

## **CACM Amendments - proposal from the TSOs**

Date: 28 November 2025

#### 1. Objective

The objective is to provide concrete wording proposal on the issues identified as a priority, i.e.:



## 2. CACM wording proposal for SO Regulation related amendments

SO GL Article	EC's proposal	EE's proposal	Reasoning
13	both union and third country TSOs, within 18 months after entry into force of this Regulation, all Union TSOs in that synchronous area shall endeavour to conclude with the third country TSOs not bound by this Regulation an agreement setting the basis for their cooperation concerning secure system	2. Third country TSOs shall have the same access to all information contained on the ENTSO for	Treaty each contracting party shall implement acquis communautaire including SO GL. As such, the SOGL was incorporated into the EnC legal framework by decision of the EnC Ministerial Council 2022/03/MC-EnC. This implies that each EnC TSO shall share their IGM on the ENTSO for Electricity operational planning data environment (OPDE) and by doing that they also get access to each EU-TSO's IGM and the CGM. This set up implies that EnC TSOs and EU-TSOs will share confidential information and agree on confidentiality terms since part of the
		<ol> <li>they have concluded an agreement in accordance with paragraph 1 of this Article 13; or</li> <li>there is an intergovernmental agreement on electricity cooperation between the Union and a third country, and the national law in the third country implements the acquis communautaire on energy in</li> </ol>	As regards Switzerland, given the successful negotiation of the EU-Switzerland electricity agreement and the commitments made in the Joint Declaration between Switzerland and the EU signed in June 2025 to preserve operational security, Switzerland and Swissgrid should also be considered eligible for access to each EU-TSO's IGM and the CGM via the OPDE platform. Although the electricity agreement is not yet in



force, Swissgrid already today participates in several regional coordination processes. The electricity agreement further ensures Swissgrid's participation under the same conditions as EU TSOs, including compliance with market rules and regulatory standards. Given the advanced integration of the Swiss electricity system into the European grid, excluding Swissgrid from OPDE access would undermine the completeness of CGMs and coordinated security analyses, conflict with the spirit of the ongoing cooperation framework and create legal uncertainty and operational inefficiencies.

Regarding EnC TSOs, in case EU Member States and the European Commission aim for EU TSOs to share their IGMS and CGMS with them or with other third country TSOs, this needs to be clearly established in SO GL; otherwise, national law might prohibit some TSOs from sharing their IGMs (confidential information) which will lead to incomplete IGMs and CGMs and the impossibility to carry out reliable coordinated operational security analyses.

All EnC TSOs must comply with the unbundling requirements established in the Electricity Directive, as incorporated into the EnC legal framework by decision of the EnC Ministerial Council 2021/13/MC-EnC, and further amended by 2022/03/MC-EnC.



			With reference to third country TSOs falling under Article 13(2)(1), any confidentiality and security requirements for third-country TSOs accessing OPDE shall be addressed through the respective agreements.
22.1.d	(d) re-calculate day-ahead and intraday cross-zonal capacities in accordance with Regulation (EU) 2015/1222;	(d) re-evaluate day-ahead and intraday cross-zonal capacities in accordance with Regulation (EU) 2015/1222;	



"reevaluate". This would maintain the already existing possibility for TSOs to reevaluate day ahead and intraday cross-border capacities as a remedial action when this is needed after an outage or an evolution of the situation unforeseen in the previous capacity calculation. This re-evaluation of capacity is not a capacity curtailment. Capacity curtailment only applies to already allocated capacity, in cases of Force Majeure or emergency situation, and does not cover cases where capacity needs to be reevaluated in order not to offer capacity still unallocated to the market if it would endanger system security.

This possibility to re-evaluate capacity should be preserved to:

- manage outages of significant grid elements. In case of outage of an HVDC or interconnector, the capacity should be re-calculated to reflect the unavailability and preventing TSOs from offering what is not available anymore without imposing additional costs and risking system security;
- facilitate the purpose of active power exchange due to adequacy issues in accordance with article 21 emergency and restoration network code
- ensure the most economical system operation by updating capacity as soon



as new relevant information becomes
available. If capacity is not updated
accordingly, this may lead to
unnecessary costs linked to special
regulation, countertrading, or redispatch;
maximise available capacity for RES
(Renewable Energy Sources). Since
RES generation can be the limiting factor
for available transmission capacity, a
change in RES forecast — especially a
downward revision — can free up
additional capacity for the market.
Therefore, re-evaluation in response to
updated RES forecasts enables more
efficient utilisation of the grid and allows
for greater market participation. This also
allows to manage security in case of
updated (due to outages or not) forecast
of flows that requires a reduction of the
available capacity
prevent the market from nullifying an
already agreed costly remedial action : in
case of agreed countertrading measure,
following an unplanned event, there is a
need to prevent the still unallocated
capacity on a border to be offered to the
market which would result in an even
higher volume of countertrading,
potentially higher than what can be
safely offered by the TSOs.



40.3 - 5		3. Each TSO shall gather the following information	
	following information about its	about its <u>observabilitycontrol</u> area and shall	additional data with RCCs.
		exchange this data with all other TSOs to the	
		extent that it is necessary for carrying out the	
	is necessary for carrying out the operational		TSOs.
	security analysis about their observability area		The exchange of data and the timings to share
	in accordance with Article <u>7271</u> :	Article <u>7271</u> :	specific data by TSOs with RCCs is defined via
	(a) generation;	(a) generation;	specific methodologies serving certain purposes,
	(b) consumption;	(b) consumption;	such as Common grid model methodology,
	(c) schedules;	(c) schedules;	capacity calculation, ROSC, OPC, etc. These
	(d) balance positions;	(d) balance positions;	methodologies serve the main tasks and
	(e) planned outagesstructural data in		accompanying responsibilities as defined in the
		accordance with Articles 41, 43, 45 and substation	
	substation topologies;48;	topologies;48;	to specify additional requirements here.
		scheduling and forecast data in accordance with	
	Articles 41, 46 and 49;	Articles 41, 46 and 49;	scope of KORRR in paragraph 5. The purpose of
		real-time data in accordance with Articles 42, 44,	
	44, 47 and 50; and	47 and 50; and	describe the Key Organisational Requirements,
	and 53.	provisions in accordance with Articles 51, 52 and	Roles and Responsibilities between TSOs, (C)DSOs and SGUs. RCCs are not part of this as,
	(f) forecasts.	53. (f) forecasts.	explained before, these are covered by other
	4. Each TSO shall represent exchange	(1)	methodologies which are not directly relevant for
		4. Each TSO shall exchange the data pursuant to	
	naragraph (3) as injections and	paragraph 3(a), and (b) and (d); and pursuant to	More specific to the data: Thermal limits some
		paragraph 5(a), with relevant regional	
		coordination centres to the extent that it is	
	centres to the TSO's individual grid		data, which are delivered following the CGMM
	model referred to in Article 64extent		timings. TSOs do not see a need to share those
	model folding to in 7 thiolog of oxtone	<u> </u>	annings. To be de flet dee a fleed to blidle tribbe



that it is necessary for carrying out their tasks.

- 5. All TSOs shall jointly develop, review and propose amendments where necessary to the key organisational requirements, roles and responsibilities in relation to data exchange. They shall apply to all data exchange provisions in this Title and shall include organisational requirements, roles and responsibilities for the following elements:
  - (a) obligations for TSOs to communicate without delay to all neighbouring TSOs and relevant regional coordination centres any changes in the protection settings, thermal limits and technical capacities at the interconnectors between their control areas:
  - (b) [...]

- 5. All TSOs shall jointly develop, review and propose amendments where necessary to the key organisational requirements, roles and responsibilities in relation to data exchange. They shall apply to all data exchange provisions in this Title and shall include organisational requirements, roles and responsibilities for the following elements:
  - (a) obligations for TSOs to communicate without delay to all neighbouring TSOs and relevant regional coordination centres any changes in the protection settings, thermal limits and technical capacities at the interconnectors between their control areas;

data "without delay" as the CGMM timings are sufficient for the provisions of RCC tasks.

The rest of the data included in the paragraph is for dynamic analyses and real-time processes which are not RCCs' tasks.

Consequently, the addition of RCCs in the paragraph is not needed for RCCs tasks. It means an inefficient requirement for TSOs to exchange data 'without undue delay' that will be not used by RCCs.

In order to cover EC concerns about gaps on information exchange, we propose an improvement in previous paragraph, where the requirement to exchange data with RCCs applies "to the extend it is necessary for carrying out their tasks".

With regards to paragraph 4, based on TSOs' understanding, the reference included in Art.40(4) to Art.40(3) when specifying the data to be exchanged with RCCs aims to cover:

- Structural data in accordance with Articles 41, 43, 45 and 48;
- Scheduling and forecast data in accordance with Articles 41, 46 and 49;
- Provisions in accordance with Articles 51, 52 and 53.

This means that "real-time data in accordance with Articles 42, 44, 47 and 50" shall not be exchanged with relevant RCCs.



	However, Article 51 (which refers to data that is included in the list of data that shall be exchanged with RCCs), includes references to data covered in Article 50, which is specified as data that shall not be shared with RCCs:  Article 51  Data exchange between TSOs and DSOs concerning significant power generating modules  1. Unless otherwise provided by the TSO, each DSO shall provide to its TSO the information specified in Articles 48, 49 and 50 with the frequency and level of detail requested
	by the TSO.  2. Each TSO shall make available to the DSO, to whose distribution system SGUs are connected, the information specified in Articles 48, 49 and 50 as requested by the DSO.  3. A TSO may request further data from a power generating facility owner of a power generating module which is a SGU in accordance with Article 2(1)(a) and (e) connected to the distribution system, if it is necessary for the operational security analysis and for the validation of models.
	Also, Articles 52 and 53 include provisions regarding real-time data exchange from transmission-connected demand facilities (Article 52(3)) and from distribution-connected demand facilities or third parties participating in demand response (Article 53(1)(c) and Article 53(2)(c)). This data, being classified as real-time data, should also not be exchanged with RCCs, because RCCs do not perform real-time tasks.



64

Article 64

individual and common grid models

model methodology

apply

General provisions regarding Common grid

model methodology

#### individual and common grid models

Article 64

- 1. To perform operational security analysis pursuant to Title 2 of this Part, each TSO shall prepare individual grid models in accordance with the methodologies established in application of Article 17 of Regulation (EU) 2015/1222 and Article 18 of Regulation (EU) 2016/1719 for each of the following time-frames1, applying the data format established pursuant to Article 114(2): All TSOs shall model methodology establishing rules and procedures for building the individual and common grid models for each of the
  - year-ahead, accordance with Articles 66, 67 and 68;month-ahead;
  - where applicable. b. week-ahead, in accordance with Article 69::

c.two-days ahead;

the common grid

in accordance with Article 70: and

following time-frames:

d.day-ahead and intraday, in accordance with Article 70: and in accordance with Article 70...

pursuant to Title 2 of this Part, each TSO shall prepare individual grid models in accordance with the methodologies established in application of Article 17 of Regulation (EU) 2015/1222 and Article 18 of Regulation (EU) 2016/1719 for each of the following time-frames1, applying the data format established pursuant to Article 114(2): All TSOs shall apply the common grid model methodology establishing rules and procedures for building the individual

> year-ahead, multiple scenarios is applied:

where applicable, Article 69::

c.two-days ahead;

and common grid models for each of the

following time-frames:

d.day-ahead and intraday, in accordance with Article 70...

#### General comment on CGM articles:

General provisions regarding Common grid A more generic approach can be taken - list the timeframes that are required to be covered by CGM, list the business processes which require 1. To perform operational security analysis usage of CGM and specify the timeframe. In case there is some exception - outline it. In general the code and the methodologies should be open to innovation and integration of new technologies and it should be able to adapt CGM content and calculation algorithms in a flexible way as long as it bring clear benefit in regards to optimal usage of the power system and enabling the market.

> This Article introduces precise timings and timestamps. For the avoidance of doubt and inconsistency, timings should be placed only in the CGMM and the related "timing document", Pan-European Operational Process Timings Framework. This document aims at gathering all accordance with Articles 66, 67 timings reference of the CGM building process and 68; month-ahead where and other processes relying on CGM. This security analysis based on approach has been approved by TSOs and communicated to ACER, accordingly.

> week-ahead, in accordance with Further, the addition of the month-ahead timeframe seems to be unrelated to the amendments needed based on the CACM 2.0 Proposal. Additionally, pursuant to FCA art.18.2, the month-ahead timeframe is only used where security analysis based on multiple scenarios is applied. This should be consistently mentioned in



2.	The	individual	<del>grid</del>	<del>models</del>		
common c	rid model	methodol	ogy pur	suant to		
paragraph 1 shall include at least:						

- a. the structural rules for determining common grid scenarios for transmission system conditions for each time-frame referred to in paragraph 1;
- b. <u>the number of common grid scenarios per time-frame;</u>
- c.common rules for building individual grid models based on common grid scenarios;
- d.common rules and governance for merging individual grid models into common grid model;
- e. deadlines for gathering information and data set out in Article 41.to establish individual grid models, collecting individual grid models for merging them into a common grid model and for saving individual and common grid models. These deadlines shall be compatible with the regional processes established

2. The <u>individual grid models</u> all articles <u>common grid model methodology pursuant to paragraph 1 shall include at least:</u>

- a. the structuralrules for determining common grid scenarios for transmission system conditions for each time-frame referred to in paragraph 1;
- b. <u>the number of</u> common grid scenarios per time-frame;
- c.common rules for building individual grid models based on common grid scenarios;
- d.common rules and governance for merging individual grid models into common grid model;
- e. deadlines for gathering information and data set out in Article 41.to establish individual grid models, collecting individual grid models for merging them into a common grid model and for saving individual and common grid models. These deadlines shall be compatible with the regional processes established for coordinated capacity calculation in accordance with Article 31 of

all articles mentioning the month-ahead imeframe.

The reference in paragraph 3 to Article 114(2).paragraph (1)(a), (b) and (c) should be corrected. It is unclear which article was intended to be referred to.



for coordinated capacity calculation in accordance with Article 31 of CACM and regional operational security coordination in accordance with article 76 of this Regulation.

f. 3.Each
TSOcommon rules for
determining the net position in
each bidding zone and the
power flow for each HVDC
system and flows from third
countries. These common rules
shall build the be based on the
best forecast of the net position
for each bidding zone and on
the best forecast of the power
flows on each HVDC system for
each common grid model;

g. <u>quality control of</u> individual grid models and each regional security coordinator shall contributethe common grid model to building the be implemented to ensure their completeness and consistency; and

h. <u>correction and</u> <u>improvement of individual and</u> common grid models applying the data format established, CACM and regional operational security coordination in accordance with article 76 of this Regulation.

f. 3.Each
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power flows on each HVDC
system for each common grid
model:

g. <u>quality control of</u> individual grid models and each regional security coordinator shall contribute the common grid model to building the be implemented to ensure their completeness and consistency; and

h. <u>correction and</u> improvement of individual and common grid models applying the data format established, implementing at least the quality controls referred to in point (q).



implementing at least quality controls referred to in point (a), and detailed in article 70. to ensure the convergence of the load-flow calculations.

- pursuant to Article 114(2).paragraph (1)(a), (b) concerning the year-ahead, month-ahead and two days-ahead individual and common grid models:
  - definition of timestamps, where for the two days-ahead grid models the timestamps shall be at least hourly; and
  - handling any additional relevant information related to operational arrangements, such as protection setpoints or system protection schemes, single line diagrams and configuration of substations in order to perform capacity calculation and manage operational security.
- 4. The common grid model methodology pursuant to paragraph (1)(d) shall determine the handling of additional information related to operational arrangements, such as protection setpoints or system protection schemes, single line diagrams and configuration of substations in order to perform capacity calculation and manage operational security.

and detailed in article 70, to ensure the convergence of the load-flow calculations.

- 3. The common grid model methodology 3. The common grid model methodology pursuant to Article 114(2).paragraph (1)(a), (b) and (c) shall and (c) shall determine the following elements determine the following elements concerning the year-ahead, month-ahead and two days-ahead individual and common grid models:
  - definition of timestamps, where for the two days-ahead grid models the timestamps shall be at least hourly; and
  - handling additional relevant anv information related operational to arrangements, such as protection setpoints or system protection schemes. single line diagrams and configuration of substations in order to perform capacity calculation and manage operational security.
  - 4. The common model arid methodology pursuant to paragraph (1)(d) shall determine the handling of additional information related to operational arrangements, such as protection setpoints or system protection schemes, single line diagrams and configuration of substations in order to perform capacity calculation and manage operational security.



		5. ENTSO-E shall publish, and update when necessary, the Timings Framework for Paneuropean operational processes. This document shall present the deadlines for gathering information to establish individual grid models, collecting individual grid models and for merging them into a common grid model. These deadlines shall be aligned with the deadlines of all operational processes relying on the common grid model.	
67.2	2. Each TSO shall have the right to request from another TSO any information on modifications to the network topology or on operational arrangements, such as protection setpoints or system protection schemes, single line diagrams and configuration of substations or additional grid models relevant for the	transmission systems, neighbouring TSOs shall exchange the system protection schemes and the protection setpoints of the lines for which the contingencies are included as external contingencies in their contingency lists.	
	provision of an accurate representation of the transmission system to undertake operational security analysis	SO GL art41(3) 3. To coordinate their operational security analysis and to establish the common grid model in accordance with Articles 67, 68, 69 and 70, each TSO shall exchange, with at least all other TSOs from the same synchronous area, at least the following data:  a. the topology of the 220 kV and higher voltage transmission systems within its control area, including single line diagrams; []	



67.4

The two-days ahead individual grid models used for day-ahead capacity calculation shall include the best forecasts of remedial actions. to the extent that such forecast can be made with reliable quality, either through individual or regional operational security analysis. Those remedial shall actions clearly distinguishable from the injections and withdrawals established in accordance with Article 40(3) and the network topology without remedial actions applied. Network topology and set-point of any network element, shall be considered as forecasts and not as remedial actions.

#### New paragraph in art.66

The two-days ahead individual grid models used further considerations relevant for Article 67(4). for day-ahead capacity calculation shall include the best forecasts of remedial actions, market D-2 IGMs shall include the necessary information positions, outages, unavailability of relevant on the unavailable network elements, generation significant grid users and the network topology assets and market forecasts, but not potential supporting these forecasts. This to the extent that remedial actions. From a technical point of view, such forecast can be made with reliable quality, all potentially available remedial actions to be either through individual or regional operational security analysis. A monitoring of this quality is to shared separately from the IGM and are used in be performed in the DACC process of each CCR. the capacity calculation process to identify the Those remedial actions shall be clearly overall optimal combination of Remedial Actions distinguishable from the injections and withdrawals established in accordance with Article 40(3) and the network topology without remedial actions applied. Network topology and set-point of any network element, shall be

TSOs' concerns on this amendment are strongly linked to the ones presented for the proposed amendment on Article 20(2). Here, TSOs provide

considered for the capacity calculation are to maximize the capacities while maintaining system security. The proposed amendments ("forecast of remedial actions", "Those remedial actions shall be clearly distinguishable....") contradict this clear technical distinction. The suggested added value of integrating a first set of



considered as forecasts and not as remedial actions.	remedial actions as improved "initial value" to the optimisation problem of the capacity calculation
	is neither guaranteed nor previously been
	identified as necessary. Beyond that, the requested distinguishability between "those
	remedial actions" is incompatible with the CGME
	Standard. In addition, a "best [and reliable] forecast of remedial actions" does not exist at the
	point of IGM creation.
	Finally, as the sentence refers to two-days ahead
	IGM, it should be moved to: Art.66 - Year-ahead,
	month-ahead and two day ahead individual grid models.
	It is important to set requirements to ensure a
	high quality grid model in accordance with the
	standards described within the common grid model methodology and the specific needs of the
	capacity calculation methodology per CCR.
	TSOs should ensure that the network topology is adjusted to support the market positions and the
	known planned and unplanned outages and
	respects operational security limits. Note, this applies even with congestion free individual grid
	models. After the merge towards a common grid
	model the possibility of congestions still exists. By proper analysis as part of the Day ahead process
	and recurring issues, anticipatory measures may
	be taken in an IGM by a TSO, but coordinated
	within the relevant CCR.



75

- All TSOs of each capacity calculation region shall jointly develop, review and where necessary propose amendments. methodology for regional operational security coordination, to be applied by the regional coordination centres and the TSOs of the capacity calculation region. This methodology respect the methodology for coordinating operational security analysis developed in accordance with Article 74(1). The proposal shall determine:
  - (a) conditions and frequency of intraday coordination of operational security analysis and updates to the common grid model by the regional coordination centre:
  - the methodology for the coordination of remedial actions. taking into account the requirements in Articles 20 to 23 and determining at least:
    - (i)the procedure for exchanging the information of the available remedial actions. between relevant TSOs the and regional coordination centre;

- 1. All TSOs of each capacity calculation region TSOs would like to raise attention on the shall jointly develop, review and where necessary following: propose amendments, the methodology for regional operational security coordination, to be The definition of the acceptable level of loopflows applied by the regional coordination centres and for cost sharing requires a choice that shall be the TSOs of the capacity calculation region. This made by the EC and MS. methodology shall respect the methodology for coordinating developed in accordance with Article 74(1). The in Article 75, it is noted that two different proposal shall determine:
- (a) centre;
- the methodology for the coordination of (b) remedial actions, taking into account the requirements in Articles 20 to 23 and determining at least:
  - the procedure for exchanging the information of the available remedial actions, between relevant **TSOs** and the regional coordination centre:

#### General comments to article 75:

operational security analysis As a general concern that affects all paragraphs methodologies (ROSC and cost-sharing) are being mixed. Requirements related to each one conditions and frequency of intraday of these methodologies should be separated to coordination of operational security avoid any misunderstanding regarding what is analysis and updates to the common grid covered by each methodology. Both ROSC and model by the regional coordination cost-sharing have different objectives. ROSC focus on ensuring operational security in operational planning phase. The objective of cost-sharing, despite the cost are a result of ROSC, should provide incentives to TSOs to take the correct investments to either solve congestions or reduce costs to solve these, and which are out of the operational planning phase. interdependencies between The both methodologies have already been accounted for in their development and implementation. In the proposal, therefore, ROSC (ex-ante and operational process) and cost-sharing (ex-post) are separated.



- (ii)the classification of constraints and the remedial actions in accordance with Article 22;
- (iii)the identification of network elements of cross- border relevance i.e. on which operational security violations need to be managed in a coordinated way;
- (iv)the identification of crossborder relevant remedial actions, i.e. remedial actions that need to be managed in a coordinated way;
- (v)the identification of the most effective and economically efficient remedial actions in case of operational security violations
- (vi) the preparation and activation of the remedial actions identified pursuant to point v in accordance with Article 23(2);
- (c) the rules for sharing the costs of cross-border relevant remedial actions as determined pursuant to paragraph 4 and 6

- ii. the classification of constraints and the remedial actions in accordance with Article 22:
- iii. the identification of network elements of cross-border relevance i.e. on which operational security violations need to be managed in a coordinated way;
- iv. the identification of cross-border relevant remedial actions, i.e. remedial actions that need to be managed in a coordinated way;
- v. the identification of the most effective and economically efficient remedial actions in case of operational security violations
- vi. the preparation and activation of the remedial actions identified pursuant to point v in accordance with Article 23(2);

(c) the rules for sharing the costs of cross-border relevant remedial actions as determined pursuant to paragraph 4 and 6.



75.2	2. Regional operational security coordination shall be able to modify any cross-border relevant remedial actions resulting from previous coordinated or uncoordinated use of cross-border relevant remedial actions, except those which have already been ordered.	2. Regional operational security coordination shall be able to modify, as needed, any cross-border relevant remedial actions resulting from previous coordinated or uncoordinated use of cross-border relevant remedial actions, except those which have already been ordered.	Paragraph 2 has two unclear details: a reference to uncoordinated cross-border relevant RA and a possible limitation to modify previously ordered remedial actions (which is an existing practice). For clarity, TSOs suggest referring to cross-border relevant RA in general, as needed.
75.3	3. Each TSO shall be able to modify the setpoint of all resources not owned by TSOs that are impacted by the remedial actions identified according to paragraph 1(b)(iv) in accordance with the appropriate mechanisms and agreements applicable to its control area, including interconnectors. The relevant resource owners shall provide TSOs ex ante all the information necessary for deciding on whether their resources can and/or need to be committed. This information shall be shared on request between the relevant TSOs and relevant RCCs for regional operational security coordination purposes only.	[no ENTSO-E proposal = will not be part of the submission, the line will be deleted]	
75.4	relevant remedial actions activated in accordance with the methodology pursuant to paragraph 1 shall be	[New article XX on cost-sharing]  XX.1. The costs of cross-border relevant remedial actions activated in accordance with the methodology pursuant to paragraph 1 shall be	responsibilities and liabilities of the TSOs

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75.5



to Ar	ticle 16(1	3) of	Regul	ation	2019/943
and	respect	at	least	_the	following
princ	iples:				_

- provide incentives to manage congestion, including remedial actions and incentives to invest effectively;
- consistent be with the responsibilities and liabilities of the TSOs involved;
- ensure a fair distribution of costs and benefits between the TSOs involved:
- be compatible across the dayahead and intraday market time-frames; and
- comply with the principles of transparency and non-discrimination.

distributed between the TSOs according to Article 16(13) of Regulation 2019/943 and respect at least the following principles:

- a. provide incentives to manage congestion, including remedial actions and incentives to invest effectively;
- b. be consistent with the responsibilities and liabilities of the TSOs involved;
- c. ensure a fair distribution of costs and benefits between the TSOs involved:
- d. be compatible across the day-ahead and intraday market time-frames; and
- e. comply with the principles of transparency and non-discrimination.
- the rules for sharing the costs of crossborder relevant remedial actions as determined pursuant to paragraph x.

# congestion in a bidding zone. This level shall be border as well as for each cross-border relevant network element identified pursuant paragraph 1(b)(iii), taking into account the characteristics of the bidding zones.

In accordance with Article 16(13) of XX.2 In accordance with Article 16(13) of For consistency with the ER, a precision has Regulation 2019/943, all TSOs in a capacity Regulation 2019/943, all TSOs in a capacity been added in the paragraph 5 of the EC calculation region shall analyse the level of loop calculation region shall analyse the level of loop proposal, regarding the approval of the analysis flows that could be expected without structural flows that could be expected without structural pursuant to art.16(13) of the ER (last paragraph congestion in a bidding zone. This level shall be is the EE wording proposal). analysed for each individual bidding zone analysed for each individual bidding zone border as well as for each cross-border relevant network Without objecting on the proposal, TSOs would to element identified pursuant to paragraph 1(b)(iii), like some additional clarification on the new taking into account the characteristics of the proposal to account for the characteristics of the bidding zones and shall be subject to the approval bidding zones. of all regulatory authorities in the capacity calculation region.



75.6

6. No later than 18 months after the approval of the methodology for identification of congestions pursuant to [CACM Regulation], all TSOs in a capacity calculation region shall jointly develop, review and, where necessary, propose amendments to the level of loop flows that could be expected without structural congestion in a bidding zone, . The proposal shall be based on an analysis pursuant to paragraph 5 and taking into account principles listed in (4). , which shall be attached to the proposal, and shall define this level for each bidding zone in a capacity calculation region generating loop flows and for each individual bidding zone border as well as for each crossborder relevant network element identified pursuant to paragraph 1(b)(iii). In case the sum of loop flow levels on a given crossborder relevant network element that are originating from all bidding zones in a capacity calculation region exceed a common level of [X]% of maximum flow, then the levels from individual originating bidding zones shall be proportionally reduced in a way that their sum equals [X]% of maximum flow. All TSOs in a capacity calculation region may also join this proposal with the methodology pursuant to paragraph 1.

[no ENTSO-E proposal = will not be part of the submission, the line will be deleted]



75.7 7. The rules for sharing the costs of crossborder relevant remedial actions referred to in paragraph 1 b) (vii) shall comprise the following steps:

- Distribution of the total costs of cross-border relevant remedial actions to relevant network elements identified pursuant to Article 75(1)(b)(iii);
- Identification of different types of flows on relevant network elements. differentiating at least loop flows, internal flows, allocated flows and flows resulting from phase shifting transformers;
- Attribution of the costs referred to in a) first to loop flows originating from bidding zones in a CCR and which exceed the level referred to in paragraph 5. If the overload is higher than the level of loop flows as identified pursuant to paragraph 5, the costs for the remaining overload shall be attributed to other flows and shall be covered by TSOs owning or operating concerned network elements. If the individual level is not fully

7. The rules for sharing the costs of cross-border relevant remedial actions referred to in paragraph 1 b) (vii) shall comprise the following steps:

> network elements identified reasons: pursuant to Article 75(1)(b)(iii); c. Identification of different types of flows on relevant network elements, differentiating at least loop flows, internal flows, allocated flows and flows resulting from phase shifting transformers;

d. Attribution of the costs referred to in a) first to loop flows originating from bidding zones in a CCR and which exceed the level referred to in paragraph 5. If the overload is higher than the level of loop flows as identified pursuant to paragraph 5, the costs for the remaining overload shall be attributed to other flows and shall be covered by TSOs owning or operating the concerned network elements. If the individual level is not fully used by some bidding zones, the

We would like to propose to have this paragraph 75.7 removed. Having general guidance on costsharing in SO GL is welcomed, however the Distribution of the total current text proposal is too strict as a guidance costs of cross-border relevant for a CCR methodology and does not fit as a remedial actions to relevant common solution to CCRs, due to following

- 1. The text should consider that, for CCRs in which internal loop flows resulting from transactions internal to bidding zones are negligible, a simplified distribution of RA costs (not requiring any flow decomposition methodology) has been agreed (it is the case for SWE and HANSA regions) and is considered suitable, in line with the flexibility provided for in Art. 16(13) of Regulation 2019/943.
- 2. The choice of the flow decomposition methodology should be left open for TSOs to agree at CCR level (in line with article 16.13 of the ER). A clear reference to a flow type, such as allocated flow, should not be made.



			T
	used by some bidding zones,	leftover can be used to increase	
	the leftover can be used to	,	
	increase the threshold for	which exceed this level.	
	bidding zones which exceed		
	this level.		
75.8	8. Upon request of ACER but not earlier than		This new paragraph establishes the mandate for
	1 December 203027, all TSOs shall develop	December 2030, all TSOs shall develop a	TSOs to harmonise the ROSC methodology.
	l —	proposal for harmonisation of methodologies for	TSOs propose to remove that paragraph for the
	l ' '	regional operational security coordination across	following reasons:
	methodologies for regional operational	all capacity calculation regions. This proposal	1. There is already a pan-European
	security coordination across all capacity	shall harmonise as far as possible the rules,	methodology that harmonizes the process
	calculation regions. This proposal shall	procedures and mechanisms for regional	of coordinated security analyses, which is
	harmonise as far as possible the rules,	operational security coordination aiming to	CSAm, according to Article 74:
	procedures and mechanisms for regional	maximise its overall efficiency and effectiveness.	«Methodology for coordinating
	operational security coordination aiming to	maximise its overall emolency and encouveriess.	
	maximise its overall efficiency and		operational security analysis». The ROSC
	effectiveness.		methodology enables the necessary
			regional specificities to be addressed by
			each CCR. While the CSAm methodology
			ensures the highest possible level of
			harmonization across all aspects, the
			ROSC methodology allows for the
			consideration of different characteristics
			and specificities of each CCR.
			2. The implementation of ROSC is still
			ongoing. The proposed timeline would
			impact the current implementation of the
			ROSC is some regions.
			3. TSOs need to gain experience on the
			process before investigating potential
			<mark>improvements.</mark>



4. TSOs are already working on harmonisation of ROSC Core and IN. However, the other regions are too different, and the specific requirements of each region should be preserved.
Therefore, from the TSOs' perspective, it is not clear the reasoning for the harmonisation of the ROSC methodology, whose aim is to address the specific conditions of each CCR.
In case this provision is kept, TSOs request to consider the following:  • The request from ACER should not be earlier than 2 years after the implementation of the ROSC methodology in the relevant CCRs. For the assessment of harmonisation to be reliable, TSOs need to gain experience on the process. The timeline should consider this.
<ul> <li>A proposal for harmonisation can only be made based on an assessment that justifies the need for such harmonisation.</li> <li>Given that each region has its own specificities, the harmonisation should not be considered at a Pan-European level. Potential elements for harmonisation</li> </ul>



			<ul> <li>could be identified between two regions only, and not across all.</li> <li>Any harmonisation should be targeted to achieve efficiency and effectiveness while respecting regional differences.</li> </ul>
106	Article 106 Control area adequacy in weekahead, day-ahead and intraday  1. Each regional coordination centre shall perform a control area adequacy analysis in its system operation region in a week-ahead, day- ahead and intraday timeframe on the basis of:  (a) schedules referred to in Article 110;  (b) forecasted load;  (c) forecasted generation from renewable energy sources;  (d) active power reserves in accordance with the data provided pursuant to Article 46(1)(a);  (e) control area import and export capacities consistent with crosszonal capacities calculated where applicable in accordance with Article	energy sources; (d) active power reserves in accordance with the data provided pursuant to Article 46(1)(a); (e) control area import and export capacities consistent with cross-zonal capacities calculated where applicable in accordance with Article 14 of Regulation (EU) 2015/1222; (f) capabilities of power generating modules in accordance with the data provided	TSOs object to the removal of the requirements addressing the TSO's responsibility to perform control area adequacy assessment in day-ahead and intraday. In particular, according to Article 37(1)(e) of the Regulation 943/2019, RCCs shall carry out regional week ahead to at least day-ahead system adequacy forecasts. However, Recital (10) of the Regulation reiterates that TSOs should remain responsible for the tasks entrusted to them under Article 40 of Directive (EU) 2019/944. In light of this, it is essential that



14 of Regulation (EU) 2015/1222;

- capabilities of power generating modules in accordance with the data provided pursuant to Article 43(4) and Articles 45 and 51 and their availability statuses: and capabilities of demand facilities with demand response in accordance with the data provided pursuant to Articles 52 and 53 and their availability statuses.
- Each regional coordination centre shall evaluate:
  - the minimum level of import and the maximum level of export compatible with its-each control area adequacy;
  - the expected duration of a potential absence of adequacy; and
  - the amount of energy not supplied in the absence of adequacy.
- Where, following the analysis in paragraph 1, adequacy is not fulfilled, each TSO shall notify the absence of adequacy to its regulatory authority or other competent authority. The TSO shall provide its regulatory

and (g) demand response in accordance with the

data provided pursuant to Articles 52 and 53 and their availability statuses.

- Each TSO shall evaluate:
- the minimum level of import and the (a) maximum level of export compatible with its control area adequacy;
- the expected duration of a potential (b) absence of adequacy; and
- the amount of energy not supplied in the (c) absence of adequacy.

Where, following the analysis in paragraph 1, adequacy is not fulfilled, each TSO shall notify the absence of adequacy to its regulatory authority or other competent authority with an authority or other competent authority. The TSO

and 51 and their availability statuses; Additionally, this article is cross-referenced in NC ER art.21 and any changes to it would lead to capabilities of demand facilities with inconsistency between the codes as it would remove the possibility for TSOs to request assistance from each other in case control area adequacy issue is detected.



competent authority with an analysis of the adequacy and propose mitigating actions. causes of the absence of adequacy and propose 4. Each TSO shall support regional mitigating actions. coordination centre by providing necessary data and contributing to analyses, as Each TSO shall support regional requested. coordination centre by providing necessary data and contributing to analyses, as requested. 109-Article 110109 Article 110109 113 **Establishment of scheduling processes** Establishment of scheduling processes The replacement of "scheduling agent" by When establishing a scheduling process 1. "balance responsible party" (BRP) creates When establishing a scheduling process TSOs shall take into account and complement TSOs shall take into account and complement misalignment with national scheduling processes where necessary the operational conditions of where necessary the operational conditions of the in some Member States since third parties, generation and load data methodology developed currently acting as "scheduling agents" but not as the generation and load data methodology developed in accordance with Article 16 of in accordance with Article 16 of Regulation (EU) BRPs, will no longer be allowed to submit Regulation (EU) 2015/1222. 2015/1222 schedules to TSOs. As a result, existing Where a bidding zone covers only one scheduling practices become non-compliant. The Where a bidding zone covers only one 21. control area, the geographical scope of the control area, the geographical scope of the reason why the scheduling agent is not scheduling area is equal to the bidding zone. scheduling area is equal to the bidding zone. necessarily the BRP is that the level of detail of Where a control area covers several bidding Where a control area covers several bidding schedules used for IGMs, CGMs and other zones, the geographical scope of the zones, the geographical scope of the scheduling operational processes is more detailed scheduling area is equal to the bidding zone. area is equal to the bidding zone. Where a bidding (distribution of generation to exact locations in the Where a bidding zone covers several control zone covers several control areas, TSOs within grid) then what is needed to assess the balance areas, TSOs within that bidding zone may jointly that bidding zone may jointly decide to operate a of the portfolio of the BRP (consolidated at the decide to operate a common scheduling common scheduling process, otherwise, each level of the control area). As such the BRP does process, otherwise, each control area within control area within that bidding zone is considered not always know the exact impact on the that bidding zone is considered a separate a separate scheduling area. individual schedules of generation due to their scheduling area. For 2. The owner of each power activities in the balancing market if this service if For 2. The owner of each power generating facility, electricity storage module and offered by another entity (BSP) and the correction

analysis of the causes of the absence of shall provide its regulatory authority or other

generating facility and demand facility subject to demand facility subject to requirements for



national terms and conditions, the concerned act as a scheduling agentbalance responsible party, without prejudice to derogations pursuant to Article 5 of Regulation (EU) 2019/943.

- Each market participant and shipping 43. conditions for balancing pursuant to Regulation pursuant to Regulation (EU) 2017/2195. (EU) 2017/2195.
- Each TSO operating a scheduling area 54. shall establish arrangements necessary to shall establish arrangements necessary to process the commercial trade schedules process the commercial trade schedules provided responsible parties.
- Where a scheduling area covers more 65. than one control area, the TSOs responsible for shall operate the scheduling area.

requirements for scheduling set out in the scheduling set out in the national terms and of their portfolio is notified to them aggregated at conditions, the concerned owner at each the level of the control area. owner at each connection point shall appoint or connection point shall appoint or act as a balance responsible party, without prejudice derogations pursuant to Article 5 of Regulation (EU) 2019/943.

- agent, subject to requirements for scheduling agent, subject to requirements for scheduling set building process. set out in the national terms and out in the national terms and conditions, each conditions, each nominated electricity market nominated electricity market operator shall operator shall appoint or act as a scheduling appoint or act as a scheduling agentbalance agentbalance responsible party, subject to responsible party, subject to requirements for requirements for providing commercial trade providing commercial trade schedules set out in schedules set out in the national terms and the national terms and conditions for balancing
  - Each TSO operating a scheduling area by scheduling agentsbalance provided by scheduling agentsbalance responsible parties, as well as the schedules specified in Article 46(1)(a); Article 49 (1)(a) and Article 52(2).
- Where a scheduling area covers more than one control area, the TSOs responsible for the control areas shall agree about which TSO the control areas shall agree about which TSO shall operate the scheduling area.

Article 113 is needed, to establish the requirement towards TSOs to exchange data that Each market participant and shipping is needed in the current scheduling and CGM

Article 110

Article 110



#### **Submission of schedules to TSOs**

- Each balance responsible party. area, and, where applicable, to third party. subject to national terms and conditions for 2017/2195, the following schedules:
- internal commercial trade schedules; (a) (a)
- external commercial trade schedules: (b) generation schedules, if a TSO performs the check pursuant to Article 111(1):
- consumption schedules, if a TSO (d) (d) performs the check pursuant to Article 111(1)
- Where at the entry into force of this 2. to the concerned TSOs.

Article 111

#### **Submission of schedules to TSOs**

- Each balance responsible party, including including balance responsible parties of balance responsible parties of nominated nominated electricity market operators, shall electricity market operators, shall submit to the submit to the TSO operating the scheduling TSO operating the scheduling area, and, where applicable, to third party, subject to national terms and conditions for balancing pursuant to balancing pursuant to Regulation (EU) Regulation (EU) 2017/2195, the following schedules:
  - internal commercial trade schedules;
  - external commercial trade schedules: (b)
    - generation schedules. if a TSO performs the check pursuant to Article 111(1);
  - consumption schedules, if a TSO performs the check pursuant to Article 111(1)
- Where at the entry into force of this Regulation, the task of collecting the schedules Regulation, the task of collecting the schedules pursuant to paragraph 1 and 2 is assigned to a pursuant to paragraph 1 is partially or fully and 2 third party in a national legislation and pursuant is assigned to another entity than the balancing to Regulation (EU) 2017/2195, the schedules responsible party a third party in a national referred to paragraph 1 and 2 shall be provided legislation and pursuant to Regulation (EU) to such third party. In such case, the assigned 2017/2195, the schedules referred to paragraph 1 third party shall provide the received schedules and 2 shall be partially or fully provided to such third party to the entity indicated in the national terms and conditions. In such case, the assigned third party shall provide the received schedules to the concerned TSOs.

Article 111



# Notification of schedules within scheduling areas

- 1. Each scheduling agent, except scheduling agents of shipping agents, shall submit to the TSO operating the scheduling area, if requested by the TSO, and, where applicable, to third party, the following schedules:
- (a) generation schedules;
- (b) consumption schedules;
- (c) internal commercial trade schedules; and
- (d) external commercial trade schedules.
- 2. Each scheduling agent of a shipping or, agent or, where applicable, a central subcounterparty shall submit to the TSO operating a scheduling area covered by market coupling, if requested by the concerned TSO, and where applicable to third party, the following schedules:
- (a) external commercial trade schedules as:
  - (i) multilateral exchanges between the scheduling area and a group of other scheduling areas;
  - (ii) bilateral exchanges between the scheduling area and another scheduling area;
- (b) internal commercial trade schedules (c) between the shipping agent and central counter parties;

# Notification of schedules within scheduling areas

- 1. Each scheduling agent, except scheduling agents of shipping agents, shall submit to the TSO operating the scheduling area, if requested by the TSO, and, where applicable, to third party, the following schedules:
- (a) generation schedules;
- (b) consumption schedules;
- (c) internal commercial trade schedules;
- (d) external commercial trade schedules.
- 2. Each scheduling agent of a shipping agent or, where applicable, a central counterparty shall submit to the TSO operating a scheduling area covered by market coupling, if requested by the concerned TSO, and where applicable to third party, the following schedules:
- (a) external commercial trade schedules as:
  - (i) multilateral exchanges between the scheduling area and a group of other scheduling areas:
  - bilateral exchanges between the scheduling area and another scheduling area;
- b) internal commercial trade schedules between the shipping agent and central counter parties;
- c) internal commercial trade schedules between the shipping agent and other shipping agents.



internal commercial trade schedules <del>(c)</del> between the shipping agent and other shipping agents.

#### Article 112

#### Coherence of schedules

- Each TSO operating a scheduling area 1. balancing.
- For external TSO schedules, each TSO 2. 2. agreement, the lower value shall apply.
- For bilateral exchanges between two 3. trade schedules, the lower value shall apply.
- All TSOs operating scheduling areas 4. schedules, the lower values shall apply.

#### Article 112

#### Coherence of schedules

- Each TSO operating a scheduling area shall check whether the generation, and shall check whether the generation, and consumption, schedules are in sum equal to the consumption, schedules are in sum equal to the sum of external commercial trade schedules sum of external commercial trade schedules and and external TSO schedules infor its scheduling external TSO schedules infor its scheduling area area are in sum balancedif this TSO applies the are in sum balancedif this TSO applies the requirement in national terms and conditions for requirement in national terms and conditions for balancing.
- For external TSO schedules, each TSO shall agree on the values of the schedule with shall agree on the values of the schedule with the the respective TSO. In the absence of an respective TSO. In the absence of an agreement, the lower value shall apply.
- For bilateral exchanges between two scheduling areas, each TSO shall agree on the scheduling areas, each TSO shall agree on the external commercial trade schedules with the external commercial trade schedules with the respective TSO. In the absence of an respective TSO. In the absence of an agreement agreement about the values of the commercial about the values of the commercial trade schedules, the lower value shall apply.
- All TSOs operating scheduling areas shall shall verify that all aggregated netted external verify that all aggregated netted external schedules between all scheduling areas within schedules between all scheduling areas within the the synchronous area are balanced. If a synchronous area are balanced. If a mismatch mismatch occurs and the TSOs do not agree on occurs and the TSOs do not agree on the values the values of the aggregated netted external of the aggregated netted external schedules, the lower values shall apply.



- Each scheduling agent of a shipping 5. agent or, where applicable, a central counterparty shall provide TSOs, upon their request, with the values of external commercial trade schedules of each scheduling area involved in market coupling in the form of aggregated netted external schedules.
- Each scheduled exchange calculator shall provide to TSOs, upon their request, with coupling in the form of aggregated netted schedules. including bilateral exchanges between two scheduling areas.

#### Article 113

#### **Provision of information to other TSOs**

- At the request of another TSO, the 1. requested TSO shall calculate and provide:
- <del>(a)</del> aggregated netted external schedules; (a)
- netted area AC position, where the (b) (b) scheduling area is interconnected to other scheduling areas via AC transmission links.
- When required for the creation of 2. common grid models, in accordance with Article 70(1), each TSO operating a scheduling area shall provide any requesting TSO with:
- generation schedules: and <del>(a)</del>
- (b) consumption schedules

- Each scheduling agent of a shipping agent or, where applicable, a central counterparty shall provide TSOs, upon their request, with the values of external commercial trade schedules of each scheduling area involved in market coupling in the form of aggregated netted external schedules.
- Each scheduled exchange calculator shall provide to TSOs, upon their request, with the values of scheduled exchanges related to the the values of scheduled exchanges related to scheduling areas involved in the market coupling the scheduling areas involved in the market in the form of aggregated netted external schedules, including bilateral exchanges between two scheduling areas.

#### Article 113

#### **Provision of information to other TSOs**

- At the request of another TSO, the requested TSO shall calculate and provide:
- aggregated netted external schedules; and
- netted area AC position, where the scheduling area is interconnected to other scheduling via AC areas transmission links.
- When required for the creation of common grid models, in accordance with Article 70(1), each TSO operating a scheduling area shall provide any requesting TSO with:
- (a) generation schedules; and
- (b) consumption schedules



XY	A new article.	of individual and common grid models and is described in the methodologies developed pursuant to Articles 64 ss. and 70 of this	Given that Art. 16 regarding the GLDPM has been removed in the CACM 2.0 proposal, all the data delivery provisions required for IGM and CGM building must now be moved to the SO Regulation. While CGMM describes the data required, it does not ensure the obligations for third parties to provide the data. In light of this, TSOs propose the introduction of a new Article that aims to ensure that there will not be any missing data required by TSOs for the building process, since failure to have the complete data for the building process would negatively impact the quality of the CGM, therefore compromising the outcome of all the operational processes using CGM as inputs.  The article should be added in Title 2 Data exchange, in the general provisions for data exchange.  Finally, CGMM v.3 (CGMM for SO Regulation) also needs to be amended as soon as possible so that it is merged with CGMM v.1 (which is implicitly repealed because of CACM 2.0), while ensuring that all the data requirements stipulated in the GLPDM are included.
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