ACER
European Union Agency for the Cooperation of Energy Regulators

PUBLIC

DECISION No 16/2023
OF THE EUROPEAN UNION AGENCY
FOR THE COOPERATION OF ENERGY REGULATORS

of 21 December 2023

on the TSOs' proposal for amendment of the congestion income distribution methodology

THE EUROPEAN UNION AGENCY FOR THE COOPERATION OF ENERGY REGULATORS,

Having regard to the Treaty on the Functioning of the European Union,

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 Regulators ('ACER')[1], and, in particular, Article 5(2)(b) and Article 5(6) thereof,

Having regard to Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management[2], and, in particular, Article 9(5), Article 9(6)(m), Article 9(13) and Article 73(1) thereof,

Having regard to the outcome of the consultation with the concerned regulatory authorities and transmission system operators ('TSOs') and the European Network of Transmission System Operators for Electricity ('ENTSO-E'),

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

Having regard to the favourable opinion of the Board of Regulators of 13 December 2023, delivered pursuant to Article 22(5)(a) of Regulation (EU) 2019/942,

Whereas:

[1] OJ L158, 14.6.2019, p. 22.
[2] OJ L 197, 25.7.2015, p. 24, as amended by Commission Implementing Regulation (EU) 2021/280 of 22 February 2021, OJ L 62, 23.2.2021, p. 24.

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. In particular, pursuant to Article 73(1) of the CACM Regulation, all transmission system operators ('all TSOs') must jointly develop a methodology for distributing among them the congestion income, i.e. revenues received from the capacity allocation within the single day-ahead and intraday coupling. The congestion income distribution methodology (the CID methodology) has been developed in 2017, and submitted to all the regulatory authorities, who, due to a lack of agreement between them, ultimately referred it to ACER for decision. On 14 December 2017, ACER approved the CID methodology.[3]

(2) In 2021, all TSOs developed a proposal for the CID methodology (the 2021 Proposal), and submitted it to ACER for decision. On 17 December 2021, ACER approved the CID methodology in ACER Decision No 16/2021 of 17 Decembre 2021 (the 2021 Decision).

(3) Pursuant to the methodology for a co-optimised allocation process in accordance with Article 40(1) of Commission Regulation (EU) 2017/2195 ('EB Regulation') (i.e. ACER Decision 12/2020), several regional methodologies for a market-based allocation process in accordance with Article 41(1) of the EB Regulation (e.g. ACER Decision 22/2020; ACER Decision 11/2021; ACER Decision 10/2021) and the methodology for harmonising processes for the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves in accordance with Article 38(3) of the EB Regulation (HCZCAM) (i.e. ACER Decision 11/2023), congestion income from the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves will be considered as day-ahead congestion income and as such shall be shared in accordance with the CID methodology. Therefore, it was necessary to amend the CID methodology to consider the way to distribute congestion income generated by these balancing capacity exchanges or sharing of reserves. Furthermore, pursuant to Article 8(3) of Annex 1 of the 2021 Decision, all TSOs are required to submit an amendment to the CID methodology by 18 months after the 2021 Decision to address the treatment of unintuitive flows in accordance with the objective of fair and non-discriminatory treatment pursuant to Article 3(e) of the CACM Regulation.

(4) Accordingly, on 5 July 2023, all TSOs submitted to ACER a proposal for amendment of the CID methodology, which incorporates all the necessary changes given the developments described in Recital **Error! Reference source not found.** ('the Proposal'), seeking approval by ACER.

[3] Decision No 07/2017 of 14 December 2017: https://documents.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2007-2017%20on%20CIDM.pdf

(5) This Decision concerns this Proposal of 5 July 2023. Annex I to this Decision sets out the methodology for the distribution of congestion income, as amended and approved by ACER.

2. PROCEDURE

(6) On 5 July 2023, ENTSO-E submitted to ACER an 'All TSOs' proposal for amendment of Congestion Income Distribution methodology in accordance with Article 73 of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on Capacity Allocation and Congestion Management (the 'Proposal').

(7) Between 5 July 2023 and 12 October 2023, ACER held regular discussions with the TSOs, the regulatory authorities and ENTSO-E. In particular, the following procedural steps were taken:

- 11 September 2023: discussion with all TSOs, all regulatory authorities, ENTSO-E
- 18 September 2023: discussion with all TSOs, all regulatory authorities, ENTSO-E
- 20 September 2023: discussion with the regulatory authorities at the capacity calculation and congestion management task force ('CACM TF') meeting;
- 25 September 2023: discussion with all TSOs, all regulatory authorities, ENTSO-E
- 28 September 2023: discussion with TSOs and regulatory authorities at the capacity calculation and congestion management coordination group meeting;
- 2 October 2023: discussion with all TSOs, all regulatory authorities, ENTSO-E
- 5 October 2023: discussion with the regulatory authorities at the AEWG meeting;
- 30 October 2023: oral hearing with Baltic Cable;
- 7 November 2023: discussion with the regulatory authorities at the CACM TF meeting;
- 20 November 2023: discussion with the regulatory authorities at the AEWG meeting.

(8) Between 13 October and 16 November 2023, ACER consulted all TSOs, ENTSO-E and all regulatory authorities on its preliminary position, by sharing an updated version of the Proposal setting out its suggested amendments and the reasoning for these amendments. The consulted parties provided their views by 16 November 2023. These views are summarised in section 5.1.

(9) ACER received written observations of all TSOs from ENTSO-E, Baltic Cable, PSE and the regulatory authority of Finland (EV), as well as a request for an oral hearing by Baltic Cable. The oral hearing with Baltic Cable was held on 30 October 2023.

(10) The AEWG was consulted between 17 November 2023 and 22 November 2023, and provided its advice on 23 November 2023 (see section 5.2).

(11) On 13 December 2023, ACER's Board of Regulators issued a favourable opinion pursuant to Article 22(5)(a) of Regulation (EU) 2019/942.

3. ACER'S COMPETENCE TO DECIDE ON THE PROPOSAL

(12) Pursuant to point (b) of Article 5(2) of Regulation (EU) 2019/942, ACER shall approve proposals for common terms and conditions or methodologies for the implementation of those network codes and guidelines adopted before 4 July 2019 and which require the approval of all regulatory authorities.

(13) According to Article 9(6)(m) of the CACM Regulation, as initially adopted, namely as a guideline before 4 July 2019, the proposal for the CID methodology pursuant to Article 73(1) of the CACM Regulation, was subject to approval by all regulatory authorities. Following the amendment of these provisions by Commission Implementing Regulation (EU) 2021/2808, the proposal for the CID methodology and any amendments thereof have been explicitly subjected to approval by ACER.

(14) According to the second sentence of Article 9(13) in joint reading with Article 9(6)(m) and Article 73(1) of the CACM Regulation, TSOs responsible for developing the proposal for the congestion income distribution methodology (i.e. all TSOs) may propose amendments to the methodology. The proposals for amendments must be submitted to ACER for approval.

(15) According to Article 5(6) of Regulation (EU) 2019/942 and Article 9(5) of the CACM Regulation, ACER, before approving the terms and conditions or methodologies, shall revise them where necessary, after consulting the respective TSOs and ENTSO-E, in order to ensure that they are in line with the purpose of the network code or guideline and contribute to market integration, non-discrimination, effective competition and the proper functioning of the market. ACER shall take a decision on the approval within the period specified in the relevant network codes and guidelines.

(16) On 5 July 2023, ENTSO-E, on behalf of all TSOs, submitted the Proposal to ACER for approval. ACER is competent to decide on the Proposal based on Article 5(2)(b) of Regulation (EU) 2019/942, Article 9(6)(m) and Article 9(13) of the CACM Regulation.

4. SUMMARY OF THE PROPOSAL

(17) The Proposal includes the following elements:

a. 'Whereas' section
b. 'General provisions' with Articles 1 to 2, setting out the definitions, in Title 1;
c. 'Calculation of congestion income and distribution to the bidding zone borders' with Articles 3 to 7, describing the calculation of congestion income per CCR, the calculation of commercial flows and balancing capacity commercial flows, the

calculation of congestion income on bidding zone borders affected by advance hybrid coupling or allocation constraints and the distribution of congestion income to bidding zone borders, in Title 2;

d. 'Congestion income distribution on the bidding zone border' with Article 8, describing the distribution of congestion income on a border between the different TSOs, in Title 3;
e. 'Transparency of information' with Article 9, describing the data that shall be published, in Title 4;
f. 'Final provisions' with Articles 10 to 11, describing the implementation timeline, in Title 5

(18) The Proposal mainly consists of the following amendments provided by TSOs:

a. how to share congestion income generated by the exchange of balancing capacity or sharing of reserves pursuant to Article 24(1) of the HCZCAM;
b. the solutions to address unintuitive flows irrespective of their causes and also the transfer of congestion income between CCRs as requested in the 2021 Decision.; and
c. some changes to allow the implementation of the 15 minutes MTU.

5. SUMMARY OF THE OBSERVATIONS RECEIVED BY ACER

5.1. Consultation on ACER's preliminary position

(19) On 13 October 2023, ACER shared its preliminary position with the TSOs and regulatory authorities and invited them to provide their views on the revisions proposed by ACER. The following recitals provide a summary of the expressed views, including (i) the All TSOs written response of 26 Octobre 2023; (ii) the Baltic Cable written responses of 23 October 2023 and 29 Octobre 2023; (iii) the PSE written response of 27 Octobre 2023; (iv) the EV written response of 9 November 2023; and (v) the comments provided by Baltic Cable at the oral hearing of 30 October 2023[4].

(20) All TSOs have expressed their agreed position on the points raised by ACER in its preliminary position. All TSOs have proposed several quality improvements to the methodology. They also clarified that the 18 months deadline for the implementation is required because the amendment introduces the need for cross-CCR mechanism which was not the case until now.

(21) Baltic Cable expressed three concerns about ACER's preliminary position: (i) part of their congestion income could be socialized for unrelated unintuitive flows; (ii) they would be compensated for negative congestion income but not for the loss of congestion income; and (iii) they would have to bear the cost of unintuitive flows from ramping constraints which are imposed on them by the Nordic TSOs.

[4] This is ACER's summary of key concerns and not to be considered a complete representation of the comments received.

(22) PSE indicated that the day-ahead prices should be used to compute market spread in order to distribute the congestion income from the exchange of balancing capacity or sharing of reserve. They also saw the need to describe the solutions to treat the situation of insufficient congestion income in more details in Articles 24(2) and 24(3) of the HCZCAM.

(23) EV proposed several clarifications to the methodology (definitions, structure).

5.2. Consultation of the AEWG

(24) The AEWG provided its advice on 23 November 2023, endorsing the draft ACER Decision on the amendments to the congestion income distribution methodology.

6. ASSESSMENT OF THE PROPOSAL

6.1. Legal framework

(25) According to the second sentence of Article 9(13), in joint reading with Article 9(6)(m) of the CACM Regulation, TSOs responsible for developing a proposal for the CID methodology may propose amendments to the methodology to ACER. Pursuant to Article 73(1) of the CACM Regulation, the TSOs responsible for developing the CID methodology are all TSOs.

(26) According to Article 73(2) of the CACM Regulation, the CID methodology shall:

(i) facilitate the efficient long-term operation and development of the electricity transmission system and the efficient operation of the electricity market of the Union;

(ii) comply with the general principles of congestion management provided for in Article 16 of Regulation (EC) 714/2009;[5]

(iii) allow for reasonable financial planning;

(iv) be compatible across timeframes; and

(v) establish arrangements to share congestion income deriving from transmission assets owned by parties other than TSOs.

[5] ACER notes that Regulation (EC) 714/2009 has been repealed by Regulation (EU) 2019/943. The general principles of congestion management are retained under Article 16 and Article 19 of Regulation (EU) 2019/943 (see correlation table in Annex III to Regulation (EU) 2019/943).

(27) Pursuant to Article 9(9) of the CACM Regulation, all proposals for terms and conditions or methodologies, i.e. including the proposal referred to in Article 73(1) of that Regulation, shall include a proposed timescale for their implementation and a description of their expected impact on the objectives of the CACM Regulation. These objectives are listed in Article 3 of the CACM Regulation.

6.2. Assessment of the legal requirements

(28) This section outlines ACER's assessment of the Proposal against the legal requirements (see section 6.1), ACER's amendments to the Proposal to ensure that the CID methodology fulfils these legal requirements and ACER's consideration of the feedback received to ACER's preliminary position (see section 5.1) and AEWG's advice (see section 5.2).

6.2.1. Assessment of the requirements for the development and for the general content of the Proposal

(29) The Proposal fulfils the development and general content requirements under Article 9(13), second sentence, Article 9(6)(m) and Article 73(1) of the CACM Regulation, as all TSOs jointly developed the CID methodology proposed here and submitted it to ACER for revision and approval.

6.2.2. Assessment against the requirements of Article 73(2) of the CACM Regulation

(30) The recitals of the Proposal contain a partial assessment against the requirements established in Article 73(2) of the CACM Regulation.

(31) ACER notes that the requirement of Article 73(2)(a) of the CACM Regulation to facilitate the efficient long-term operation and development of the electricity transmission system and the efficient operation of the electricity market of the Union, is in essence very similar to the objective set out in Article 3(g) of the CACM Regulation, against which the Proposal is assessed in its Recital (11). ACER agrees with the TSOs' assessment.

(32) The Proposal only addresses the distribution of congestion income but not its use. Therefore, in ACER's view, the Proposal alone does not have any negative impact on the general principles of congestion management provided for in Articles 16 and 19 of Regulation (EU) 2019/943.[6] Therefore, the Proposal complies with the requirement of Article 73(2)(b) of the CACM Regulation.

[6] Former Article 16 of Regulation (EC) 714/2019 (see footnote **Error! Bookmark not defined.**).

(33) ACER considers that the proposal provides a fully predictable framework for congestion income distribution and therefore enables a reasonable financial planning for TSOs, and national regulatory authorities as required by Article 73(2)(c) of the CACM Regulation. The reason being that the methodology clearly defines how congestion income is to be distributed. This requirement is further discussed in section 6.2.5.

(34) The Proposal establishes the congestion income distribution methodology for the day-ahead and intraday timeframes. Its compatibility with the congestion income distribution methodology for the forward timeframe has been assessed in the supporting documents to the 2021 Proposal. The Proposal reflects the wording, principles and rules of sharing as used in the corresponding methodology in accordance with Article 57 of Regulation (EU) 2016/1719. Regarding the balancing timeframe, ACER considers the Proposal compatible with the provisions for congestion income distribution in the TSO-TSO settlement methodology in accordance with Article 50(1) of the EB Regulation, while the compatibility with the methodologies for the exchange of balancing capacity or sharing of reserves is addressed as described in section 6.2.4. Therefore, Proposal complies with the requirement of Article 73(2)(d) of the CACM Regulation.

(35) With regard to the arrangements to share congestion income deriving from transmission assets owned by parties other than the TSOs, the Proposal clearly identifies the cases where interconnectors may be owned by other parties and establishes that, in such cases, those parties shall be entitled to receive all or part of the congestion income. The Proposal is therefore in line with the requirement set out in Article 73(2)(e) of the CACM Regulation.

6.2.3. Assessment of the expected impact on the objectives of the CACM Regulation

(36) Recitals (10) to (15) of the Proposal aim to describe the expected impact of the Proposal on the objectives listed in Article 3 of the CACM Regulation. Therefore, the Proposal complies with the requirement in Article 9(9) of the CACM Regulation.

(37) As regards the substance of the described impact, ACER generally agrees with the assessment of the objectives listed in Article 3 of the CACM Regulation. However, with regard to the objective of fair and non-discriminatory treatment (i.e. Article 3(e) of the CACM Regulation), ACER considers that the Proposal fails to ensure non-discriminatory treatment of all TSOs for the sharing of congestion income from the balancing capacity exchange or sharing of reserves and the treatment of unintuitive flows. ACER assessment is further described in section 6.2.4 (for the exchange of balancing capacity or sharing of reserves) and 6.2.5 (for the treatment of unintuitive flows).

6.2.4. Assessment of the requirements for sharing of congestion income from the exchange of balancing capacity or sharing of reserve

(38) The application of exchange of balancing capacity or sharing of reserve will generate congestion income. Article 24(1) of the HCZCAM provides that these congestion incomes shall be shared in accordance with the CID methodology.

(39) Article 5 of the Proposal describes how the balancing capacity commercial flows should be calculated in a flow-based CCR. Specifically, TSOs compute, for each bidding zone, a net position for each balancing capacity product. Afterwards, based on these net positions, they compute the commercial flows using a similar approach as the one for the computation of the commercial flows for energy (mapping the net position to flows on borders based on the PTDFs).

(40) Article 7(4) of the Proposal presents how to distribute congestion income, generated by the exchange of balancing capacity or sharing of reserve, to bidding zone borders. For CCRs applying a flow-based approach, using the absolute value and scaling rule. This rule distributes, for each border, the absolute value of the product of commercial flows and market spread. Afterwards, the congestion incomes, for each border, are rescaled to match the total amount of congestion income to distribute. For computing the market spread, TSOs use day-ahead prices instead of balancing capacity prices. The reason being that, for a certain period, not all TSOs would be part of a balancing capacity exchange or reserve sharing application and would therefore not have any balancing capacity price in these applications.

(41) ACER considers that the choice, made in the Proposal, of using day-ahead prices for computing the market spread for the sharing of congestion income generated by the exchange of balancing capacity or sharing of reserve is not in line with Article 3(e) of the CACM Regulation because it does not ensure a non-discriminatory treatment of all TSOs. The reason being that, with such approach, TSOs part of a balancing capacity exchange or sharing of reserve application, which generates much more congestion income than if the cross-zonal capacity had been offered to day-ahead market, may not receive any of these congestion incomes (even if a significant amount of congestion income would be generated on their bidding zone border from an exchange of balancing capacity). This is illustrated in the example of Figure 1.

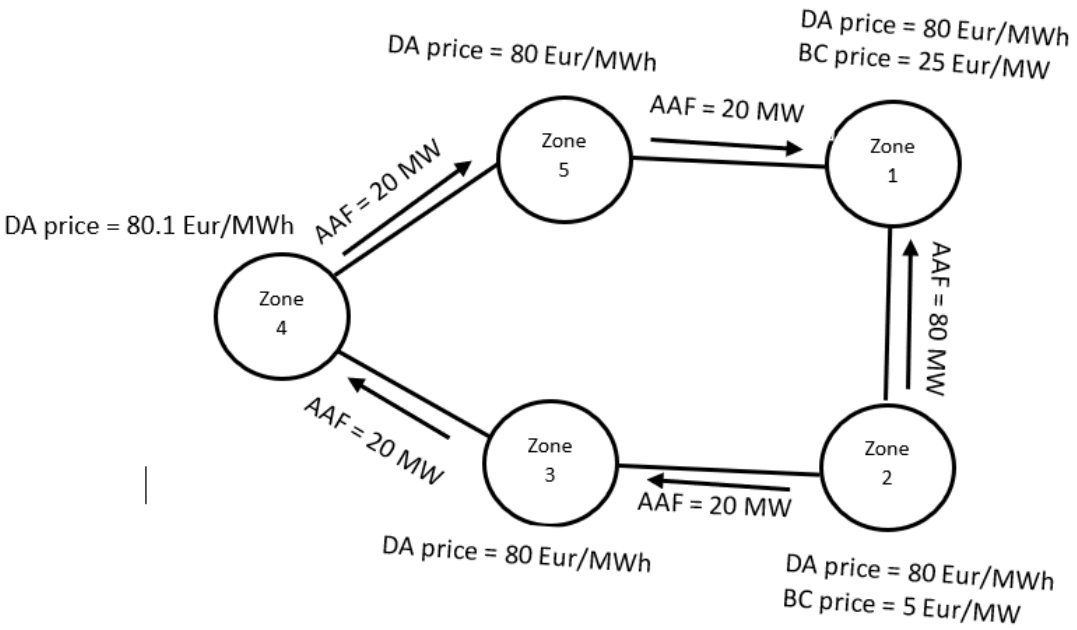

Figure 1: Example of the distribution of congestion income from the exchange of balancing capacity

(42) In this example, the TSO of zone 2 exports 100 MW of balancing capacity to the TSO of zone 1. This leads to an additional aggregated flow of 80 MW on their common border and an additional aggregated flow of 20 MW passing through the other TSOs. The underlying assumptions are that the price of all zones in day-ahead is equal to 80 Eur/MWh except for TSO 4 which has a price of 80.1 Eur/MWh, and that the balancing capacity price in zone 1 is equal to 25 Eur/MW and the balancing capacity price in zone 2 is equal to 5 Eur/MW. With the proposal of TSOs, all the congestions would be distributed on border 3-4 and border 4-5, as they are the only borders with a day-ahead price difference. This result is not fair because (i) the congestion income is created due to the balancing capacity exchange of TSOs 1 and 2; and (ii) the exchange of balancing capacity is mainly burdening the border zone 1 and zone 2. Not distributing congestion income to the bidding zone borders where the congestion income was generated from the exchange of balancing capacity would dis-incentivise the integration of balancing capacity market in accordance with Article 3(1)(c) of the EB Regulation and is therefore not acceptable.

(43) As a solution, in its preliminary position, ACER has amended Articles 7(4) and 7(5) of the methodology in order to use balancing capacity prices for the distribution of congestion income on the borders of which both TSOs are part of the balancing capacity exchange or sharing of reserve application. This will better reflect the congestion income generated on their borders. This correct reflection is key because congestion incomes are reflecting a benefit for TSOs of a balancing capacity or sharing of reserve application. If

this benefit is completely allocated to other TSOs, it may suppress the interest of TSOs to engage in these cooperations.

(44) In its answer to ACER's preliminary position, PSE raised concerns about the choice of using balancing capacity prices for the distribution of congestion income on borders where both TSOs are part of the balancing capacity exchange or sharing of reserve application, and the use of day-ahead energy prices for the distribution of congestion income on borders that are not part of these mechanisms. In PSE's view, this choice is not a fair solution because borders that are not part of these mechanisms would be treated unfairly and would not receive sufficient congestion income.

(45) However, the compensation mechanism under Article 24(2) of the HCZCAM will compensate any reduced congestion income on bidding zone borders which are not part of a cooperation for the exchange of balancing capacity or sharing of reserves. Since this mechanism prevents a distribution of congestion income below the congestion income which would have been generated with the full amount of cross-zonal capacity for day-ahead energy, ACER considers PSE's concerns about a non-fair solution unfounded.

(46) Article 7(5) of the Proposal describes how to treat the situation in which insufficient income is generated by the balancing capacity exchange or sharing of reserves application compared to the congestion income that would have been generated if the cross-zonal capacity had been allocated to the day-ahead market coupling instead.

(47) ACER considers that it is not appropriate to treat this situation in the CIDM. The reason being that this situation is already treated in Articles 24(2) and 24(3) of the HCZCAM. In its preliminary position, ACER has replaced the Article 7(5) of the Proposal by Article 7(7) of Annex I, which refers to the HCZCAM. ACER has also added Recital (9) in the whereas of Annex I to describe its reasoning as well as describing the current arrangement in Articles 24(2) and 24(3) of the HCZCAM.

(48) In its answer to ACER's preliminary position, PSE raises concerns that if the case of insufficient congestion income is only treated in Articles 24(2) and 24(3) of the HCZCAM (with no reference to CACM CID methodology), there is a need to describe solutions regulated within Articles 24(2) and 24(3) of the HCZCAM in more details.

(49) ACER considers the level of detail provided under Articles 24(2) and 24(3) of the HCZCAM as sufficient for TSOs to implement the relevant solution with the implementation of the HCZCAM. ACER is of the opinion that the distribution of the cost for these possible remuneration in accordance with Article 24(3) of the HCZCAM can be further specified within a balancing capacity platform among the relevant TSOs of this platform. For the calculation of a possible remuneration according to Article 24(2) of the HCZCAM, TSOs may use similar methods as used for the calculation of data in accordance with Article 26(4)(a), (7)(b) or (12)(a) of the HCZCAM, where further details were also not considered necessary to be defined in the HCZCAM. Anyhow, if TSOs consider it insufficient to agree on any eventual further details regarding these provisions

as provided by Article 27(1)(c) of the HCZCAM, ACER invites TSOs to propose the relevant details in their submission in accordance with Article 27(1)(a) of the HCZCAM.

6.2.5. Assessment of the requirements for the treatment of unintuitive flows

(50) In Decision 16/2021[7] of 17 December 2021, ACER has requested TSOs to develop a proposal that should provide solutions addressing unintuitive flows irrespective of their causes and also including the transfer of congestion income between CCRs.

(51) There are five situations of unintuitive flows that needed to be addressed. Three of these have an impact inside a CCR, namely unintuitive flows due to flow-based allocation, unintuitive flows due to internal allocation constraints´, and unintuitive flows due to ramping constraints. These situations are addressed in section (51). The two other cases have a cross-CCR impact, namely unintuitive flows due to cross-CCR allocation constraints, and unintuitive flows due to advanced hybrid coupling. These are addressed in section 6.2.5.2

6.2.5.1. Unintuitive flows with impact inside a CCR

(52) For unintuitive flows with an impact inside a CCR, TSOs have proposed to keep using the absolute value and scaling rule. This rule distributes, to each border, the absolute value of the product of commercial flows and market spread. Afterwards, for each border, the congestion income is rescaled to match the total amount of congestion income to distribute.

(53) During working level meetings TSOs have presented an analysis to support the use of the absolute value and scaling rule for the unintuitive flows internal to a CCR. They highlighted three main points.

- First, as unintuitive flows contribute to the maximization of the economic welfare within the entire CCR, the current implementation of the absolute value and scaling rule for all borders inside a CCR and rescaling of the total CCR congestion income is deemed as the most fair and transparent solution. This solution is accurate enough and was therefore proposed by all TSOs.

- Second, they perform a numerical calculation, based on a dataset of the CORE region, to compare the impact of different methods to treat unintuitive flows on the total congestion income received by bidding zone borders. Their numerical calculation shows that the change in the total amount of congestion income received by a border is low with respect to the specific method used to treat unintuitive flows except for

[7] https://www.acer.europa.eu/Individual%20Decisions/ACER%20Decision%2016-2021%20on%20the%20Congestion%20Income%20Distribution%20Methodology_0.pdf

Polish borders which are impacted by the cross-CCR allocation constraint. The situation of cross-CCR allocation constraint is specifically treated in the amendment (see Recital (60)).

- Third, there is no approach currently available to unambiguously define the beneficiaries of unintuitive flows.

6.2.5.1.1 Unintuitive flows due to flow-based allocation

(54) For the case of unintuitive flows due to flow-based allocation, ACER agrees with the reasoning of TSOs. ACER is therefore of the opinion that the use of the absolute value and scaling rule for unintuitive flows due to flow-based allocation ensures a fair and non-discriminatory treatments of TSOs as required by Article 3(e) of the CACM Regulation.

6.2.5.1.2 Unintuitive flows due to internal allocation constraint

For the unintuitive flows due to internal allocation constraints, ACER disagrees with the use of the absolute value and scaling rule and the reasoning provided by TSOs as specified in Recital (53). The Proposal already contains the virtual hub approach for cross-CCR allocation constraints (as described in Recital (60)) and therefore this method could also be used to address allocation constraints internal to CCRs. Indeed, in ACER's view, it would not ensure a fair treatment of TSOs if internal CCR allocation constraints and cross-CCR allocation constraints were treated differently because they are modelled in the same way in the price coupling algorithm. Accordingly, the same approach should be applied to internal CCR allocation constraints and to cross-CCR allocation constraints. To that effect, ACER considers the virtual hub approach as more appropriate than the absolute value and scaling rule for the reasons explained in Recital (60). Therefore, Article 6 of the Proposal has been updated in order for the virtual hub approach to also be applied to internal allocation constraints.

6.2.5.1.3 Unintuitive flows due to ramping constraint

(55) For the unintuitive flows due to ramping constraints, TSOs have proposed during working level meetings, to exclude these borders from the absolute value and scaling rule. The reasoning is that there is no need to socialize the negative congestion income from ramping constraints because unintuitive flows from ramping constraints do not bring additional congestion income on other borders. ACER agrees with the TSO reasoning that there is no need to socialize the negative congestion income from ramping constraints because unintuitive flows from ramping constraints do not bring additional congestion income on other borders. Consequently, ACER has updated Articles 7(1) and

7(2) of the Proposal to exclude borders with ramping constraint from the absolute value and scaling rule.

(56) In its answer to ACER's preliminary position, Baltic Cable agreed with the approach not to apply the absolute value and scaling rule to borders with ramping constraints. Nevertheless, they see the need to have a compensation mechanism in which TSOs requesting the ramping limitations of the HVDC interconnectors would compensate the operators of the interconnectors for their loss of congestion income due to these ramping limitations.

(57) ACER observes that Article 137 of Commission Regulation (EU) 2017/1485 (SOGL) allows TSOs of the Nordic synchronous area to put these ramping restrictions on interconnectors. Moreover, these ramping restrictions are already part of the environment in which the HVDC interconnectors operate. Additionally, ACER is of the opinion that if a compensation mechanism were envisaged, this mechanism should not be part of the congestion income distribution methodology. Indeed, Article 73(1) of the CACM Regulation states that the congestion income distribution methodology is a methodology for sharing congestion income, which Article 2(1) defines as the revenues received as a result of capacity allocation. Accordingly, in ACER's view, the congestion income distribution methodology can define compensation mechanisms to redistribute congestion income between bidding zone borders, but it cannot compensate for congestion income that have not been generated. For instance, the absolute value and scaling rule can be introduced in the congestion income distribution methodology because it compensates negative congestion income using extra congestion income generated on other borders (the congestion incomes have been generated but on other borders). On the other side, the congestion income distribution methodology cannot define a compensation mechanism for lost congestion income due to ramping constraints because these congestion incomes have not been generated. In the same vein, the CID methodology does also not introduce a compensation mechanism for the cases in which insufficient congestion income is generated by a balancing capacity exchange or sharing of reserves application compared to the congestion income that would have been generated if the cross-zonal capacity had been allocated to the day-ahead market coupling instead. Alternatively, the respective compensation mechanism is introduced in the HCZCAM.

6.2.5.2. Unintuitive flows with cross-CCR impact

(58) In Article 6 of the Proposal, TSOs have developed new specific solutions for unintuitive flows due to cross-CCR allocation constraints and unintuitive flows due to advanced hybrid coupling. These solutions rely on the virtual hub approach.

6.2.5.2.1 Unintuitive flows due to cross-CCR allocation constraints

(59) For cross-CCR allocation constraints, the solution proposed by TSOs is to replace the price of the zone applying the allocation constraint by the price obtained if the allocation constraint effect is filtered out. Consequently, an additional pot of congestion income is gathered. The additional pot is distributed to borders of the zone that applies the allocation constraint which would have gained congestion income if there were no allocation constraints.

(60) It is ACER understanding that if the absolute value and scaling rule would be applied to treat unintuitive flows from allocation constraints, it would unfairly increase the congestion income from the TSO applying the allocation constraint. The reason being that the allocation constraint separates the price of the bidding zone applying it from the price of the other bidding zones. Therefore, with the absolute value and scaling rule, flows passing through the bidding zone applying the allocation constraint could generate higher congestion income on some borders and unintuitive flows on other borders that would be compensated by other TSOs. This is illustrated in the example of Figure 2, where we assume that bidding zone B applies an allocation constraint which prevents it from exporting and therefore leads to a lower price than the other bidding zones. In this example, with the absolute value and scaling rule, bidding zone B would, at the same time, receive a higher congestion income on its border with zone C and get a compensation from other TSOs for the unintuitive flow on border with zone A. This leads to a discriminatory treatment of other TSOs of the CCR, who would have to cover the unintuitive flow from zone A to zone B, which is only created due to the allocation constraint applied in Zone B, while the TSO of zone B would keep the higher congestion income on the border with zone C. It is ACER's view that the virtual hub approach properly addresses this issue because it filters out the effect of the allocation constraint on the price of the bidding zone applying it and therefore suppresses the artificial separation between the price of the zone applying the allocation constraint and the price of the other bidding zones. ACER therefore considers that the use of the virtual hub approach for treating cross-CCR allocation constraints ensures a fair and non-discriminatory treatment of TSOs.

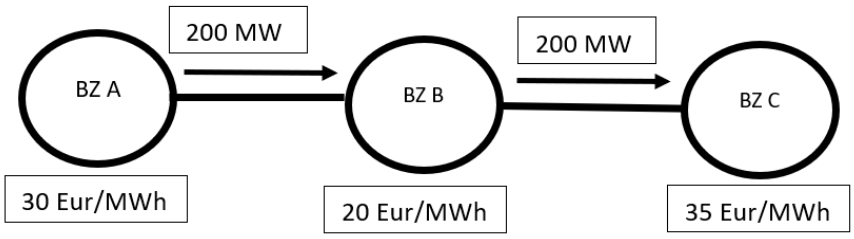

Figure 2: Example allocation constraint

6.2.5.2.2. Unintuitive flows due to advanced hybrid coupling

(61) For one-sided advanced hybrid coupling borders, the Proposal suggests to split the congestion income generated on these borders in 2 different parts, as described in Figure 3.

- First, the cNTC part, which is the part between the virtual hub and the CCR not implementing advanced hybrid (right part of Figure 3). This cNTC part of the congestion income relates to the cNTC CCR. The congestion income on the cNTC part is never negative due to advanced hybrid coupling but it could be negative due to ramping constraints or allocation constraints.
- Second, the flow-based part, which is the part between a virtual hub and a CCR implementing advanced hybrid coupling (left part of Figure 3). This flow-based part of the congestion income reflects congestions within the respective flow-based CCR. Hence, the congestion income of this part relates to the respective flow-based CCR. If a negative congestion income arises on this part, it will be covered by the respective flow-based CCR, because there is a social welfare gain in this flow-based CCR due to this unintuitive flow. Symmetrically, if there is a positive congestion income on a flow-based part, it will contribute to cover negative congestion incomes from the respective flow-based CCR.

For two-sided advanced hybrid coupling borders, the Proposal suggests to split the congestion income generated on these borders in one cNTC part and 2 flow-based parts as described in Figure 4.

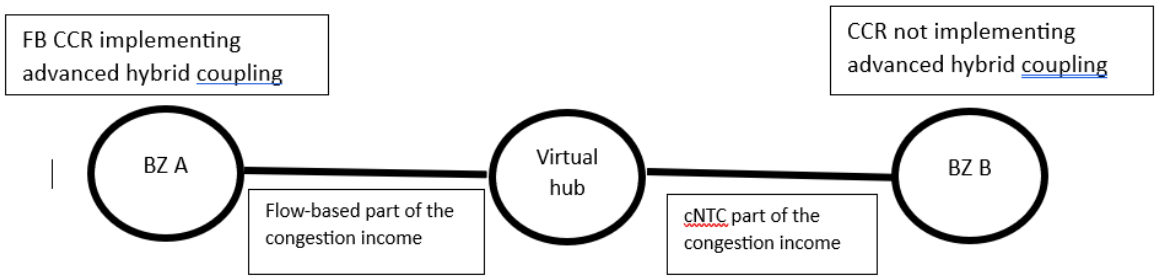

Figure 3: Illustration of one-sided advanced hybrid coupling for congestion income distribution

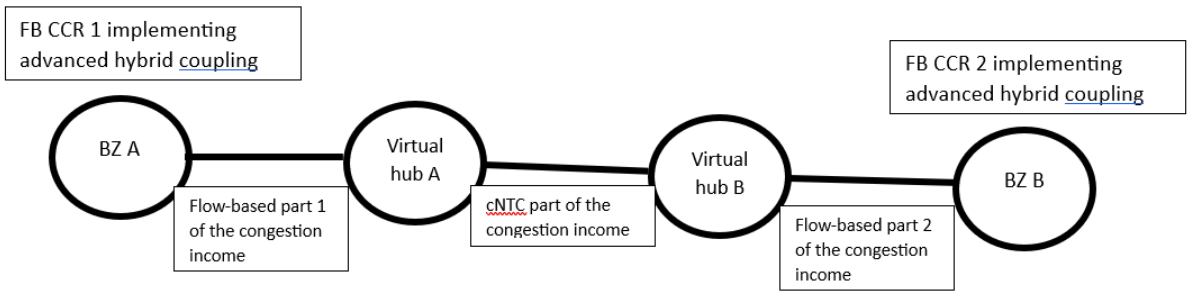

Figure 4: Illustration of two-sided advanced hybrid coupling for congestion income distribution

(62) In its answer to ACER's preliminary position, Baltic Cable mentioned that the absolute value and scaling rule applied to the bidding zone borders affected by advanced hybrid coupling would lead to their congestion income being socialized for unrelated unintuitive flows. In Baltic Cable views, a fairer approach would be to identify the TSOs benefitting from the unintuitive flows. As a methodology for treating this might be quite complex to develop, Baltic Cable recommended not applying the absolute value and scaling rule with the scaling of congestion income on the flow-based parts of the congestion income on the advanced hybrid coupling bidding zone border.

(63) ACER agrees that it would be quite complex to develop a method identifying unambiguously the TSOs benefitting from unintuitive flows. Indeed, this has already been an open issue since the submission of the 2021 Proposal. Since then, neither TSOs, nor ACER, nor regulatory authorities were able to identify a possible method to identify TSOs benefitting from unintuitive flows.

(64) Regarding Baltic Cable's proposal of not applying the scaling on the flow-based part of the advanced hybrid coupling border, ACER is of the opinion that this approach is not fair for two reasons. First, it is possible that intuitive flows inside a flow-based CCR increase the intuitive flows for advanced hybrid coupling borders. It is therefore logical that the advanced hybrid coupling borders contribute to cover these unintuitive flows. Second, if unintuitive flows occur on the flow-based part of the advanced hybrid coupling border, the associated negative congestion income will be covered by borders of the flow-based CCR. It is therefore fair that if unintuitive flows occur in the flow-based CCR, the flow-based part of the advanced hybrid coupling border contribute to cover these unintuitive flows.

(65) In conclusion, ACER believes that the fairest approach currently available for the flow-based part of the advanced hybrid coupling border is (i) to be covered by the flow-based CCR in case of negative congestion income; and (ii) to contribute compensating unintuitive flows in the flow-based CCR in case of positive congestion income. The reason being that (i) these unintuitive flows (in the flow-based CCR and on the flow-based part of the advanced hybrid coupling border) contribute to the welfare maximisation of the whole CCR and advanced hybrid coupling border; and (ii) there is currently no method for identifying unambiguously the TSOs benefitting from unintuitive flows. Nevertheless, ACER invites TSOs to keep investigating if it is possible to develop a methodology to unambiguously find the TSOs benefitting from unintuitive flows. If they find such method, TSOs are invited to propose a new amendment to the CID methodology.

(66) In its answer to ACER's preliminary position, Baltic Cable is concerned that the Proposal only puts unintuitive flows to 0. By doing so, it does not take into account the lost congestion income above 0. They suggested that the compensation mechanism also compensates the lost congestion income. During the oral hearing, Baltic Cable proposed to compute the distribution of congestion income based on a clearing algorithm in which unintuitive flows would not be allowed.

(67) It seems very complex to define what is the lost congestion income because it requires defining a fair reference from which congestion incomes are lost. During the oral hearing, Baltic Cable proposed to take the outcome of a clearing algorithm without negative congestion income as a reference. In ACER's view, there is no reason for which it would be fairer to compute congestion income from another optimisation problem than the one that is used in the price coupling algorithm. ACER is of the opinion that it is more appropriate to consider the optimisation function based on welfare maximisation in accordance with Article 38(1)(a) of the CACM Regulation as a basis for the distribution of congestion income and then compensate for the negative congestion income. Another reason for not compensating above 0 the flow-based part of the congestion income from an advanced hybrid coupling borders is that, as explained in Recital (61), they keep the whole cNTC part of their congestion income (which reflects the congestion income generated due to a congestion on their interconnector) because the cNTC part of their congestion income does not contribute to compensate unintuitive flows for other borders. It would therefore not be fair that they would be compensated above 0 for the flow-based part of their congestion income, which is generated due to congestions in a flow-based CCR.

(68) During the hearing phase, Baltic Cable questioned the fact that the methodology allows for reasonable financial planning. The reasons being the lack of transparency in, for example, the formation of prices in virtual hubs and the lack of impact assessment of the functioning of the methodology.

(69) On the unclarity of virtual hubs price formation, ACER disagrees with Baltic Cable because a formula for the virtual hub price is clearly defined in Article 6(3) of the Proposal. On the lack of impact assessment, ACER observes that TSOs have provided an analysis, during working level meetings, to assess the impact of different methods to treat unintuitive flows on the TSOs of the CORE CCR. Moreover, Annex I provides that, during the development, testing and the first year of implementation of the cross-CCR mechanisms, TSOs shall assess the results of the application of the CACM CID methodology with regard to the requirement of ensuring fair and non-discriminatory treatment and share their assessment with all regulatory authorities and ACER. Moreover, if necessary to ensure fair and non-discriminatory treatment, TSOs shall propose amendments of the congestion income distribution methodology. ACER considers that this provision serves as basis for an impact assessment of the fairness of the CID methodology and therefore allows for a reasonable financial planning for TSOs and regulatory authorities as required by Article 73(2)(c) of the CACM Regulation.

6.2.6. Proposed timescale for implementation

(70) The Proposal meets the requirements of Article 9(9) of the CACM Regulation on the inclusion of a proposed timescale for implementation, as Article 10 of the Proposal specifies the timeline for its implementation.

(71) After discussions with TSOs, ACER has included a change to the implementation timeline in its preliminary position. The change is to give 18 months to CCR already

having a capacity calculation methodology in order to implement the methodology. The reason for this change is that, according to the Proposal, CCRs already having a capacity calculation methodology would have had to implement the new methodology instantly. Nevertheless, ACER requested, in its preliminary position, TSOs to justify their proposal of 18 months for the implementation.

(72) In their answer to ACER's preliminary position, TSOs justified that such period is needed because the proposed amendment gives the basis for cross-CCR arrangements between TSOs and the relevant cross-CCR settlement. Currently, they do not have yet a central settlement entity, which performs the congestion income distribution in all CCRs which are affected by cross-CCR allocation mechanisms. Secondly, the methodology, as set out in Annex I, will require the update of the congestion income distribution tools, which will need to be coordinated between multiple CCRs. Further, advanced hybrid coupling is a new process, which will need to be developed and tested extensively with alignment between multiple CCRs. TSOs also mentioned that the implementation of the CID methodology should not impact negatively other projects (e.g. implementation of advanced hybrid coupling in CORE).

(73) ACER is of the opinion that a central settlement entity will likely improve the efficiency of the congestion income distribution process by avoiding the need for multiple settlement arrangements among different TSOs and fully separated financial flows for such individual arrangements. To allow for the development of a tool for relevant cross-CCR settlement, ACER considers an implementation deadline of 18 months appropriate.

6.2.7. Editorial amendments

(74) ACER has introduced a number of editorial amendments to improve clarity, conciseness, consistency and readability of the Proposal, while preserving the intended meaning of the content. These editorial amendments generally relate to amendments of wording and improvements of structure.

(75) In the definitions under Article 2 of the Proposal, ACER has added the definitions for balancing capacity flows to reflect that they are different compared to energy flows.

(76) The treatment of allocation constraints by the virtual hub approach creates an additional pot of congestion income. In the Proposal, the part of the additional pot distributed to borders part of a flow-based CCR is allocated to the flow-based CCR. On the other hand, the part of the additional pot distributed to borders part of a cNTC CCR does not seem to be allocated to any CCR. This could lead to a situation in which part of the congestion income is not allocated to any CCRs. ACER has therefore added a provision in Article 6(2) of Annex I in order to include the additional pot on borders of a cNTC CCR to this CCR.

(77) Under Article 6(4) of the Proposal, the total additional pot had the same notation as the part of the additional pot distributed to one border under Article 6(1) of the Proposal.

After discussion with TSOs and regulatory authorities, ACER has proposed in Article 6(4)(b) of Annex I a new notation for the total additional pot as well as a formula for the distribution of the additional pot per border in Article 6(4)(c) of Annex I.

(78) On the structure, Article 6(3)(f) of the Proposal has been deleted because it covers the rescaling of congestion income, which is already treated in Article 7(2) of the Proposal. It is preferable to treat the rescaling in Article 7 of the Proposal rather than in Article 6 of the Proposal because the latter addresses the distribution of congestion income only on borders impacted by cross-CCR allocation mechanisms. It is therefore not appropriate to define the rescaling in Article 6 of the Proposal as it applies to all bidding zone borders.

(79) In their answer to ACER preliminary position, all TSOs provided some proposals for clarity improvements (e.g. definitions, cases in which both bidding zones of a border apply allocation constraints, modified day-ahead prices for computing balancing capacities congestion income). EV also proposed some clarity improvements (e.g. definitions, structure), in their answer to ACER preliminary position. ACER has considered these suggestions and has implemented them when deemed appropriate.

7. CONCLUSION

(80) For the above reasons, ACER considers that the Proposal is in line with the requirements of the CACM Regulation, as long as the amendments described in this Decision are integrated in the Proposal, as presented in Annex I to this Decision. The amendments are necessary to ensure that the Proposal is in line with the purpose of the CACM Regulation and contributes to market integration, non-discrimination, effective competition and the proper functioning of the market.

(81) Therefore, ACER approves the Proposal subject to the necessary substantive and editorial amendments. Annex I to this Decision sets out the congestion income distribution methodology, as amended and approved by ACER,

HAS ADOPTED THIS DECISION:

Article 1

The congestion income distribution methodology pursuant to Article 73(1) of the CACM Regulation is amended and approved as set out in Annex I to this Decision.

Article 2

This Decision is addressed to the following TSOs:

50Hertz - 50Hertz Transmission GmbH
Amprion - Amprion GmbH

APG - Austrian Power Grid AG
Augstsprieguma tïkls - AS Augstsprieguma tïkls
Baltic Cable - Baltic Cable AB
ČEPS - ČEPS a.s.
CREOS Luxembourg - Creos Luxembourg S.A.
EirGrid - EirGrid plc
Elering - Elering AS
ELES - ELES, d.o.o.
Elia - Elia Transmission Belgium SA/NV
Energinet - Energinet
ESO - Electroenergien Sistemen Operator EAD
Fingrid - Fingrid Oyj
HOPS - Croatian Transmission System Operator Ltd
IPTO - Independent Power Transmission Operator S.A.
Kraftnät Åland - Kraftnät Åland Ab
LITGRID - Litgrid AB
MAVIR ZRt. - MAVIR Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság ZRt.
PSE - Polskie Sieci Elektroenergetyczne S.A.
REN - Rede Eléctrica Nacional, S.A.
RTE - Réseau de Transport d'Electricité, S.A.
SEPS - Slovenská elektrizačná prenosovú sústava, a.s.
SONI - System Operator for Northern Ireland Ltd
Svenska Kraftnät - Affärsverket svenska kraftnät
TenneT GER - TenneT TSO GmbH
TenneT TSO - TenneT TSO B.V.
Terna - Terna Rete Eletrica Nazionale S.p.A.
Transelectrica - National Power Grid Company Transelectrica S.A.
TransnetBW -TransnetBW GmbH

Done at Ljubljana, on 21 December 2023.

- SIGNED -

For the Agency
The Director

C. ZINGLERSEN

Annexes:

Annex I Congestion income distribution methodology
Annex Ia Congestion income distribution methodology (track-change version, for information only)

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.

ACER
European Union Agency for the Cooperation of Energy Regulators

ACER Decision on the Congestion Income Distribution methodology:

Annex I

Congestion Income Distribution methodology

in accordance with Article 73 of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on Capacity Allocation and Congestion Management

21 December 2023

Contents

Whereas

(1) This document establishes the methodology for congestion income distribution (hereafter referred to as "CID methodology") in accordance with Article 73 of Commission Regulation (EU) 2015/1222 establishing a guideline on Capacity Allocation and Congestion Management (hereafter referred to as the "CACM Regulation").

(2) This CID methodology takes into account the general principles, goals and other methodologies set out in the CACM Regulation. The goal of the CACM Regulation is the coordination and harmonisation of capacity calculation and capacity allocation in the day-ahead and intraday cross-zonal markets, and it sets requirements for the Transmission System Operators (hereafter referred to as "TSOs") to co-operate on the level of capacity calculation regions (hereinafter referred to as "CCRs"), on a pan-European level and across bidding zone borders. The CACM Regulation sets also rules for establishing capacity calculation methodologies based either on the flow-based approach ("FB approach") or, subject to conditions specified therein, the coordinated net transmission capacity approach ("coordinated NTC approach").

(3) In accordance with Article 73 of the CACM Regulation, the CID methodology should cover the congestion income distribution in both the day-ahead and the intraday timeframe. The intraday timeframe is operated in a hybrid solution combining a continuous market with implicit auctions. Intraday congestion income to be distributed under the CID methodology is not created during the continuous trading and is originating only from the Intraday Capacity Pricing Auctions (hereinafter referred to as "IDA"). IDA references can be in some cases also understood as references to Single Intraday Coupling, however only IDA will be used in the document as it refers to a specific part of the coupling.

(4) The CID methodology is designed in three layers. First, for each CCR the congestion income generated by exchanges within a CCR is calculated and collected. The calculation is based on the results of the single day-ahead coupling (hereinafter referred to as "SDAC") or the IDAs. Second, the congestion income of a CCR is distributed among the bidding zone borders of this CCR. Third, the congestion income attributed to a bidding zone border is distributed among TSOs or other legal entities owning interconnectors on that bidding zone border.

(5) Application of congestion income distribution is currently based on regional application to reflect the following: First, the congestion income from SDAC includes also the congestion income resulting from reallocated long-term transmission rights ("LTTR"), for which TSOs need to coordinate in capacity calculation and allocation, as well as guaranteeing their firmness and remuneration including sharing of related costs in accordance with Article 61 of the Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation (hereinafter referred to as the "FCA Regulation").

These requirements are defined at CCR level. Second, the definition of commercial flow is not harmonised across EU mainly because CCRs with coordinated NTC and FB approach allocate cross-zonal capacity in a fundamentally different way. In CCRs with a coordinated NTC approach, the commercial flows can be set to equal allocated cross-zonal capacities, which are directly resulting from the SDAC or IDA algorithm. In CCRs with a FB approach, where the SDAC or IDA algorithm does not provide allocated capacities on bidding zone borders, the commercial flows need to be calculated additionally. This is done by first calculating, for each bidding zone, the net position resulting from exchanges within the CCR (i.e. the regional net positions).Then the physical flows resulting from the regional net positions are calculated for each bidding zone border of the CCR.[1] For those bidding zones, where part of the regional net position is physically realised through borders outside of its CCR, the external flow is calculated such that the sum of calculated physical flows on internal borders and the external flow is equal to the regional net position of a bidding zone.

(6) In some specific cases, unintuitive flows (flows against prices differences) may happen to achieve the highest social welfare possible across CCRs. Two major situations are treated into this methodology, where the unintuitive flows impact first, inside a CCR and second, across multiples CCRs. The current proposal for amendments contains solutions to address all kind of unintuitive flows. In order to alleviate the effect of unintuitive flows from advanced hybrid coupling and allocation constraints, the virtual hub approach is introduced to better consider all the flows from advanced hybrid coupling or allocation constraints to determine the congestion income distribution in a fair and efficient way.

(7) The congestion income from SDAC also contains the congestion income generated by non-nominated LTTRs (i.e. non-nominated PTRs or FTRs), which TSOs have the obligation to remunerate in accordance with the FCA Regulation. The relevant principles are reflected in the methodology for sharing costs incurred to ensure firmness and remuneration of long- term transmission rights in accordance with Article 61(3) of the FCA Regulation.

(8) The CID methodology also needs to consider congestion income from the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves via the co-optimised allocation process pursuant to Article 40 of the Commission Regulation on (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter referred to as the "EB Regulation") and the market-based allocation process pursuant to Article 41 of the EB Regulation. In accordance with the harmonised cross-zonal capacity allocation methodology pursuant to Article 38(3) of the EB Regulation and regional market-based allocation methodologies pursuant to Article 41(1) of the EB Regulation, the CID methodology should specify the principles how to distribute the congestion income from the exchange of balancing capacity or sharing of reserves.

(9) The CID methodology does not cover the situation in which the monthly congestion income generated from an application of the market-based allocation in accordance with

[1] These flows are calculated based on power transfer distribution factors, which are calculated based on thecommon grid model.

Article 38(1) of the EB Regulation is lower than the congestion income which could have been generated for the amount of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves if allocated to the single day-ahead coupling instead. The reason is that this situation is already treated in the methodology of Article 38(3) of the EB Regulation.

(10) According to Article 9(9) of the CACM Regulation, the expected impact of the CID methodology on the objectives of the CACM Regulation has to be described and is presented below.

(11) The CID methodology generally contributes to the achievement of the objectives of Article 3 of CACM Regulation or the usage principles for congestion income set in Regulation (EU) 2019/943. In particular, the CID methodology serves the objective of promoting effective competition in the trading and supply of electricity, non-discriminatory access to cross-zonal capacity as it lays down the exact methodology for the distribution of congestion income to be applied by all involved TSOs, thus, creating a solid basis for congestion income distribution at European level.

(12) Congestion income indicates how much market participants value the possibility for cross-border trade, how interconnections are used and where capacity should be increased. Via the possibility to consider investment costs in the sharing key, more certainty can be achieved for a more optimal sharing key for future investments and thus, long-term operation and development of the electricity transmission system and electricity sector in the European Union is supported.

(13) Furthermore, the CID methodology ensures non-discriminatory treatment of all affected parties, as it sets rules to be applied by all parties. Further, the methodology takes into account congestion income derived by interconnections on bidding zone borders owned by legal entities other than TSOs, preventing exclusion of such congestion income from the application of the CID methodology as long as these interconnections are operated by TSOs.

(14) Regarding the objective of transparency and reliability of information, the CID methodology provides clear rules and a solid basis for congestion income distribution in a transparent and reliable way.

(15) In conclusion, the CID methodology contributes to the general objectives of the CACM Regulation to the benefit of all market participants and electricity end consumers.

Title 1
General provisions

Article 1
Subject matter and scope

1. This CID methodology is established in accordance with Article 73 of the CACM Regulation and shall cover the congestion income distribution for:
    a. All existing and future bidding zone borders and interconnectors within and between Member States, to which the CACM Regulation applies and where congestion income is collected;
    b. Interconnectors which are owned by TSOs or by other legal entities;
    c. Congestion income derived from capacity allocation in the day-ahead and the intraday timeframe;
    d. Congestion income derived from capacity allocation based on coordinated NTC approach and FB approach;
    e. Congestion income derived from capacity allocation based on coordinated NTC approach only used in a first stage of IDA for some CCRs before FB approach is applied; and
    f. Congestion income derived from the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves as foreseen in the methodologies pursuant to Article 38(3) and Article 41(1) of the EB Regulation.

2. The CACM CID methodology shall apply to the TSOs listed in Annex 1 (hereafter referred to as “TSOs”).

3. Where congestion income derives from transmission assets owned by legal entities other than TSOs, these parties shall be treated in a transparent and non-discriminatory way. The TSOs operating these assets shall conclude the necessary agreements compliant with this CID methodology with the relevant transmission asset owners to remunerate them for the transmission assets they operate on their behalf.

Article 2
Definitions and interpretation

1. For the purpose of the CID methodology, terms used in this document shall have the meaning of the definitions included in Article 2 of the CACM Regulation, of the FCA Regulation, of Regulation (EU) 2019/943, Directive (EU) 2019/944 and Commission Regulation (EU) 543/2013.

2. In addition, in this CID methodology the following terms shall apply:
    a. "Commercial flow" means the flow over a bidding zone border resulting from SDAC or IDA where it is distinguished as follows:
        i. for CCRs applying the FB approach it is the additional aggregated flow (AAF) and if applicable the external flow as specified in Article 4
        ii. for CCRs applying a coordinated NTC approach it means the allocated capacities on the bidding zone border
    b. "Balancing capacity commercial flow" means, for a given border, the net capacity allocated resulting from allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves, where it is distinguished as follows:
        i. for CCRs applying the FB approach it is the additional aggregated flow (AAF) and if applicable the balancing capacity external flow as specified in Article 5
        ii. for CCRs applying a coordinated NTC approach it means the difference between the capacity allocated in one direction and the capacity allocated in the other direction on the bidding zone border
    c. "External flow" means the calculated physical flow resulting from exchanges within a CCR from the SDAC or IDA that cannot be directly assigned to a bidding zone border of that CCR and therefore represents exchanges within a CCR, which are physically realised through borders outside of a CCR.
    d. "Balancing capacity external flow" means the calculated balancing capacity flow resulting from the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves exchanges within a CCR that cannot be directly assigned to a bidding zone border of that CCR and therefore represents exchanges within a CCR, which are realised through borders outside of a CCR.
    e. "Slack hub" means a common virtual sink or source for all external flows originating from a bidding zone assigned to it.
    f. "Balancing capacity slack hub" means a common virtual sink or source for all balancing capacity external flows originating from a bidding zone assigned to it.
    g. "Adjusted demand" means the demand for balancing capacity obtained after scaling the original demand down to the overall procurement volume.
    h. "Virtual hub" means a virtual bidding zone used to represent the imports and exports on a border where advanced hybrid coupling is applied. In contrast to real bidding zones, there do not exist any bids at the virtual hubs in the price coupling algorithm and therefore there is also no congestion income generated for virtual hubs.
    i. "Virtual hub net position" means the cross-zonal exchange over the interconnectors represented by the virtual hub.
    j. "Net border income" means the congestion income allocated per bidding zone border as defined in Article 7 of this CID methodology.
    k. "balancing capacity net position" means the netted sum of exports and imports for a given balancing capacity product for each market time unit for a bidding zone;
    l. "Interconnector" means a line between bidding zones.
    m. "MTU" means the finest market time unit occurring in the CCR within the given timeframe. If this finest market time unit is not implemented throughout the whole CCR, calculated congestion income values must be divided to match the corresponding finest market time unit breakdown. This definition deviates from the approach used in the Regulations referred to in paragraph 1 of this Article but shall

be applicable solely within the application of this methodology.

n. "Advanced Hybrid Coupling" or "AHC" refers to the combined application of Flow-Based (FB) allocation in a FB CCR, and Available Transmission Capacity (ATC) allocation at a BZ border external to the FB CCR, in one single capacity allocation mechanism. That external BZ border applying AHC is represented in a FB CCR by virtual hub. The PTDFs calculated for the virtual hub map the impact of the exchanges on the CNECs of the FB CCR during market coupling. This measure results from the process of capacity calculation methodology within respective CCR in accordance with Articles 20 and 21 of the CACM Regulation and impacts allocation of capacity on bidding zone borders located in different CCRs.

o. "Allocation constraint", means a constraint limiting net-position of given bidding zone defined pursuant to Article 2(6) of the CACM Regulation. This constraint results from the process of capacity calculation methodology within respective CCR in accordance with Articles 20 and 21 of the CACM Regulation and refers to both internal allocation constraint (impacting allocation of capacity on bidding zone borders located in single CCR) and cross-CCRs allocation constraint (impacting allocation of capacity on bidding zone borders located in different CCRs).

p. "Ramping constraint", means the constraint applied for some HVDC interconnectors limiting the allowed change in flow from one MTU to the next MTU to a certain level. This could result in a situation that the change of flow on a bidding zone border is limited in a way that change of direction of the flow is not possible from one MTU to the next MTU.

q. "Allocation mechanisms with cross-CCRs impact" means Advanced Hybrid Coupling or cross-CCRs allocation constraint.

3. In addition, in this CID methodology, unless the context requires otherwise:
   a. a bidding zone border may consist of one or more interconnector(s) for the purposes of the congestion income distribution;
   b. unless specified otherwise, the terms used apply in the context of the SDAC and IDA;
   c. the singular also includes the plural and vice versa;
   d. any reference to legislation, regulations, directives, orders, instruments, codes, or any other enactment shall include any modification, extension, or re-enactment of it when in force.

Title 2
Calculation of congestion income and distribution to bidding zone borders

Article 3
Collection and calculation of congestion income per CCR

1. In accordance with Article 68(7) and (8) of the CACM Regulation, the relevant central counter parties or shipping agents shall collect the congestion income arising from the SDAC or the IDA and shall ensure that collected congestion income is transferred to the TSOs or entities appointed by TSOs no later than two weeks after the date of the settlement.

2. The congestion income generated within a CCR (CI_{CCR}) shall be calculated for each MTU by using the results of the SDAC or IDA according to one of the following formulas depending on the capacity calculation approach and the availability of information on CCR level:

   a. Calculation based on net positions (at least for all CCRs using the FB approach)

$$CI_{CCR} = -\sum_{j \in Z_{CCR}} NP_j \times P_j$$

with

NP_j regional net position of bidding zone *j* resulting from the SDAC or IDA (the position of virtual hubs – if any – is added to derive the net position of the bidding zone)

P_j clearing price of bidding zone *j* resulting from the SDAC or IDA

Z_{CCR} set of bidding zones in the CCR

The regional net positions shall be derived from the total net positions resulting from SDAC or IDA and subtracting the exchanges with bidding zones outside of a CCR.

   b. Calculation based on allocated capacities

$$\mathrm{CI}_{CCR} = \sum_{b \in B_{CCR}} \mathrm{S_b} \times \mathrm{MS_b}$$

with

S_b allocated capacity on bidding zone border b resulting from the SDAC or IDA

MS_b market spread on bidding zone border b resulting from the SDAC or IDA

B_{CCR} set of all borders in the CCR

3. The calculation of CI_{CCR}, including the subsequent step described in Article 7(2), may be omitted in CCRs, in which unintuitive flows and network losses according to Article 7(1) do not occur.

4. In case of allocation of cross zonal capacity for the exchange of balancing capacity or sharing of reserves, the congestion income generated from such allocation has to be shared per each application pursuant to Article 38(1) of the EB Regulation , separately for each standard balancing capacity product.

Article 4
Calculation of commercial flows in FB approach

1. For CCRs applying the FB approach, the commercial flow shall be based on calculated physical flow on internal and external bidding zone borders of a CCR, which result from regional net positions of bidding zones in a CCR.

2. On the internal bidding zone borders of a CCR the commercial flow shall be equal to *AAF*, which is the calculated physical flow on internal bidding zone borders of a CCR resulting from the electricity exchanges within a CCR. *AAF* shall be calculated with the following formula:

$$AAF_b = \sum_{j \in Z_{CCR}, k \in K_b} PTDF_{k,j} \cdot NP_j$$

with

AAF_b additional aggregated flow on bidding zone border *b*

NP_j regional net position of bidding zone *j* resulting from the SDAC or IDA (the position of virtual hubs – if any – is added to derive the net position of the bidding zone)

$PTDF_{k,j}$ power transfer distribution factor for bidding zone *j* on interconnector *k* located on bidding zone border *b*

Z_{CCR} set of bidding zones in the CCR$K_b$set of interconnectors on bidding zone border b

3. For each bidding zone, which has the regional net position not equal to the sum of all commercial flows calculated on the CCR internal bidding zone borders of such bidding zone pursuant to paragraph 2, the external flow is needed as additional commercial to balance the regional net position of such bidding zone. The external flow of such bidding zone shall be calculated using the following formula:

$$EF_j = NP_j - \sum_{b \in B_j} AAF_b$$

with

EF_j external flow for bidding zone *j*

NP_j regional net position of bidding zone *j* resulting from the SDAC or IDA (the position of virtual hubs – if any – is added to derive the net position of the bidding zone)

AAF_b additional aggregated flow on bidding zone border *b*

B_j subset of bidding zone borders within a CCR connected to bidding zone *j*

4. For bidding zones, where the additional commercial flow is calculated based on external flow pursuant to paragraph 3, the market spread of such commercial flow used in accordance with Article 7(1) shall be calculated as:

$$EMS_j = P_j - P_{SH,n}$$

where $P_{SH,n}$ is the price(s) that minimises the sum of congestion income from external flows over all bidding zones connected to the relevant slack hub *n* (where each external flow for one bidding zone is calculated in accordance with paragraph 3) using the following optimisation:

$$\arg\min_{P_{SH,n}} \sum_{j \in B_n} \left| (P_j - P_{SH,n}) \cdot EF_j \right|$$

with

EMS_j market spread for external flow of bidding zone j connected to slack hub n

EF_j external flow for bidding zone *j*

P_j clearing price of bidding zone *j* resulting from SDAC or IDA

$P_{SH,n}$ price of slack hub *n*

B_n set of bidding zone borders connected to slack hub n

If there is no unique solution for $P_{SH,n}$, $P_{SH,n}$ shall be calculated as the average of the maximum and the minimum value from a set of $P_{SH,n}$ satisfying the formula above.

5. The determination of the number of slack hubs and their associated bidding zones introduced for the calculation as described in paragraph 4 should be unambiguous for each CCR. There shall be one slack hub for a CCR. Multiple slack hubs for a CCR may be allowed only if all of the following conditions are met:
    a. Each bidding zone and related external flows may only be assigned to one slack hub.
    b. There shall be no direct flows between slack hubs meaning that the sum of all external flows towards a slack hub and therefore its net position is zero.
    c. A slack hub is defined only in case the external flow can re-enter the relevant CCR via a different external border, but within the same slack hub.

Article 5
Calculation of balancing capacity commercial flow resulting from the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves in FB approach

1. For CCRs applying the FB approach, the balancing capacity commercial flow shall be based on calculated reservation on internal and external bidding zone borders of a CCR, which result from balancing capacity net positions of bidding zones in a CCR.
2. The balancing capacity net positions of bidding zones as described in the previous paragraph are to be calculated as the difference between the adjusted demand and the volume of standard balancing capacity product bids which are procured in the relevant bidding zone. Balancing capacity net positions need to reflect the import or export characteristic of the allocated product.
3. The calculation of balancing capacity commercial flows resulting from the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves in a FB approach shall be performed separately per standard balancing capacity product.
4. On the internal bidding zone borders of a CCR the balancing capacity commercial flow shall be equal to *AAF* In case all AAF in given CCR for given standard balancing capacity product are equal 0 then all AAF should be set to 1 for this CCR and this standard balancing capacity product. *AAF* shall be calculated with the following formula:

$$AAF_b = \sum_{j \in Z_{CCR}, k \in K_b} PTDF_{k,j} \cdot BCNP_j$$

with

AAF_b additional aggregated flow on bidding zone border *b*

$BCNP_j$ balancing capacity net position of bidding zone *j* resulting from the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves

$PTDF_{k,j}$ power transfer distribution factor for bidding zone *j* on interconnector *k*

Z_{CCR} set of bidding zones in the CCR

K_b set of interconnectors on bidding zone border b

5. For each bidding zone, which has the net position not equal to the sum of all balancing capacity commercial flows calculated on the CCR internal bidding zone borders of such bidding zone pursuant to paragraph 4, the balancing capactiy external flow is needed as additional balancing capacity commercial flow in order to balance the regional balancing capacity net position of such bidding zone. The balancing capacity external flow of such bidding zone shall be calculated using the following formula:

$$BCEF_j = BCNP_j - \sum_{b \in B_j} AAF_b$$

with

$BCEF_j$ balancing capacity external flow for bidding zone *j*

$BCNP_j$ balancing capacity net position of bidding zone *j* resulting from allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves

AAF_b additional aggregated flow on bidding zone border *b*

B_j subset of bidding zone borders within a CCR connected to bidding zone *j*

6. For bidding zones, where the additional balancing capacity commercial flow is calculated based on balancing capactiy external flow pursuant to paragraph 5, the market spread of such balancing capacity commercial flow used in accordance with Article 7(5) shall be calculated as:

$$EMS_j = P_j - P_{SH,n}$$

where $P_{SH,n}$ is the price(s) that minimises the sum of congestion income from balancing capacity external flows over all bidding zones connected to the relevant balancing capacity slack hub *n* (where each balancing capacity external flow for one bidding zone is calculated in accordance with paragraph 3) using the following optimisation:

$$\arg\min_{P_{SH,n}} \sum_{j \in B_n} \left| (P_j - P_{SH,n}) \cdot EF_j \right|$$

with

EMS_j market spread for balancing capacity external flow of bidding zone j connected to balancing capacity slack hub n

$BCEF_j$ balancing capacity external flow for bidding zone *j*

P_j clearing price of bidding zone *j* resulting from SDAC

$P_{SH,n}$ price of balancing capactiy slack hub *n*

B_n set of bidding zone borders connected to balancing capacity slack hub n

If there is no unique solution for $P_{SH,n}$, $P_{SH,n}$ shall be calculated as the average of the maximum and the minimum value from a set of $P_{SH,n}$ satisfying the formula above.

7. The rules for balancing capacity slack hubs determination should be the same as the one for slach hubs determination defined in paragraph 5 of Article 4 .

Article 6
Calculation of congestion income on bidding zone borders affected by advance hybrid coupling or allocation constraints

1. For the day-ahead and intra-day timeframes, the calculation of congestion income generated within a flow-based CCR must consider the allocation constraints and the implementation of Advanced Hybrid Coupling (AHC). In such cases, the formula stated in Article 3.2 should be broadened to incorporate these additional factors.

$$CI_{CCR} = -\sum_{j \in Z_1} NP_j \times P_j - \sum_{i \in Z_2} NP_i \times P_i' + \sum_{l \in Z_2} \sum_{b \in B_l} addpot_{b,l}$$

with

NP_z regional net position of bidding zone *z* resulting from the SDAC or IDA

P_z clearing price of bidding zone *z* resulting from the SDAC or IDA

P'_z clearing price of bidding zone *z* resulting from the SDAC or IDA with filtered out effect of the allocation constraint, if the zone applies it

$$P'_z = P_z - \Delta\mu_z^{AC}$$

$$\Delta\mu_z^{AC} = \mu_z^{AC-} - \mu_z^{AC+}$$

μ_z^{AC-} shadow price for constraint for minimum NP of bidding zone z resulting from SDAC or IDA

μ_z^{AC+} shadow price for constraint for maximum NP of bidding zone z resulting from SDAC or IDA

Z_1 set of bidding zones, which do not use allocation constraint in the CCR, including virtual hubs on the AHC borders belonging to this CCR

Z_2 set of bidding zones (i.e. i or l) which use allocation constraint in the CCR

B_z set of bidding zone borders or slack hub borders of zone z belonging to the CCR

$addpot_{b,z}$ part of additional pot, generated by the allocation constraint of bidding zone z, assigned to bidding zone border b, as in Article 6.4.c

2. For the day-ahead and intra-day timeframes, the calculation of congestion income generated within a CCR using a coordinated NTC approach shall follow the provisions of Article 3.2.b. In the case of AHC borders, only the congestion income related to the coordinated NTC part of the border (as defined in Articles 6.3.c. and 6.3.d.) shall be assigned to the coordinated NTC CCR. For calculation of market spreads, the adjusted price P'_j as defined in the Article 6.1, for the zone that applies am allocation constraint shall be used. For bidding zone borders impacted by an allocation constraint, the part of additional pot assigned to the bidding zone border shall be added.
3. For CCRs applying AHC or being under influence of AHC, the congestion income generated on a bidding zone border shall be calculated considering the following specific conditions:
    a. In order to calculate CI pot in a CCR and on the AHC borders, it is necessary to calculate the prices at the virtual hubs. Prices at the virtual hubs follow the flow-based principles and should be calculated using the following formula:

$$P_j = \lambda - \sum_o \mu_o^{CNEC} \cdot PTDF_{o,j}$$

with

P_j clearing price of a virtual bidding zone j

λ shadow price associated with constraint on regional balance (sum of regional net positions equal to zero)

$PTDF_{o,j}$ power transfer distribution factor for bidding zone *j* on CNEC o

μ_o^{CNEC} shadow price of CNEC *o*

    b. On the AHC borders of a CCR, the commercial flow should be equivalent to the physical flow (AAF) on the HVDC interconnector for that border. The AAFs on the AHC borders shall be calculated using the following formula:

$$AAF_b = NP_j$$

with

AAF_b additional aggregated flow on AHC bidding zone border *b*

NP_j regional net position of a virtual bidding zone *j on a border b* resulting from the SDAC or IDA

c. In the case of a single-sided AHC border, the border is divided into two sections for the purpose of calculation and distribution of congestion income: the flow-based part, which is related to the FB CCR, and the coordinated NTC part, which is related to the coordinated NTC CCR. The congestion income assigned to the flow-based section of the bidding zone border should be calculated as the maximum of zero and the result of multiplying the commercial flow by the market spread between the flow-based bidding zone and the virtual hub. The congestion income assigned to the coordinated NTC part of the border will be calculated as the result of multiplying the commercial flow by the market spread between the virtual hub and the bidding zone in the CCR not implementing advanced hybrid coupling.

d. In the case of a double-sided AHC border, the border is divided into three sections for the purpose of calculation and distribution of congestion income: two flow-based parts, each related to different FB CCR, and the coordinated NTC part, which relate to the coordinated NTC CCR. The congestion income assigned to the flow-based parts of the bidding zone border should be calculated as the maximum of zero and the result of multiplying the commercial flow by the market spread between the flow-based bidding zone and the virtual hub. The congestion income assigned to the coordinated NTC part of the border will be calculated as the result of multiplying the commercial flow by the market spread between the two virtual hubs on this border.

e. If an allocation constraint is applied to a bidding zone on the AHC border, the market spread for calculating CI per border in Articles 6.3.c and 6.3.d will be calculated using the adjusted price P'_j , as defined in Article 6.1.

4. CCRs under influence of allocation constraint, the congestion income generated on a bidding zone border or on a slack hub border shall be calculated considering the following specific conditions:
   a. The congestion income generated on a bidding zone border or on a slack hub border, where one or both bidding zones apply an allocation constraint, should be calculated as the absolute value of the product of the commercial flow multiplied by the market spread, at which the additional pot assigned to this bidding zone border according to the Article 6.4c is added. The market spread should be calculated using adjusted price P'_j as defined in Article 6.1. for the borders impacted by allocation constraints.
   b. If the allocation constraint of bidding zone j is active and the adjusted prices are used to calculate the congestion income on the bidding zone borders and slack hub border, there exists an unassigned portion associated with zone j, referred to as an additional pot. The overall additional pot can be determined using the following equation:

$$addpot_j^{tot} = NP_j^{global} \cdot \left(P'_j - P_j\right)$$

with

NP_j^{global} – global net position of bidding zone j resulting from SDAC or IDA on which allocation constraint is applied

c. The additional pot, which is always non-negative, is distributed between the borders and slack hub borders of bidding zone j on which the flow has the same direction as the sign of the active allocation constraint. The distribution of the additional pot is proportional to the congestion income accumulated on these borders scaled to the total CI generated within the CCR without additional pot:

$$addpot_{b,j} = addpot_j^{tot} \cdot \frac{CI_b}{\sum_{b \in B_j} CI_b}, \forall b \in B_j$$

Where

$addpot_{b,j}$ is the additional congestion income from the total additional pot $addpot_j^{tot}$ assigned to bidding zone border b.

$addpot_j^{tot}$ is the total additional pot generated by the allocation constraint of bidding zone j.

$CI_b$is the congestion income generated on border b scaled to the total CI generated within the CCR without additional pot.

B_j, set of borders adjacent to bidding zone j which have the same direction as the sign of the allocation constraint.

d. If there are no positive congestion incomes on any of the borders where flow has the same direction as the sign of the allocation constraint, the additional pot is distributed equally among the borders that align with the direction of active allocation constraints.

Article 7
Distribution of congestion income to bidding zone borders

1. For both the day-ahead and intraday timeframe, the congestion income attributed to a bidding zone border shall be calculated as the absolute values of the product of the commercial flow (as defined in Article 2.2a) multiplied by the market spread. However, bidding zone borders affected by advanced hybrid coupling or allocation constraints are excluded from this calculation, and their congestion income is calculated as described in Article 6. Bidding zone borders affected by ramping constraints, shall also be excluded from using the absolute value rule and the congestion income shall be calculated as the product of the commercial flow (as defined in Article 2.2a) multiplied by the market spread. The relevant market spread shall be reduced to reflect the costs of network losses in case these are considered in capacity calculation and allocation on the given bidding zone border or interconnector.

2. In case the sum of congestion income attributed to all bidding zone borders within a CCR (including external borders and the part of the borders affected by advanced hybrid coupling assigned to the CCR, but excluding borders affected by ramping constraints) is not equal to

the total congestion income generated by electricity exchanges within a CCR according to Article 3 (in case there is no cross CCR impact) or Article 6 (in case there is cross CCR impact), the congestion income attributed to the bidding zone borders within a CCR (including external borders and the part of the borders affected by advanced hybrid coupling assigned to the CCR but excluding borders affected by ramping constraints) shall be adjusted proportionally in order to match the total congestion income generated by electricity exchanges within a CCR.

3. The negative congestion income, resulting from the specific cases described below, does not equal the congestion income calculated according to Article 3 and shall be shared equally among all TSOs whose bidding zone borders are assigned to the relevant CCR:
    a. the application of curtailment mitigation and curtailment sharing in the SDAC or IDA algorithm[2];
    b. congestion income is positive or zero using initial SDAC or IDA results, but becomes negative due to the application of rounding; and
    c. initially calculated prices need to be capped because they do not comply with the defined harmonised maximum and minimum clearing prices for single day-ahead coupling in accordance with Article 41(1) of the CACM Regulation.

4. For cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves inside a CCRs applying the coordinated NTC approach, the congestion income attributed to a bidding zone border shall be calculated as the product of the allocated cross-zonal capacities for balancing multiplied by the price of the cross-zonal capacity for balancing.

5. For cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves inside a CCRs applying the FB approach, the congestion income attributed to a bidding zone border shall be calculated:

    a. for borders of which both TSOs are part of the application, as the absolute values of the product of the balancing capacity commercial flow (as calculated in accordance with Article 5) multiplied by the relevant balancing capacity market spread.
    b. for borders of which at least one TSO is not part of the application, as the absolute values of the product of the balancing capacity commercial flow (as calculated in accordance with Article 5) multiplied by the relevant day-ahead market spread (where the adjusted prices are used, as defined in Article 6, in case the bidding zone is affected by advanced hybrid coupling or allocation constraints).

6. Once all bidding zones of a CCR are part of an application pursuant to Article 38(1) of the EB Regulation, balancing capacity prices shall be used also to calculate the slack hub price as defined in Article 5(7). In case the sum of congestion income attributed to all bidding zone borders within a CCR (and external borders where relevant) is not equal to the total congestion income generated within a CCR according to Article 3(4), the congestion income attributed to the bidding zone borders within a CCR (and external borders where relevant)

[2] This specific patch (also called "adequacy patch") is defined and included in Annex II of the ACER Decision 04/2020 on the algorithm methodology (common set of requirements for the price coupling algorithm).

shall be adjusted proportionally in order to match the total congestion income allocated from the application of CZC for balancing.

7. The CID methodology does not cover the situation in which the monthly congestion income generated from an application of the market-based allocation in accordance with Article 38(1) of the EB Regulation is lower than the congestion income which could have been generated for the amount of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves if allocated to the single day-ahead coupling instead. This is treated in the methodology of Article 38(3) of the EB Regulation.

Title 3
Congestion income distribution on the bidding zone border

Article 8
Sharing keys

1. For the bidding zone borders where congestion income was calculated based on allocated capacities or AAF, the TSOs on each side of the bidding zone border shall receive their share of net border income based on a 50%-50% sharing key. For the bidding zone parts of the AHC borders where congestion income was calculated based on allocated capacities or AAF, the TSOs on each side of the bidding zone border should receive their respective shares of the income based on a 50%-50% sharing key. In specific cases, the concerned TSOs may also use a sharing key different from a 50%-50% split. The sharing keys different from 50%-50% may be based on different ownership shares between TSOs, different shares of investments costs between TSOs, exemption decisions[3] or decisions on cross-border cost allocation[4] by the competent regulatory authorities or ACER. The sharing keys for these specific cases shall be published in a common document by ENTSO-E on its web page for information purposes only. This document shall list all these specific cases with the name of the interconnector, the bidding zone border, the involved TSOs/parties, the specific sharing key applied and the reasons for the deviation from the 50%-50% sharing key. The document shall be updated and published promptly as soon as any changes occur. Each publication shall be announced in an ENTSO-E's newsletter.

2. The congestion income calculated based on external flow (resp. balancing capacity commercial flow) shall be attributed to TSO(s) of a bidding zone for which the associated external flow (resp. balancing capacity commercial flow) was calculated and have interconnectors through which the external flows (resp. balancing capacity commercial flow) are realised.

3. For bidding zone borders consisting of several interconnectors where the capacity is auctioned

[3] Decisions on exemptions pursuant to Article 63 of Regulation (EU) 2019/943.

[4] Decisions on cross-border cost allocation pursuant to Article 12(4) or Article 12(6) of Regulation (EC)347/2013.

separately for interconnectors, the congestion income associated with each interconnector is directly allocated to the TSO(s) of that interconnector based on relevant auctions.

4. In case the bidding zone border consists of several interconnectors with different sharing keys, or which are owned by different TSOs and where the capacity is allocated jointly, the net border income shall be assigned first to the respective interconnectors on that bidding zone border based on each interconnector's contribution to the allocated capacity. The interconnector's contribution to capacity allocation is determined according to the agreement between all the relevant TSOs on the bidding zone border based on the technical evaluation of the capacity contribution of each interconnector to the capacity allocation also considering the availability of each interconnector. The principles of the technical evaluation for these specific cases shall be published in a common document by ENTSO-E on its web page for information purposes only. The document shall be updated and published promptly as soon as any changes occur. Each publication shall be announced in an ENTSO-E's newsletter.

5. The final congestion income attributed to each TSO shall consist of congestion income calculated pursuant to paragraphs 1 to 4. In the case of SDAC, the remuneration of LTTRs to be paid in accordance with Article 61 of the FCA Regulation also needs to be applied. Only the costs for remuneration of those LTTRs, which have been offered for re-allocation at the day- ahead timeframe shall be covered.

6. In case specific interconnectors are owned by entities other than TSOs or entities other than TSOs have a share in the investment costs of an interconnector, the reference to TSOs in this Article shall be understood as referring to those entities. Where applicable, the sharing keys are calculated according to an exemption decision concerning these entities taken in accordance with Article 63 of Regulation (EU) 2019/943.

Title 4
Transparency of information

Article 9
Publication of data

1. No later than at the time of implementation of this methodology, all TSOs shall publish the following information required for the transparency of congestion income distribution:
    a. for CCRs applying the FB approach:
        - power transfer distribution factors showing the influence of the change in the net position of each bidding zone on the physical flows on each interconnector on each bidding zone border within a CCR;
        - regional net position of each bidding zone within a CCR;
        - price(s) of slack hub(s);
        - price(s) of balancing capacity slack hub(s); and
        - clearing price for each bidding zone within a CCR.
    b. for all CCRs:
        - commercial flows and the corresponding clearing prices used for the purpose of congestion income distribution in accordance with this methodology.
        - Balancing capacity commercial flows and the corresponding clearing prices

used for the purpose of congestion income distribution in accordance with this methodology.

2. The information pursuant to paragraph 1 shall be published with MTU resolution and at least on a monthly basis.

Title 5
Final provisions

Article 10
Publication, implementation and future amendment of the CID methodology

1. The TSOs shall publish the CID methodology without undue delay after a decision has been taken by ACER in accordance with Article 9(5) and 9(6) of the CACM Regulation.

2. The TSOs from CCRs mutually affected by allocation mechanisms with cross-CCR impact shall jointly develop, test and validate the algorithms, tools and procedures for the cross-CCRs mechanisms defined in this methodology. The TSOs from CCRs mutually affected by allocation mechanisms with cross-CCR impact in SDAC or IDA such as cross-CCRs allocation constraints and/or AHC shall jointly implement Article 6 of this methodology at the date of implementation of allocation constraints and/or AHC in SDAC or IDA in affected CCRs but not earlier than the date of implementation of this methodology set in paragraph 3 for SDAC and paragraph 4 for IDA of this article.

3. The TSOs of each CCR shall implement the provisions of this methodology related to the congestion income arising from SDAC at the date of implementation of the capacity calculation methodology within their respective CCR in accordance with Articles 20 and 21 of the CACM Regulation. For CCRs in which CCM are already implemented at the date of issuance of this decision, the TSOs shall implement the changes related to the congestion income arising from SDAC no later than 18 months after the date of issuance of this decision by ACER in accordance with Article 9 (5) and Article 9 (6) of the CACM Regulation.

4. The TSOs of each CCR shall implement the provisions of this methodology related to the congestion income arising from IDA at the date of implementation of the IDA for intraday timeframe.

5. The TSOs of each CCR shall implement the provisions of this methodology related to the congestion income derived from allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves at the date of implementation of the methodologies pursuant to Article 38(3) or pursuant to Article 41(1) of the EB Regulation.

6. During the development, testing and the first year of implementation of the cross-CCR mechanisms, the TSOs shall assess the results of the application of the CACM CID methodology with regard to the requirement of ensuring fair and non-discriminatory treatment in accordance with Article 3(e) of the CACM Regulation and share their assessment with all regulatory authorities and ACER. If necessary to ensure fair and non-discriminatory treatment, TSOs shall propose amendments of the congestion income distribution methodology in accordance with Article 9(13) of the CACM Regulation in order to fulfil the

objective set in Article 3(e) of the CACM Regulation. This is without prejudice of the TSOs right to propose any other amendments to ACER according to Article 9(13) of the CACM Regulation.

7. Additional amendments to the CACM CID methodology are also foreseen to correctly address the future offshore bidding zones where AHC is expected to be applied.

Article 11
Language

1. The reference language for this CID methodology shall be English. For the avoidance of doubt, where TSOs need to translate this CID methodology into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 9(14) of the CACM Regulation and any version in another language the relevant TSOs shall, in accordance with national legislation, provide the relevant regulatory authorities with an updated translation of the CID Methodology.

ANNEX 1

List of TSOs subject to the approved CACM CID methodology:

- APG - Austrian Power Grid AG,
- Elia - Elia Transmission Belgium S.A.
- ESO – Electroenergien Sistemen Operator EAD
- HOPS d.d. - Croatian Transmission System Operator Plc.
- ČEPS - ČEPS, a.s.
- Energinet – Energinet
- Elering - Elering AS
- Fingrid - Fingrid OyJ
- Kraftnät - Kraftnät Åland Ab
- RTE - Réseau de Transport d'Electricité S.A
- Amprion - Amprion GmbH
- BCAB - Baltic Cable AB
- TransnetBW -TransnetBW GmbH
- TenneT GER - TenneT TSO GmbH
- 50Hertz - 50Hertz Transmission GmbH
- IPTO - Independent Power Transmission Operator S.A.,
- MAVIR ZRt. - MAVIR Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság ZRt.
- EirGrid - EirGrid plc
- Terna - Terna SpA
- Augstsprieguma tïkls - AS Augstsprieguma tïkls
- LITGRID - LITGRID AB
- CREOS Luxembourg - CREOS Luxembourg S.A.
- TenneT TSO - TenneT TSO B.V.
- PSE - Polskie Sieci Elektroenergetyczne S.A.
- REN - Rede Eléctrica Nacional, S.A.
- Transelectrica - Compania Nationala de Transport al Energiei Electrice S.A.
- SEPS - Slovenská elektrizačná prenosovú sústava, a.s
- ELES - ELES,d.o.o
- REE - Red Eléctrica de España S.A.U,
- Svenska Kraftnät - Affärsverket Svenska Kraftnät
- SONI - System Operator for Northern Ireland Ltd

ACER
European Union Agency for the Cooperation of Energy Regulators

European Network of Transmission System Operators for Electricity

entsoe

CACM Congestion Income Distribution methodology

All TSOs' proposal for amendment of Congestion Income Distribution methodology in accordance with Article 73 of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on Capacity Allocation and Congestion Management

30 June 2023

ACER Decision on the Congestion Income Distribution methodology: Annex I

ACER Decision on the Congestion Income Distribution methodology:

-Annex I

Congestion Income Distribution methodology

in accordance with Article 73 of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on Capacity Allocation and Congestion Management

ACER Decision on the Congestion Income Distribution methodology: Annex I

~~29 November~~ 21 December 2023

Contents

ACER Decision on the Congestion Income Distribution methodology: Annex I

Whereas

(1) This document establishes the methodology for congestion income distribution (hereafter referred to as "CID methodology") in accordance with Article 73 of Commission Regulation (EU) 2015/1222 establishing a guideline on Capacity Allocation and Congestion Management (hereafter referred to as the "CACM Regulation").

(2) This CID methodology takes into account the general principles, goals and other methodologies set out in the CACM Regulation. The goal of the CACM Regulation is the coordination and harmonisation of capacity calculation and capacity allocation in the day-ahead and intraday cross-zonal markets, and it sets requirements for the Transmission System Operators (hereafter referred to as "TSOs") to co-operate on the level of capacity

calculation regions (hereinafter referred to as "CCRs"), on a pan-European level and across bidding zone borders. The CACM Regulation sets also rules for establishing capacity calculation methodologies based either on the flow-based approach ("FB approach") or, subject to conditions specified therein, the coordinated net transmission capacity approach ("coordinated NTC approach").

(3) In accordance with Article 73 of the CACM Regulation, the CID methodology should cover the congestion income distribution in both the day-ahead and the intraday timeframe. The intraday timeframe is operated in a hybrid solution combining a continuous market with implicit auctions. Intraday congestion income to be distributed under the CID methodology is not created during the continuous trading and is originating only from the Intraday Capacity Pricing Auctions (hereinafter referred to as "IDA"). IDA references can be in some cases also understood as references to Single Intraday Coupling, however only IDA will be used in the document as it refers to a specific part of the coupling.

(4) The CID methodology is designed in three layers. First, for each CCR the congestion income generated by exchanges within a CCR is calculated and collected. The calculation is based on the results of the single day-ahead coupling (hereinafter referred to as "SDAC") or the IDAs. Second, the congestion income of a CCR is distributed among the bidding zone borders of this CCR. Third, the congestion income attributed to a bidding zone border is distributed among TSOs or other legal entities owning interconnectors on that bidding zone border.

(5) Application of congestion income distribution is currently based on regional application to reflect the following: First, the congestion income from SDAC includes also the congestion income resulting from reallocated long-term transmission rights ("LTTR"), for which TSOs need to coordinate in capacity calculation and allocation, as well as guaranteeing their firmness and remuneration including sharing of related costs in accordance with Article 61 of the Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation (hereinafter referred to as the "FCA Regulation"). These requirements are defined at CCR level. Second, the definition of commercial flow is not harmonised across EU mainly because CCRs with coordinated NTC and FB approach allocate cross-zonal capacity in a fundamentally different way. In CCRs with a coordinated NTC approach, the commercial flows can be set to equal allocated cross-zonal capacities, which are directly resulting from the SDAC or IDA algorithm. In CCRs with a FB approach, where the SDAC or IDA algorithm does not provide allocated capacities on bidding zone borders, the commercial flows need to be calculated additionally. This is done by first calculating, for each bidding zone, the net position resulting from exchanges within the CCR (i.e. the regional net positions).Then the physical flows resulting from the regional net positions are calculated for each bidding zone border of the CCR.[1] For those bidding zones,

[1] These flows are calculated based on power transfer distribution factors, which are calculated based on thecommon grid model.

where part of the regional net position is physically realised through borders outside of its CCR, the external flow is calculated such that the sum of calculated physical flows on internal borders and the external flow is equal to the regional net position of a bidding zone.

(6) In some specific cases, unintuitive flows (flows against prices differences) may happen to achieve the highest social welfare possible across CCRs. Two major situations are treated into this methodology, where the unintuitive flows impact first, inside a CCR and second, across multiples CCRs. The current proposal for amendments contains solutions to address all kind of unintuitive flows. In order to alleviate the effect of unintuitive flows ~~with cross-CCRs impacts~~from advanced hybrid coupling and allocation constraints, the virtual hub approach is introduced to better consider all the flows from ~~cross-CCRs~~advanced hybrid coupling or allocation ~~mechanisms~~constraints to determine the congestion income distribution in a fair and efficient way.

(7) The congestion income from SDAC also contains the congestion income generated by non-nominated LTTRs (i.e. non-nominated PTRs or FTRs), which TSOs have the obligation to remunerate in accordance with the FCA Regulation. The relevant principles are reflected in the methodology for sharing costs incurred to ensure firmness and remuneration of long- term transmission rights in accordance with Article 61(3) of the FCA Regulation.

(8) The CID methodology also needs to ~~reflect~~consider congestion income from the allocation ~~process~~ of cross-zonal capacity for the exchange of balancing capacity ~~and/~~or sharing of reserves ~~in accordance with the methodology for~~via the ~~allocation processes of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves per timeframe as foreseen in~~co-optimised allocation process pursuant to Article ~~38(3)~~40 of the Commission Regulation on (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter referred to as the "EB Regulation~~"). According to this methodology, resulting congestion income should be shared according to principles set by this CID methodology~~") and the market-based allocation process pursuant to Article 41 of the EB Regulation. In accordance with the harmonised cross-zonal capacity allocation methodology pursuant to Article 38(3) of the EB Regulation and regional market-based allocation methodologies pursuant to Article 41(1) of the EB Regulation, the CID methodology should specify the principles how to distribute the congestion income from the exchange of balancing capacity or sharing of reserves.

(9) The CID methodology does not cover the situation in which the monthly congestion income generated from an application of the market-based allocation in accordance with Article 38(1) of the EB Regulation is lower than the congestion income which could have been generated for the amount of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves if allocated to the single day-ahead coupling instead. The reason is that this situation is already treated in the methodology of Article 38(3) of the EB Regulation.

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~~(9)~~(10) According to Article 9(9) of the CACM Regulation, the expected impact of the CID methodology on the objectives of the CACM Regulation has to be described and is presented below.

~~(10)~~(11) The CID methodology generally contributes to the achievement of the objectives of Article 3 of CACM Regulation or the usage principles for congestion income set in Regulation (EU) 2019/943. In particular, the CID methodology serves the objective of promoting effective competition in the trading and supply of electricity, non-discriminatory access to cross-zonal capacity as it lays down the exact methodology for the distribution of congestion income to be applied by all involved TSOs, thus, creating a solid basis for congestion income distribution at European level.

~~(11)~~(12) Congestion income indicates how much market participants value the possibility for cross-border trade, how interconnections are used and where capacity should be increased. Via the possibility to consider investment costs in the sharing key, more certainty can be achieved for a more optimal sharing key for future investments and thus, long-term operation and development of the electricity transmission system and electricity sector in the European Union is supported.

~~(12)~~(13) Furthermore, the CID methodology ensures non-discriminatory treatment of all affected parties, as it sets rules to be applied by all parties. Further, the methodology takes into account congestion income derived by interconnections on bidding zone borders owned by legal entities other than TSOs, preventing exclusion of such congestion income from the application of the CID methodology as long as these interconnections are operated by TSOs.

~~(13)~~(14) Regarding the objective of transparency and reliability of information, the CID methodology provides clear rules and a solid basis for congestion income distribution in a transparent and reliable way.

~~(14)~~(15) In conclusion, the CID methodology contributes to the general objectives of the CACM Regulation to the benefit of all market participants and electricity end consumers.

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Title 1
General provisions

Article 1
Subject matter and scope

1. This CID methodology is established in accordance with Article 73 of the CACM Regulation and shall cover the congestion income distribution for:
    a. All existing and future bidding zone borders and interconnectors within and between Member States, to which the CACM Regulation applies and where congestion income is collected;
    b. Interconnectors which are owned by TSOs or by other legal entities;
    c. Congestion income derived from capacity allocation in the day-ahead and the intraday timeframe;
    d. Congestion income derived from capacity allocation based on coordinated NTC approach and FB approach;
    e. Congestion income derived from capacity allocation based on coordinated NTC approach only used in a first stage of IDA for some CCRs before FB approach is applied; and
    f. Congestion income derived from the allocation of cross-zonal capacity for the exchange of balancing capacity ~~and/~~or sharing of reserves as foreseen in ~~article~~the methodologies pursuant to Article 38(3) and Article 41(1) of the EB Regulation.

2. The CACM CID methodology shall apply to the TSOs listed in Annex 1 (hereafter referred to as "TSOs").

3. Where congestion income derives from transmission assets owned by legal entities other than TSOs, these parties shall be treated in a transparent and non-discriminatory way. The TSOs operating these assets shall conclude the necessary agreements compliant with this CID methodology with the relevant transmission asset owners to remunerate them for the transmission assets they operate on their behalf.

Article 2
Definitions and interpretation

1. For the purpose of the CID methodology, terms used in this document shall have the meaning of the definitions included in Article 2 of the CACM Regulation, of the FCA Regulation, of Regulation (EU) 2019/943, Directive (EU) 2019/944 and Commission Regulation (EU) 543/2013.

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2. In addition, in this CID methodology the following terms shall apply:
   a. "Commercial flow" means the flow over a bidding zone border resulting from SDAC~~, IDA or allocation of cross-zonal capacity for the exchange of balancing capacity and/or sharing of reserves as foreseen in article 38(3) of the EB Regulation~~ or IDA where it is distinguished as follows:
      i. for CCRs applying the FB approach it is the additional aggregated flow (AAF) and if applicable the external flow as specified in Article 4 ~~and Article 5~~
      ii. for CCRs applying a coordinated NTC approach it means the allocated capacities on the bidding zone border
   b. "Balancing capacity commercial flow" means, for a given border, the net capacity allocated resulting from allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves, where it is distinguished as follows:
      i. for CCRs applying the FB approach it is the additional aggregated flow (AAF) and if applicable the balancing capacity external flow as specified in Article 5
      ii. for CCRs applying a coordinated NTC approach it means the difference between the capacity allocated in one direction and the capacity allocated in the other direction on the bidding zone border
   ~~b.~~c. "External flow" means the calculated physical flow resulting from exchanges within a CCR from the SDAC or IDA that cannot be directly assigned to a bidding zone border of that CCR and therefore represents exchanges within a CCR, which are physically realised through borders outside of a CCR.
   d. "Balancing capacity external flow" means the calculated balancing capacity flow resulting from the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves exchanges within a CCR that cannot be directly assigned to a bidding zone border of that CCR and therefore represents exchanges within a CCR, which are realised through borders outside of a CCR.
   ~~c.~~e. "Slack hub" means a common virtual sink or source for all external flows originating from a bidding zone assigned to it.
   f. "Balancing capacity slack hub" means a common virtual sink or source for all balancing capacity external flows originating from a bidding zone assigned to it.
   g. "Adjusted demand" means the demand for balancing capacity obtained after scaling the original demand down to the overall procurement volume.
   h. "Virtual hub" means a virtual bidding zone ~~that represents a connecting node of an interconnector that is included in the flow-based approach~~used to represent the imports and ~~the cross-zonal exchange over such interconnector is represented as net position of such virtual bidding zone~~exports on a border where advanced hybrid coupling is applied. In contrast to real bidding zones, there do not exist any bids at the virtual hubs in the price coupling algorithm and therefore there is also no congestion income generated for virtual hubs.
   ~~d.~~i. "Virtual hub net position" means the cross-zonal exchange over the interconnectors represented by the virtual hub.
   ~~e.~~j. "Net border income" means the congestion income allocated per bidding zone border as defined in Article ~~5~~7 of this CID methodology.

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k. "balancing capacity net position" means the netted sum of exports and imports for a given balancing capacity product for each market time unit for a bidding zone;

f.l. "Interconnector" means linesa line between bidding zones.

g.m. "MTU" means the finest market time unit occurring in the CCR within the given timeframe. If this finest market time unit is not implemented throughout the whole CCR, calculated congestion income values must be divided to match the corresponding finest market time unit breakdown. This definition deviates from the approach used in the Regulations referred to in paragraph 1 of this Article but shall be applicable solely within the application of this methodology.

h.n. "Allocation mechanisms with cross-CCRs impact" means measures resulting"Advanced Hybrid Coupling" or "AHC" refers to the combined application of Flow-Based (FB) allocation in a FB CCR, and Available Transmission Capacity (ATC) allocation at a BZ border external to the FB CCR, in one single capacity allocation mechanism. That external BZ border applying AHC is represented in a FB CCR by virtual hub. The PTDFs calculated for the virtual hub map the impact of the exchanges on the CNECs of the FB CCR during market coupling. This measure results from the process of capacity calculation methodology within respective CCR in accordance with Articles 20 and 21 of the CACM Regulation impactingand impacts allocation of capacity on bidding zone borders located in different CCRs with consideration of: .

- "Advanced Hybrid Coupling" or "AHC" which refers to the combined use of Flow-Based (FB) and Available transmission capacity (ATC) in one single capacity allocation mechanism taking into account PTDFs that map the impact of exchanges with neighbouring CCRs on the flow of the CNECs during market coupling.

o. "Cross-CCRs allocationAllocation constraint", directly impacting allocation on themeans a constraint limiting net-position of given bidding zone borders located in different CCRs and defined pursuant to Article 2(6) of the CACM Regulation, means. This constraint results from the constraints to be respected duringprocess of capacity allocation to maintain the transmission systemcalculation methodology within operational security limits and have not been translated into cross-zonal capacity or that are needed to increase the efficiency respective CCR in accordance with Articles 20 and 21 of the CACM Regulation and refers to both internal allocation constraint (impacting allocation of capacity allocation.on bidding zone borders located in single CCR) and cross-CCRs allocation constraint (impacting allocation of capacity on bidding zone borders located in different CCRs).

p. "Ramping constraint", means the constraint applied for some HVDC interconnectors limiting the allowed change in flow from one MTU to the next MTU to a certain level. This could result in a situation that the change of flow on a bidding zone border is limited in a way that change of direction of the flow is not possible from one MTU to the next MTU.

q. "Allocation mechanisms with cross-CCRs impact" means Advanced Hybrid Coupling or cross-CCRs allocation constraint.

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3. In addition, in this CID methodology, unless the context requires otherwise:

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a. a bidding zone border may consist of one or more interconnector(s) for the purposes of the congestion income distribution;
b. unless specified otherwise, the terms used apply in the context of the SDAC and IDA;
c. the singular also includes the plural and vice versa;
d. any reference to legislation, regulations, directives, orders, instruments, codes, or any other enactment shall include any modification, extension, or re-enactment of it when in force.

Title 2
Calculation of congestion income and distribution to bidding zone borders

Article 3
Collection and calculation of congestion income per CCR

1. In accordance with Article 68(7) and (8) of the CACM Regulation, the relevant central counter parties or shipping agents shall collect the congestion income arising from the SDAC or the IDA and shall ensure that collected congestion income is transferred to the TSOs or entities appointed by TSOs no later than two weeks after the date of the settlement.

2. The congestion income generated within a CCR (CI_{CCR}) shall be calculated for each MTU by using the results of the SDAC or IDA according to one of the following formulas depending on the capacity calculation approach and the availability of information on CCR level:

   a. Calculation based on net positions (at least for all CCRs using the FB approach)

$$CI_{CCR} = -\sum_{j \in Z_{CCR}} NP_j \times P_j$$

with

NP_j regional net position of bidding zone j resulting from the SDAC or IDA (the position of virtual hubs – if any – is added to derive the net position of the bidding zone)

P_j clearing price of bidding zone j resulting from the SDAC or IDA

Z_{CCR} set of bidding zones in the CCR

The regional net positions shall be derived from the total net positions resulting from SDAC or IDA and subtracting the exchanges with bidding zones outside of a CCR.

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b. Calculation based on allocated capacities

$$\mathrm{CI}_{CCR} = \sum_{b} S_b \sum_{b \in B_{CCR}} S_b \times \mathrm{MS}_b$$

with

S_b allocated capacity on bidding zone border b resulting from the SDAC or IDA

MS_b market spread on bidding zone border b resulting from the SDAC or IDA

B_{CCR} set of all borders in the CCR

$b \in B_{CCR}$

3. The calculation of CI_{CCR}, including the subsequent step described in Article 67(2), may be omitted in CCRs, in which unintuitive flows and network losses according to Article 67(1) do not occur.

4. In case of allocation of cross zonal capacities resulting from capacity for the implementationexchange of balancing capacity or sharing of reserves, the methodology foreseen in article 38(3) of the EB Regulation, congestion income generated from such allocation has to be shared byper each application pursuant to Article 38(1) of the harmonised methodologyEB Regulation , separately for each standard balancing capacity product.

Article 4
Calculation of commercial flows in FB approach

1. For CCRs applying the FB approach, the commercial flow shall be based on calculated physical flow on internal and external bidding zone borders of a CCR, which result from regional net positions of bidding zones in a CCR.

2. On the internal bidding zone borders of a CCR the commercial flow shall be equal to *AAF*, which is the calculated physical flow on internal bidding zone borders of a CCR resulting from the electricity exchanges within a CCR. *AAF* shall be calculated with the following formula:

$$AAF_b = \sum_{j \in Z_{CCR}, k \in K_b} PTDF_{k,j} \cdot NP_j$$

with

AAF_b additional aggregated flow on bidding zone border *b*

NP_j regional net position of bidding zone *j* resulting from the SDAC or IDA (the position of virtual hubs – if any – is added to derive the net position of the bidding zone)

$PTDF_{k,j}$ power transfer distribution factor for bidding zone *j* on interconnector *k* located on bidding zone border *b*

Z_{CCR} set of bidding zones in the ~~CCR~~$k \in K_b$

CCRK_b set of interconnectors on bidding zone border b

3. For each bidding zone, which has the regional net position not equal to the sum of all commercial flows calculated on the CCR internal bidding zone borders of such bidding zone pursuant to paragraph 2, the external flow is needed as additional commercial to balance the regional net position of such bidding zone. The external flow of such bidding zone shall be calculated using the following formula:

$$EF_j = NP_j - \sum_{b \in B_j} AAF_b$$

with

EF_j external flow for bidding zone *j*

NP_j regional net position of bidding zone *j* resulting from the SDAC or IDA (the position of virtual hubs – if any – is added to derive the net position of the bidding zone)

AAF_b additional aggregated flow on bidding zone border *b*

B_j subset of bidding zone borders within a CCR connected to bidding zone *j*

4. For bidding zones, where the additional commercial flow is calculated based on external flow pursuant to paragraph 3, the market spread of such commercial flow used in accordance with

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Article 57(1) shall be calculated as:

$$EMS_j = P_j - P_{SH,n}$$

where $P_{SH,n}$ is the price(s) that minimises the sum of congestion income from external flows over all bidding zones connected to the relevant slack hub *n* (where each external flow for one bidding zone is calculated in accordance with paragraph 3) using the following optimisation:

$$\arg\min_{P_{SH,n}} \sum_{j \in B_n} \left| (P_j - P_{SH,n}) \cdot EF_j \right|$$

with

EMS_j market spread for external flow of bidding zone j connected to slack hub n

EF_j external flow for bidding zone *j*

P_j clearing price of bidding zone *j* resulting from SDAC or IDA

$P_{SH,n}$ price of slack hub *n*

B_n set of bidding zone borders connected to slack hub n

If there is no unique solution for $P_{SH,n}$, $P_{SH,n}$ shall be calculated as the average of the maximum and the minimum value from a set of $P_{SH,n}$ satisfying the formula above.

5. The determination of the number of slack hubs and their associated bidding zones introduced for the calculation as described in paragraph 4 should be unambiguous for each CCR. There shall be one slack hub for a CCR. Multiple slack hubs for a CCR may be allowed only if all of the following conditions are met:
    a. Each bidding zone and related external flows may only be assigned to one slack hub.
    b. There shall be no direct flows between slack hubs meaning that the sum of all external flows towards a slack hub and therefore its net position is zero.
    c. A slack hub is defined only in case the external flow can re-enter the relevant CCR via a different external border, but within the same slack hub.

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Article 5
Calculation of balancing capacity commercial flowsflow resulting from the methodology foreseen in Article 38(3)allocation of cross-zonal capacity for the EB Regulationexchange of balancing capacity or sharing of reserves in FB approach

1. For CCRs applying the FB approach, the balancing capacity commercial flow shall be based on calculated reservation on internal and external bidding zone borders of a CCR, which result from balancing capacity net positions of bidding zones in a CCR.
2. The balancing capacity net positions of bidding zones as described in the previous paragraph are to be calculated usingas the difference between the adjusted demand and the locallyvolume of standard balancing capacity product bids which are procured volume. Netin the relevant bidding zone. Balancing capacity net positions need to reflect the import or export characteristic of the allocated product.
3. The calculation of balancing capacity commercial flows resulting from the implementationallocation of cross-zonal capacity for the methodology foreseen in article 38(3)exchange of the EB Regulationbalancing capacity or sharing of reserves in a FB approach shall be performed separately per standard balancing capacity product.
4. On the internal bidding zone borders of a CCR the balancing capacity commercial flow shall be equal to *AAF*, which is the calculated reservation on internal bidding zone borders of a CCR resulting from the allocated product within a CCR. In case all AAF in given CCR for given standard balancing capacity product are equal 0 then all AAF should be equalset to 1 for this CCR and this standard balancing capacity product. *AAF* shall be calculated with the following formula:

$$AAF_b = \sum_{j \in Z_{CCR}, k \in K_b} PTDF_{k,j} \cdot NPBCNP_j$$

with

AAF_b additional aggregated flow on bidding zone border *b*

NP_j $BCNP_j$ balancing capacity net position of bidding zone *j* resulting from the implementationallocation of cross-zonal capacity for the methodology foreseen in article 38(3)exchange of the EB Regulationbalancing capacity or sharing of reserves

$PTDF_{k,j}$ power transfer distribution factor for bidding zone *j* on interconnector *k* located on bidding zone border *b*

Z_{CCR} set of bidding zones in the CCR

$k \in K_b$

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K_b set of interconnectors on bidding zone border b

5. For each bidding zone, which has the net position not equal to the sum of all balancing capacity commercial flows calculated on the CCR internal bidding zone borders of such bidding zone pursuant to paragraph 4, the balancing capactiy external flow is needed as additional balancing capacity commercial flow in order to balance the regional balancing capacity net position of such bidding zone. The balancing capacity external flow of such bidding zone shall be calculated using the following formula:

$$BCEF_j = NP_j BCNP_j - \sum_{b \in B_j} AAF_b$$

with

$BCEF_j$ balancing capacity external flow for bidding zone *j*

NP_j $BCNP_j$ balancing capacity net position of bidding zone *j* resulting from allocation of cross-zonal capacity for the implementation of the methodology foreseen in article 38(3)exchange of the EB Regulationbalancing capacity or sharing of reserves

AAF_b additional aggregated flow on bidding zone border *b*

B_j subset of bidding zone borders within a CCR connected to bidding zone *j*

6. For bidding zones, where the additional balancing capacity commercial flow is calculated based on balancing capactiy external flow pursuant to paragraph 45, the market spread of such balancing capacity commercial flow used in accordance with Article 6(17(5) shall be calculated as:

$$EMS_j = P_j - P_{SH,n}$$

where $P_{SH,n}$ is the price(s) that minimises the sum of congestion income from balancing capacity external flows over all bidding zones connected to the relevant balancing capacity

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slack hub *n* (where each balancing capacity external flow for one bidding zone is calculated in accordance with paragraph 3) using the following optimisation:

$$\arg\min_{P_{SH,n}} \sum_{j \in B_n} \left| (P_j - P_{SH,n}) \cdot EF_j \right|$$

with

EMS_j market spread for balancing capacity external flow of bidding zone j connected to balancing capacity slack hub n

$BCEF_j$ balancing capacity external flow for bidding zone *j*

P_j clearing price of bidding zone *j* resulting from SDAC

$P_{SH,n}$ price of balancing capactiy slack hub *n*

B_n set of bidding zone borders connected to balancing capacity slack hub n

If there is no unique solution for $P_{SH,n}$, $P_{SH,n}$ shall be calculated as the average of the maximum and the minimum value from a set of $P_{SH,n}$ satisfying the formula above.

7. The rules for balancing capacity slack hubs determination should be the same as the one for slach hubs determination defined in paragraph 5 of Article 4 .

Article 6
Calculation of congestion income on bidding zone borders affected by advance hybrid coupling or allocation ~~mechanisms with cross-CCRs impact~~constraints

1. For the day-ahead and intra-day timeframes, the calculation of congestion income generated within a flow-based CCR must consider the ~~cross-CCRs~~ allocation constraints and the implementation of Advanced Hybrid Coupling (AHC). In such cases, the formula stated in Article 3.2 should be broadened to incorporate these additional factors.

$$CI_{CCR} = -\sum_{j \in Z_1} NP_j \times P_j - \sum_{i \in Z_2} NP_i \times P_i' + \sum_{l \in Z_2} \sum_{b \in B_l} addpot_{b,l}$$

with

~~$z \cup Z_1, Z_2$~~

NP_z regional net position of bidding zone *z* resulting from the SDAC or IDA

P_z clearing price of bidding zone *z* resulting from the SDAC or IDA

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P'_z clearing price of bidding zone *z* resulting from the SDAC or IDA with filtered out effect of the cross-CCR allocation constraint, if the zone applies it

$$P'_z = P_z - \Delta\mu_z^{AC}$$

$$\Delta\mu_z^{AC} = \mu_z^{AC-} - \mu_z^{AC+}$$

μ_z^{AC-} shadow price for constraint for minimum NP of bidding zone z resulting from SDAC or IDA

μ_z^{AC+} shadow price for constraint for maximum NP of bidding zone z resulting from SDAC or IDA

Z_1 set of bidding zones, which do not use cross-CCRs allocation constraint in the CCR, including virtual hubs on the AHC borders belonging to this CCR

Z_2 set of bidding zones (i.e. i or l) which use cross-CCRs allocation constraint in the CCR

B_z set of bidding zone borders or slack hub borders of zone z belonging to the CCR

~~$addpot_b$~~ $addpot_{b,z}$ part of additional pot, generated by the allocation constraint of bidding zone z, assigned to bidding zone border b, as in Article 6.4.c

2. For the day-ahead and intra-day timeframes, the calculation of congestion income generated within a CCR using a coordinated NTC approach shall follow the provisions of Article 3.2.b. In the case of AHC borders, only the congestion income related to the coordinated NTC part of the border (as defined in Articles ~~7~~6.3.c. and ~~7~~6.3.d.) shall be assigned to the coordinated NTC CCR. For calculation of market spreads, the adjusted price P'_j as defined in the Article ~~7~~6.1, for the zone that applies cross-CCRsam allocation constraint shall be used. For bidding zone borders impacted by an allocation constraint, the part of additional pot assigned to the bidding zone border shall be added.
3. For CCRs applying AHC or being under influence of AHC, the congestion income generated on a bidding zone border shall be calculated considering the following specific conditions:
    a. In order to calculate CI pot in a CCR and on the AHC borders, it is necessary to calculate the pure flow-based SDAC prices at the virtual hubs. Prices at the virtual hubs follow the flow-based principles and should be calculated using the following formula:

$$P_j = \lambda - \sum_o \mu_o^{CNEC} \cdot PTDF_{o,j}$$

with

P_j clearing price of a virtual bidding zone j resulting from the SDAC

λ shadow price associated with constraint on regional balance (sum of regional net positions equal to zero)

$PTDF_{o,j}$ power transfer distribution factor for bidding zone *j* on CNEC o

μ_o^{CNEC} shadow price of CNEC *o*

b. On the AHC borders of a CCR, the commercial flow should be equivalent to the physical flow (AAF) on the HVDC interconnector for that border. The AAFs on the AHC borders shall be calculated using the following formula:

$$AAF_b = NP_j$$

with

AAF_b additional aggregated flow on AHC bidding zone border *b*

NP_j regional net position of a virtual bidding zone *j on a border b* resulting from the SDAC or IDA

c. In the case of a single-sided AHC border, the border is divided into two sections for the purpose of calculation and distribution of congestion income: the flow-based part, which is related to the FB CCR, and the coordinated NTC part, which is related to the coordinated NTC CCR. The congestion income assigned to the flow-based section of the bidding zone border should be calculated as the maximum of zero and the result of multiplying the commercial flow by the market spread between the flow-based bidding zone and the virtual hub. The congestion income assigned to the coordinated NTC part of the border will be calculated as the result of multiplying the commercial flow by the market spread between the virtual hub and the bidding zone in the ~~NTC CCR~~CCR not implementing advanced hybrid coupling.

d. In the case of a double-sided AHC border, the border is divided into three sections for the purpose of calculation and distribution of congestion income: two flow-based parts, each related to different FB CCR, and the coordinated NTC part, which relate to the coordinated NTC CCR. The congestion income assigned to the flow-based parts of the bidding zone border should be calculated as the maximum of zero and the result of multiplying the commercial flow by the market spread between the flow-based bidding zone and the virtual hub. The congestion income assigned to the coordinated NTC part of the border will be calculated as the result of multiplying the commercial flow by the market spread between the two virtual hubs on this border.

e. If ~~a cross-CCR~~an allocation constraint is applied to ~~the~~a bidding zone on the AHC border, the market spread for calculating CI per border in Articles ~~7~~6.3.c and ~~7~~6.3.d will be calculated using the adjusted price P'_j , as defined in Article ~~7~~6.1.

f. If the combined congestion income generated on all bidding zone borders within a CCR (including flow-based parts of the AHC borders) does not equal the total congestion income generated within the CCR as stated in Article 7.1, the congestion income assigned to the bidding zone borders within the CCR (and external borders, where applicable) should be proportionally adjusted to align with the total congestion income generated by electricity exchanges within the CCR.

g. If the bidding zone on a side of AHC border implements cross-CCRs allocation constraint, the market spread should be calculated using the adjusted price for the hub that uses cross-CCRs allocation constraint as specified within Article 7.1.

4. CCRs under influence of cross-CCRs allocation constraint, the congestion income generated on a bidding zone border or on a slack hub border shall be calculated considering the following specific conditions:

   a. The congestion income generated on a bidding zone border or on a slack hub border, where one or both bidding zones apply the cross-CCRsan allocation constraint, should be calculated as the absolute value of the product of the commercial flow multiplied by the market spread, includingat which the additional pot assigned to this bidding zone border according to the Article 6.4c. is added. The market spread should be calculated using adjusted price P'_j as defined in Article 76.1. for the borders impacted by cross-CCRs allocation constraints.

   b. If the cross-CCRs allocation constraint of bidding zone j is active and the adjusted prices are used to calculate the congestion income on the bidding zone borders and slack hub border, there exists an unassigned portion associated with zone j, referred to as an additional pot. The overall additional pot can be determined using the following equation:

$$addpot_j \; addpot_j^{tot} = NP_j^{global} \cdot \left(P'_j - P_j\right)$$

   with

   NP_j^{global} – global net position of bidding zone j resulting from SDAC or IDA on which cross-CCRs allocation constraint is applied

   c. The additional pot, which is always non-negative, is distributed between the borders and slack hub borders of bidding zone j on which the flow has the same direction as the sign of the active cross-CCRs allocation constraint. The distribution of the additional pot is proportional to the congestion income accumulated on these borders scaled to the total CI generated within the CCR without additional pot. It:

$$addpot_{b,j} = \; addpot_j^{tot} \cdot \frac{CI_b}{\sum_{b \in B_j} CI_b}, \forall b \in B_j$$

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Where

$addpot_{b,j}$ is then addedthe additional congestion income from the total additional pot $addpot_j^{tot}$ assigned to bidding zone border b.

$addpot_j^{tot}$ is the total additional pot generated by the allocation constraint of bidding zone j.

$CI_b$is the congestion income generated on a bidding zone border and takes place in scaling in the distribution of CI border b scaled to bidding zone the total CI generated within the CCR without additional pot.

B_j, set of borders. In the case where a border applies AHC, the pot accumulated on the flow-based part of the border is considered in the sharing key. adjacent to bidding zone j which have the same direction as the sign of the allocation constraint.

c.d. If there are no positive congestion incomes on any of the borders werewhere flow has the same direction as the sign of the cross-CCRs allocation constraint, the additional pot is distributed equally among the borders that align with the direction of active cross-CCRs allocation constraints.

Article 7
Distribution of congestion income to bidding zone borders

1. For both the day-ahead and intraday timeframe, the congestion income attributed to a bidding zone border shall be calculated as the absolute values of the product of the commercial flow (as defined in Article 2.2a) multiplied by the market spread. However, bidding zone borders affected by advanced hybrid coupling or allocation mechanisms with cross-CCRs impactconstraints are excluded from this calculation, and their congestion income is calculated and distributed as described in Article 6. Bidding zone borders affected by ramping constraints, shall also be excluded from using the absolute value rule and the congestion income shall be calculated as the product of the commercial flow (as defined in Article 2.2a) multiplied by the market spread. The relevant market spread shall be reduced to reflect the costs of network losses in case these are considered in capacity calculation and allocation on the given bidding zone border or interconnector.

2. In case the sum of congestion income attributed to all bidding zone borders within a CCR (and external borders where relevant) pursuant to paragraph 1including external borders and the part of the borders affected by advanced hybrid coupling assigned to the CCR, but excluding borders affected by ramping constraints) is not equal to the total congestion income generated by electricity exchanges within a CCR according to Article 3 (in case there is no cross CCR impact) or Article 6 (in case there is cross CCR impact), the congestion income attributed to the bidding zone borders within a CCR (including external borders and the part of the borders affected by advanced hybrid coupling assigned to the CCR but excluding borders affected by ramping constraints) shall be adjusted proportionally in order to match the total congestion income generated by electricity exchanges within a CCR.

3. The negative congestion income, resulting from the specific cases described below, does not equal the congestion income calculated according to Article 3 and shall be shared equally among all TSOs whose bidding zone borders are assigned to the relevant CCR:
    a. the application of curtailment mitigation and curtailment sharing in the SDAC or IDA algorithm[2];
    b. congestion income is positive or zero using initial SDAC or IDA results, but becomes negative due to the application of rounding; and
    c. initially calculated prices need to be capped because they do not comply with the defined harmonised maximum and minimum clearing prices for single day-ahead coupling in accordance with Article 41(1) of the CACM Regulation.

4. For capacities cross-zonal capacity allocated under article 38(3) of the EB Regulation, for the exchange of balancing capacity or sharing of reserves inside a CCRs applying the coordinated NTC approach, the congestion income attributed to a bidding zone border shall be calculated:
a. for CCRs applying a coordinated NTC approach as the product of the allocated cross-zonal capacities for balancing multiplied by the price of the cross-zonal capacity for balancing.

5. For cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves inside a CCRs applying the FB approach, the congestion income attributed to a bidding zone border shall be calculated:

    a. for borders of which both TSOs are part of the application, as the absolute values of the product of the balancing capacity commercial flow (as calculated in accordance with Article 5) multiplied by the relevant Daybalancing capacity market spread.
    b. for borders of which at least one TSO is not part of the application, as the absolute values of the product of the balancing capacity commercial flow (as calculated in accordance with Article 5) multiplied by the relevant day-ahead market spread. (where the adjusted prices are used, as defined in Article 6, in case the bidding zone is affected by advanced hybrid coupling or allocation constraints).

b.6. Once all bidding zones of a CCR are part of an application of articlepursuant to Article 38(31) of the EB Regulation, a transition to balancing capacity prices shall be considered. In such case balacning capacity prices shall be used also to calculate the slack hub price as defined in Article 5.(7.). In case the sum of congestion income attributed to all bidding zone borders within a CCR (and external borders where relevant) is not equal to the total congestion income generated within a CCR according to Article 3.(4.), the congestion income attributed to the bidding zone borders within a CCR (and external borders where relevant) shall be adjusted proportionally in order to match the total congestion income allocated from the application of CZC for balancing.

[2] This specific patch (also called "adequacy patch") is defined and included in Annex II of the ACER Decision 04/2020 on the algorithm methodology (common set of requirements for the price coupling algorithm).

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5. In regard to the implementation of the methodology foreseen in article 38(3) of the EB Regulation, at least once a month there should be a check on the sufficiency of transferred congestion income per each BZB procuring capacity this way during this monthly period. In case the transferred congestion income for the whole monthly period would be in sum less than the congestion income that the given capacity allocation would have generated in the day-ahead market, an amount equal to this difference must be compensated by the TSOs of the relevant application of Article 38(3) of EB Regulation. Congestion income that the given capacity allocation would have generated in the day-ahead market is calculated as relevant allocated capacity multiplied by the modified market spread per each MTU in case it is positive in that direction. Compensated congestion income is then distributed:

For CCRs applying a coordinated NTC approach to the relevant BZBs

7. The CID methodology does not cover the situation in which the monthly congestion income generated from an application of the market-based allocation in accordance with Article 38(1) of the EB Regulation is lower than the congestion income which could have been generated for the amount of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves if allocated to the single day-ahead coupling instead. This is treated in the methodology of Article 38(3) of the EB Regulation.

a:

b. For CCRs applying the FB approach between BZBs of the CCR pro-rata to their average final congestion income during the monthly period per MTU.

Title 3
Congestion income distribution on the bidding zone border

Article 8
Sharing keys

1. For the bidding zone borders where congestion income was calculated based on allocated capacities or AAF, the TSOs on each side of the bidding zone border shall receive their share of net border income based on a 50%-50% sharing key. In specific cases, the concerned TSOs may also use a sharing key different from a 50%-50% split. For the bidding zone parts of the AHC borders where congestion income was calculated based on allocated capacities or AAF, the TSOs on each side of the bidding zone border should receive their respective shares of the income based on a 50%-50% sharing key. In specific cases, the concerned TSOs may also use a sharing key different from a 50%-50% split. The sharing keys different from 50%-50% may be based on different ownership shares between TSOs, different shares of investments costs between TSOs,

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exemption decisions[3] or decisions on cross-border cost allocation[4] by the competent regulatory authorities or ACER. The sharing keys for these specific cases shall be published in a common document by ENTSO-E on its web page for information purposes only. This document shall list all these specific cases with the name of the interconnector, the bidding zone border, the involved TSOs/parties, the specific sharing key applied and the reasons for the deviation from the 50%-50% sharing key. The document shall be updated and published promptly as soon as any changes occur. Each publication shall be announced in an ENTSO-E's newsletter.

2. The congestion income calculated based on external flow (resp. balancing capacity commercial flow) shall be attributed to TSO(s) of a bidding zone for which the associated external flow (resp. balancing capacity commercial flow) was calculated and have interconnectors through which the external flows (resp. balancing capacity commercial flow) are realised.

3. For bidding zone borders consisting of several interconnectors where the capacity is auctioned separately for interconnectors, the congestion income associated with each interconnector is directly allocated to the TSO(s) of that interconnector based on relevant auctions.

4. In case the bidding zone border consists of several interconnectors with different sharing keys, or which are owned by different TSOs and where the capacity is allocated jointly, the net border income shall be assigned first to the respective interconnectors on that bidding zone border based on each interconnector's contribution to the allocated capacity. The interconnector's contribution to capacity allocation is determined according to the agreement between all the relevant TSOs on the bidding zone border based on the technical evaluation of the capacity contribution of each interconnector to the capacity allocation also considering the availability of each interconnector. The principles of the technical evaluation for these specific cases shall be published in a common document by ENTSO-E on its web page for information purposes only. The document shall be updated and published promptly as soon as any changes occur. Each publication shall be announced in an ENTSO-E's newsletter.

5. The final congestion income attributed to each TSO shall consist of congestion income calculated pursuant to paragraphs 1 to 4. In the case of SDAC, the remuneration of LTTRs to be paid in accordance with Article 61 of the FCA Regulation also needs to be applied. Only the costs for remuneration of those LTTRs, which have been offered for re-allocation at the day- ahead timeframe shall be covered.

6. In case specific interconnectors are owned by entities other than TSOs or entities other than TSOs have a share in the investment costs of an interconnector, the reference to TSOs in this Article shall be understood as referring to those entities. Where applicable, the sharing keys are calculated according to an exemption decision concerning these entities taken in accordance with Article 63 of Regulation (EU) 2019/943.

[3] Decisions on exemptions pursuant to Article 63 of Regulation (EU) 2019/943.

[4] Decisions on cross-border cost allocation pursuant to Article 12(4) or Article 12(6) of Regulation (EC)347/2013.

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Title 4
Transparency of information

Article 9
Publication of data

1. No later than at the time of implementation of this methodology, all TSOs shall publish the following information required for the transparency of congestion income distribution:
    a. for CCRs applying the FB approach:
        - power transfer distribution factors showing the influence of the change in the net position of each bidding zone on the physical flows on each interconnector on each bidding zone border within a CCR;
        - regional net position of each bidding zone within a CCR;
        - price(s) of slack hub(s); and
        - price(s) of balancing capacity slack hub(s); and
        - clearing price for each bidding zone within a CCR.
    b. for all CCRs:
        - commercial flows and the corresponding clearing prices used for the purpose of congestion income distribution in accordance with this methodology.
        - Balancing capacity commercial flows and the corresponding clearing prices used for the purpose of congestion income distribution in accordance with this methodology.
2. The information pursuant to paragraph 1 shall be published with MTU resolution and at least on a monthly basis.

Title 5
Final provisions

Article 10
Publication, implementation and future amendment of the CID methodology

1. The TSOs shall publish the CID methodology without undue delay after a decision has been taken by ACER in accordance with Article 9(5) and 9(6) of the CACM Regulation.

2. The TSOs from CCRs mutually affected by allocation mechanisms with cross-CCR impact shall jointly develop, test and validate the algorithms, tools and procedures for the cross-CCRs mechanisms defined in this methodology. The TSOs from CCRs mutually affected by allocation mechanisms with cross-CCR impact in SDAC or IDA such as cross-CCRs allocation constraints and/or AHC shall jointly implement Article 6 of this methodology at the date of implementation of allocation constraints and/or AHC in SDAC or IDA in affected CCRs but not earlier than the date of implementation of this methodology set in paragraph 3 for SDAC and paragraph 4 for IDA of this article.

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3. The TSOs of each CCR shall implement the provisions of this methodology related to the congestion income arising from SDAC at the date of implementation of the capacity calculation methodology within their respective CCR in accordance with Articles 20 and 21 of the CACM Regulation. For CCRs in which CCM are already implemented at the date of issuance of this decision, the TSOs shall implement the changes related to the congestion income arising from SDAC no later than 18 months after the date of issuance of this decision by ACER in accordance with Article 9 (5) and Article 9 (6) of the CACM Regulation.

4. The TSOs of each CCR shall implement the provisions of this methodology related to the congestion income arising from IDA at the date of implementation of the IDA for intraday timeframe.

5. The TSOs of each CCR shall implement the provisions of this methodology related to the congestion income derived from allocation of cross-zonal capacity for the exchange of balancing capacity ~~and/~~or sharing of reserves at the date of implementation of the ~~allocation of cross-zonal capacity for the exchange of balancing capacity and/or sharing of reserves in accordance with article~~methodologies pursuant to Article 38(3) or pursuant to Article 41(1) of the EB Regulation.

~~6. The TSOs from CCRs mutually affected by allocation mechanisms with cross-CCR impact in SDAC such as cross-CCRs allocation constraints and/or AHC shall jointly implement Article 6 of this methodology at the date of implementation of allocation constraints and/or AHC in SDAC in affected CCRs but not earlier than the date of implementation of this methodology set in point 3 of this article~~

~~7. The TSOs from CCRs mutually affected by allocation mechanisms with cross-CCR impact in IDA related to cross-CCRs allocation constraints and/or AHC shall jointly implement Article 6 of this methodology at the date of implementation of allocation constraints and/or virtual hubs in IDA in affected CCRs but not earlier than the date of implementation set in point 4 of this article.~~

~~8.~~6. During the development, testing and the first year of implementation of the cross-CCR mechanisms, the TSOs shall assess the results of the application of the CACM CID methodology~~. In case the results are not in line~~ with regard to the ~~objective~~requirement of ensuring fair and non-discriminatory treatment ~~as defined~~ in accordance with Article 3(e) of the CACM Regulation~~, the~~ and share their assessment with all regulatory authorities and ACER. If necessary to ensure fair and non-discriminatory treatment, TSOs ~~may request a new proposal for amendment~~shall propose amendments of the congestion income distribution methodology in accordance with Article 9(13) of the CACM Regulation in order to fulfil the objective set in Article 3(e) of the CACM Regulation. This is without prejudice of the TSOs right to propose any other amendments to ACER according to Article 9(13) of the CACM Regulation.

~~9.~~7. Additional amendments to the CACM CID methodology are also foreseen to correctly address the future offshore bidding zones where AHC is expected to be applied.

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Article 11
Language

1. The reference language for this CID methodology shall be English. For the avoidance of doubt, where TSOs need to translate this CID methodology into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 9(14) of the CACM Regulation and any version in another language the relevant TSOs shall, in accordance with national legislation, provide the relevant regulatory authorities with an updated translation of the CID Methodology.

1.

ANNEX 1

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List of TSOs subject to the approved CACM CID methodology:

- APG - Austrian Power Grid AG,
- VÜEN Vorarlberger Übertragungsnetz GmbH
- Elia - Elia Transmission Belgium S.A.
- ESO – Electroenergien Sistemen Operator EAD
- HOPS d.d. - Croatian Transmission System Operator Plc.
- ČEPS - ČEPS, a.s.
- Energinet – Energinet
- Elering - Elering AS
- Fingrid - Fingrid OyJ
- Kraftnät - Kraftnät Åland Ab
- RTE - Réseau de Transport d'Electricité S.A
- Amprion - Amprion GmbH
- BCAB - Baltic Cable AB
- TransnetBW -TransnetBW GmbH
- TenneT GER - TenneT TSO GmbH
- 50Hertz - 50Hertz Transmission GmbH
- IPTO - Independent Power Transmission Operator S.A.,
- MAVIR ZRt. - MAVIR Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság ZRt.
- EirGrid - EirGrid plc
- Terna - Terna SpA
- Augstsprieguma tïkls - AS Augstsprieguma tïkls
- LITGRID - LITGRID AB
- CREOS Luxembourg - CREOS Luxembourg S.A.
- TenneT TSO - TenneT TSO B.V.
- PSE - Polskie Sieci Elektroenergetyczne S.A.
- REN - Rede Eléctrica Nacional, S.A.
- Transelectrica - Compania Nationala de Transport al Energiei Electrice S.A.
- SEPS - Slovenská elektrizačná prenosovú sústava, a.s
- ELES - ELES,d.o.o
- REE - Red Eléctrica de España S.A.U,
- Svenska Kraftnät - Affärsverket Svenska Kraftnät
- SONI - System Operator for Northern Ireland Ltd