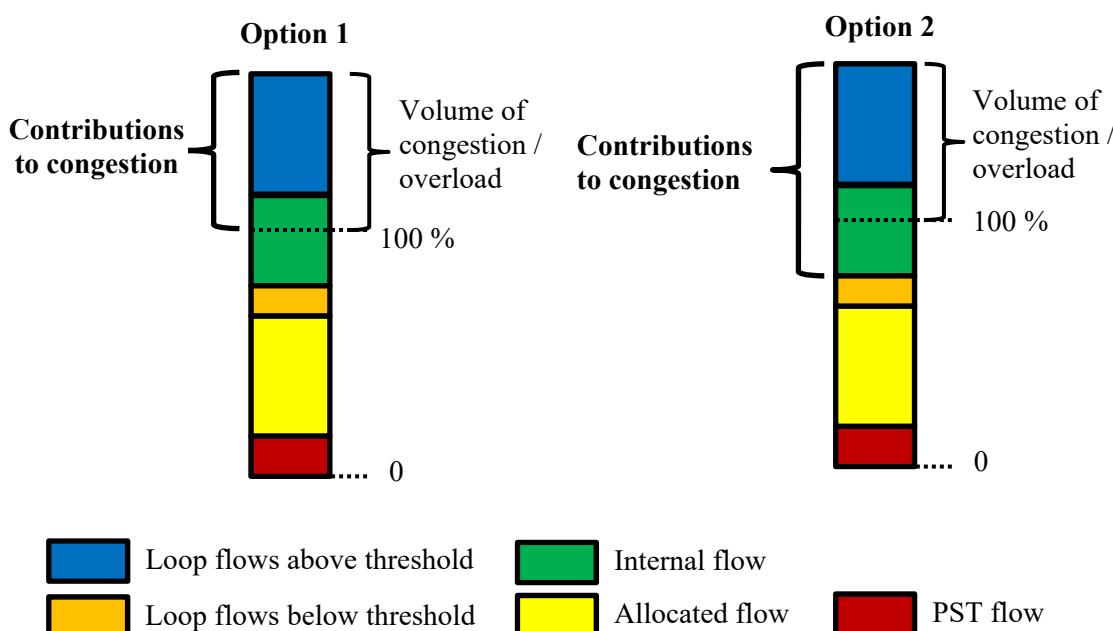


Figure 1: The difference between two considered options for priorities of flows

- (129) ACER carefully evaluated different arguments from Core TSOs and regulatory authorities, analysed possible options and performed the simulations of investigated options based on the data used in the Experimentation report. While ACER recognises some validity of arguments of both groups of Core TSOs and regulatory authorities, it considers that the arguments of the majority of TSOs and regulatory authorities are stronger in this specific case.

- (130) In accordance with Article 16(13) of the Electricity Regulation, the physical flows resulting from electricity exchanges (i.e. transactions) internal to bidding zones (i.e. internal flows and loop flows) should indeed be identified as the main contributors to the congestion and the TSOs of bidding zones in which those exchanges are settled should therefore bear the proportional part of the costs attributed to the congested network elements. In case of cross-zonal network elements these flows are loop flows, whereas in case of internal network elements, these flows are the internal flow and the loop flows, the former being caused by electricity exchanges within a bidding zone where such network element is located and the latter being caused by electricity exchanges within other bidding zones.
- (131) ACER recognises that Article 16(13) of the Electricity Regulation does not make a specific distinction between loop flows and internal flows when referring to flows resulting from electricity exchanges (i.e. transactions) internal to bidding zones. However, this Article requires regulatory authorities to **analyse to what extent** loop flows and internal flows contribute to congestion, but it does not prescribe the extent to which they contribute to congestion. Article 16(13) of the Electricity Regulation therefore provides regulatory authorities the freedom to analyse and conclude to what extent the loop flows and internal flows contribute to congestion. ACER considers that a conclusion by regulatory authorities that loop flows contribute to congestion more than internal flows is therefore not contradicting Article 16(13) of the Electricity Regulation.
- (132) On the other hand, ACER agrees with the majority of Core TSOs and regulatory authorities that loop flows and internal flows cannot be treated equally when identifying their contribution to congestion. This is because the network users which are causing internal flows on internal network elements are actually financing the investment and maintenance of such internal network element via network fees or tariffs. These are users trading within a Member State and are using the domestic network, whose construction and operation has been financed by these users. On the other hand, users causing loop flows on internal network elements have not financed the investment and maintenance of such internal network elements via network tariffs, because these are users trading within one Member State, but the loop flows they create are flowing through the network of another Member State, where they do not pay the network fees or tariffs.
- (133) Furthermore, the electricity networks within Member States have been primarily dimensioned and built to accommodate internal trading within Member States and cross-zonal trading, but it has not been dimensioned to accommodate significant loop flows from internal trading in other Member States. Thus, in most cases, the internal network elements are sufficient to accommodate domestic internal trade and cross-zonal trade, but when significant loop flows from internal trading within other Member State are added on top, these elements become congested.

- (134) Article 74(6)(a) of the CACM Regulation requires that the cost sharing methodology needs to provide incentives to manage congestion, including remedial actions and incentives to invest effectively. For the reasons described above, ACER considers that, in case of internal network elements, the main incentives should be put on the TSOs which cause loop flows (e.g. due to their internal congestion problems) and not on the TSOs which host loop flows and face congestions because of these loop flows. Option 1 therefore provides correct incentive to TSOs which cause loop flows to manage their congestion problems and reduce loop flows, whereas for TSOs which host loop flows, the incentives to invest are needed only in case their internal flows are causing congestion and Option 1 described above is adequate to provide such incentive. Option 2, on the other hand, would define completely wrong incentives, i.e. insufficient incentives to reduce loop flows and unfair incentives to TSOs which host loop flows to invest, despite the true reason for congestion being outside of their responsibility.
- (135) For the above reasons, ACER adopted a decision where the loop flows beyond a ‘legitimate’ level (i.e. the level that could be expected without structural congestion in a bidding zone) should be identified as the primary contributor to the congestion on internal network elements, whereas internal flows should be penalised only for the remaining volume of congestion.
- (136) During the proceedings on this Decision, ACER explored whether regulatory authorities could support a compromise solution between Option 1 and Option 2 (as described above) where part (percentage) of internal flows would be treated with equal priority as loop flows and the remaining part with a second priority. The responses from the majority of regulatory authorities showed that a Decision adopted based on such proposal for priority of flow components could not receive the required favourable opinion of the ACER’s Board of Regulators. Thus, only a Decision adopting Option 1 (as described above) was able to gather the required favourable opinion of the ACER’s Board of Regulators.

6.2.2.7. *Treatment of flows originating outside of the Core CCR*

- (137) The cost sharing methodology must clearly specify how the costs attributed to flow components, which are attributed to the origins of flows outside of the Core CCR are allocated to the Core bidding zones. Article 8 of the Proposal mentions the flow components which are attributed to the origins of flows outside of the Core CCR and specifies that these shares shall be reallocated to bidding zones in the Core CCR, but without specifying exactly how. In the Experimentation report, Core TSOs explored the options: no socialisation of loop flows from outside the Core CCR and the socialisation of these flows on equal sharing principle.
- (138) A majority of Core TSOs and regulatory authorities were of the opinion that there should be no socialisation of loop flows from outside the Core CCR, which implies that the related costs would be borne by the owners of cross border relevant network elements carrying such flows. The TSOs and regulatory authorities close to the

perimeter of the Core CCR opposed to such a solution, claiming that applying no socialisation is not fair towards the TSOs located at the perimeter of the Core CCR and it would not provide an incentive to foster cross-regional coordination or merging of CCRs.

- (139) After careful assessment of possible options, ACER adopted the cost sharing methodology without socialisation of loop flows from outside the Core CCR. This decision reflects the majority position of Core regulatory authorities and the TSOs. ACER also disagrees that equal socialisation of loop flows from outside the Core CCR would provide better incentives to foster cross-regional coordination or merging of CCRs. On the contrary, TSOs at the perimeter of the Core CCR should have higher incentive for cross-regional coordination or merging of CCRs since they are also members of neighbouring CCRs and they therefore have more leverage to apply these efficient solutions than other Core TSOs, which are not members of these CCRs. Socialisation, on the other hand, would soften these incentives for all Core TSOs.
- (140) During the hearing, some Core TSOs expressed concerns that the loop flows from outside the Core CCR should be treated equally as loop flows within the Core CCR. ACER responded that different treatment is justified by the fact that cost sharing can only be applied to Core TSOs and no costs can be assigned to the TSOs outside the Core CCR. Treating all loop flows equally would lead to costs assigned to the TSOs outside the Core CCR, which would render the methodology not legally compliant as the TSOs outside the Core CCR are not within the scope of this methodology, are not being consulted and have no legal obligation to implement the Core cost sharing methodology.

6.2.2.8. Distribution of cost shares to each bidding zone

- (141) The cost sharing methodology must clearly specify the solution, which determines how much of the costs on a particular cross-border relevant network element are attributed to each bidding zone. Article 8(7) of the Proposal defines how the shares for each bidding zone are determined, but it does not specify how this is done exactly.
- (142) ACER amended this part of the Proposal and provided further clarification on how the shares per bidding zones are determined. Article 7(7) of the adopted cost sharing methodology defines that the total costs attributed to cross-border relevant network element are split proportionally to the calculated contributions to congestion, where the loop flow contributions are attributed to the concerned bidding zones where these loop flows originate from and the remaining contributions to the TSO(s) owning the concerned network element (i.e. XNE connecting TSO).

6.2.2.9. Splitting of costs among the TSOs within a bidding zone

- (143) The cost sharing methodology must specify how the costs attributed to Core bidding zones are further split among the TSOs of each bidding zone. The Proposal does not

mention the sharing of costs among the TSOs of a bidding zone and therefore does not comply with Article 74(2) of the CACM Regulation, which requires the costs to be shared among TSOs, not the bidding zones.

- (144) ACER consulted this issue with TSOs and regulatory authorities of Germany and Luxembourg, which currently constitute the only bidding zone where several TSOs are involved. While these concerned parties suggested this cost sharing issue to remain open for discussion and agreement among the involved parties, ACER considers that this would represent a legal gap that could result in a dispute that could hamper the implementation or operation of the cost sharing. For this reason, ACER insisted that a default solution is defined in case no agreement is reached on cost sharing among the involved parties. Accordingly, ACER defined that the costs for such bidding zone shall be split among the TSOs in proportion to the annual consumption. However, TSOs may also agree on a different sharing key (in which case they will inform the settlement entity of the agreed sharing key) or appoint a single TSO as a settlement counterparty.

6.2.3. Assessment of other issues

6.2.3.1. *Monitoring by TSOs and reporting to regulatory authorities*

- (145) Article 74(5) of the CACM Regulation requires that methodology for cost sharing of redispatching and countertrading includes (a) a mechanism to verify the actual need for redispatching or countertrading between the TSOs involved; (b) an ex post mechanism to monitor the use of remedial actions with costs; (c) a mechanism to assess the impact of the remedial actions, based on operational security and economic criteria; (d) a process allowing improvement of the remedial actions, and (e) a process allowing monitoring of each capacity calculation region by the competent regulatory authorities.
- (146) The Proposal did not contain any provisions which would address the requirements of Article 74(5)(a)-(d) of the CACM Regulation. However, after consulting with Core TSOs and regulatory authorities, ACER understands that these requirements cannot be met within the cost sharing methodology since they essentially require monitoring of the efficiency of coordination and optimisation of remedial actions and have no relevance for cost sharing. Thus, ACER is not in a position to amend the methodology to be compliant with Article 74(5)(a)-(d) of the CACM Regulation, without having an information and understanding about the coordination and optimisation of remedial actions. ACER also invited Core TSOs and regulatory authorities to draft and propose amendments that would address these requirements, but no proposal has been received. Since the coordination and optimisation of remedial actions is within the scope of the methodology pursuant to Article 35 of the CACM Regulation and the methodology pursuant to Article 76 of the SO Regulation, and both methodologies are not yet adopted, ACER suggested that these requirements need to be met in these two methodologies rather than in the cost sharing methodology. This suggestion was generally accepted by Core TSOs and regulatory authorities.

- (147) ACER therefore deems that only point (e) of Article 74(5) of the CACM Regulation is relevant for this cost sharing methodology. This requirement is addressed within Articles 11 and 12 of the Proposal, which contain provisions on database used for monitoring by Core TSOs and reporting to Core regulatory authorities and ACER.
- (148) In Article 11 of the Proposal (Article 10 of the cost sharing methodology) ACER removed all provisions on data, which are not used within the cost sharing methodology but rather within the coordination optimisation subject to the methodology pursuant to Article 35 of the CACM Regulation and the methodology pursuant to Article 76 of the SO Regulation. ACER clarified provisions on data regarding mapping and the final splitting of costs per each bidding zone and TSO. ACER also added provisions regarding the input data used for cost sharing methodology, the flow decomposition results, the results of the application of the loop flow threshold and the data on identified contributions to congestion.
- (149) With regard to specific monitoring tasks, ACER added, based on request by Core regulatory authorities, the requirement for Core TSOs to monitor the forecasting accuracy of network topology, generation and load in the individual grid models that are used for cost sharing. ACER understands that the forecasting of these elements may have a significant impact on the cost sharing and it is for this reason important that Core TSOs monitor such forecasting to prevent any abusive behaviour, which would bring specific financial gain to any TSO in the application of the cost sharing methodology.
- (150) Finally, ACER removed the second paragraph of Article 11 of the Proposal, since it was not relevant for the monitoring of cost sharing, but rather for the monitoring of the total costs incurred by the coordination optimisation. Such monitoring should therefore be included in the methodology pursuant to Article 35 of the CACM Regulation and the methodology pursuant to Article 76 of the SO Regulation.
- (151) Article 12 of the Proposal includes provisions on reporting to Core regulatory authorities by regular quarterly reports. ACER again removed from this report all the requirements related to coordination optimisation as these need to be included in the methodology pursuant to Article 35 of the CACM Regulation and the methodology pursuant to Article 76 of the SO Regulation. ACER also further clarified the reporting provisions on the overview of the total costs and cost shares attributed to Core TSOs as well as the possible correction of results of cost sharing from the previous quarterly reports. ACER added the reporting on the monitoring of forecasting accuracy of individual grid models and monitoring of specific cases of cost sharing, which are considered to result in an unexpected outcome. Finally, ACER softened the frequency of monitoring and changed the monitoring reports to biannual frequency.

6.2.3.2. Review of the cost sharing methodology

- (152) Article 13 of the Proposal defines an annual review of the cost sharing methodology for the purpose of identifying possible improvements regarding the effectiveness of applied

remedial actions as well as appropriateness, fairness and effectiveness of the applied cost sharing solution.

- (153) ACER amended this Article (Article 12 of the adopted cost sharing methodology) by reviewing the principles for possible improvements such that they are consistent with the most important principles and objectives established in Article 74(6) of the CACM Regulation.
- (154) Based on request from Core TSOs and regulatory authorities, ACER also added the obligation for a general review of the methodology twelve months after its implementation. This will allow the TSOs to gain sufficient understanding and information about the appropriateness of all the aspects of the cost sharing solution based on real data. The review should be followed by the development of a proposal for an amendment of the cost sharing methodology submitted to Core regulatory authorities for approval.

6.2.3.3. Implementation of cost sharing methodology

- (155) In its Article 14, the Proposal defines the deadline for publication of the cost sharing methodology according to the Articles 9(10), 9(11) and 9(12) of the CACM Regulation. This Article also contains a proposal for the amendment of the cost sharing methodology twelve months after its approval, which would also include a detailed implementation timeline, which would be subject to approval by Core regulatory authorities. Further, this Article contains a number of conditions for the implementation of the cost sharing methodology, which serve as an indication or information on what is needed to implement this methodology.
- (156) The Proposal therefore contains the obligation for publication of the methodology. However, the Proposal does not contain the timescale for implementation as required by Article 9(9) of the CACM Regulation. For this reason, ACER specified clearly the timescale for the implementation of the cost sharing methodology. After consultation with Core TSOs and regulatory authorities, ACER was informed that cost sharing methodology is conditional on the implementation of the methodology pursuant to Article 35 of the CACM Regulation and the methodology pursuant to Article 76 of the SO Regulation. ACER therefore clarified that the implementation of the cost sharing methodology shall be done by the same deadline as the implementation of these two methodologies.
- (157) In Article 13 of the adopted cost sharing methodology, ACER also introduced, at the request of some Core regulatory authorities, additional requirements that TSOs need to meet during the implementation of the cost sharing methodology. These include the requirements on the provision of regular information and reports to Core regulatory authorities regarding development, implementation and testing of the cost sharing methodology. This is required to provide Core regulatory authorities with sufficient

perspective on the impact of cost sharing methodology on the national transmission tariffs, which they are competent to set or fix.

- (158) Article 15 of the Proposal includes a paragraph on the agreement among Core TSOs regarding the settlement of costs arising from the cost sharing methodology. ACER amended this Article (Article 8 of the adopted cost sharing methodology), by further providing an obligation to appoint a settlement entity, which shall be responsible to settle the costs among Core TSOs.

6.2.3.4. Establishment of operation committee

- (159) During the proceedings for this Decision, ACER, Core TSOs and Core regulatory authorities agreed that the cost sharing methodology describes a very complex process, which has not been developed and tested yet. For this reason, it is very difficult to ensure that the adopted methodology fills all possible gaps that could emerge during its implementation. ACER therefore identified a significant risk for implementation and operation problems, such as interpretation of the methodology, design choices on details that are not governed by the cost sharing methodology and problems related to day-to-day operation.
- (160) In order to prevent any possible delays or interruptions in the implementation or operation of this methodology, ACER considers that TSOs should have certain degree of freedom to solve those problems themselves, until the methodology can be further amended or clarified. For this reason, ACER added a new Article 9 in the adopted cost sharing methodology, which establishes an operation committee. This committee should serve as a body for settlement of disputes among TSOs regarding the implementation and operation of the cost sharing methodology. This committee should be able to make effective decisions regarding the possible disputes, which should be binding for the implementation and operation of this cost sharing methodology.

7. CONCLUSION

- (161) For all the above reasons, ACER considers this Proposal in line with the requirements of the CACM Regulation, provided that the amendments described in this Decision are integrated in the Proposal, as presented in Annex I to this Decision.
- (162) Therefore, ACER approves the Proposal subject to the necessary amendments and to the necessary editorial amendments. To provide clarity, Annex I to this Decision set out the Proposal as amended and as approved by ACER,

HAS ADOPTED THIS DECISION:

Article 1

The common methodology for cost sharing of redispatching and countertrading for the Core capacity calculation region, developed pursuant to Article 74 of Regulation (EU) 2015/1222, is adopted as set out in Annex I to this Decision.

Article 2

This Decision is addressed to all TSOs of the Core CCR:

50Hertz Transmission GmbH,
Amprion GmbH,
Austrian Power Grid AG,
C.N.T.E.E. Transelectrica S.A.,
ČEPS a.s.,
Creos Luxembourg S.A.,
ELES, d.o.o.,
Elia System Operator SA,
Elia System Operator NV/SA,
HOPS d.o.o., Hrvatski operator prijenosnog sustava,
MAVIR ZRt,
Polskie Sieci Elektroenergetyczne,
Réseau de Transport d'Electricité,
Slovenská elektrizačná prenosová sústava, a.s.,
TenneT TSO B.V.,
TenneT TSO GmbH,
TransnetBW GmbH, and
VÜEN-Vorarlberger Übertragungsnetz GmbH.

Done at Ljubljana, on 30 November 2020.

- SIGNED -

*For the Agency
The Director*

C. ZINGLERSEN

Annexes:

Annex I – Common methodology for redispatching and countertrading cost sharing for the Core CCR in accordance with Article 74 of Commission Regulation (EU) 2015/1222 of 24 July 2015

Annex Ia – (for information only) Common methodology for redispatching and countertrading cost sharing for the Core CCR in accordance with Article 74 of Commission Regulation (EU) 2015/1222 of 24 July 2015 – with track changes

In accordance with Article 28 of Regulation (EU) 2019/942, the addressees may appeal against this Decision by filing an appeal, together with the statement of grounds, in writing at the Board of Appeal of the Agency within two months of the day of notification of this Decision.

In accordance with Article 29 of Regulation (EU) 2019/942, the addressees may bring an action for the annulment before the Court of Justice only after the exhaustion of the appeal procedure referred to in Article 28 of that Regulation.