

Core TSOs' proposal for the third amendment of the Day-Ahead Flow-based Capacity Calculation Methodology

Brussels, 25 October 2023. The European Federation of Energy Traders (EFET) welcome the opportunity to provide our comments to the e Core CCR TSOs' proposal for the third amendment of the Day-Ahead Capacity Calculation Methodology of the Core Capacity Calculation Region (Core DA CCM) in accordance with article 20ff.

Key messages

Certain key aspects of the target DA CCM had been left aside in the initial release to facilitate a smooth Core go-live in 2023. These topics are:

1. The Methodology for Coordinated Validation (CVA)
2. A justification for the continued use of allocation constraints.
3. A further harmonization of Generation Shift Keys (GSKs)
4. The definition of internal network elements to be considered as CNECs in the market clearing.
5. An approach and justification for selecting the Flow Reliability Margin (FRM) levels.

The 3rd amendment presented by Core TSOs covers topic 1 and 2, while topics 3 to 5 are postponed (to be addressed in subsequent amendments). Besides, the 3rd amendment also proposes an additional topic regarding the improvement of the Evolved Flow-Based approach (EFB - handling of DC links such as ALEGrO).

Below, we provide feedback on each of the topics contained in the proposed amendment.

Topic 1: introduction of the CVA process

As it stands, the Coordinated Validation (CVA) will become an additional step in the overall CC process, inserted just before the already-operational Individual Validation (IVA) phase. The general purpose of these complementary phases is for TSOs to assess whether the RAM calculated up to this stage causes any operational security violations, and to reduce it if/where necessary before sending out the domain to Euphemia.

Validations are therefore useful in the sense that they can reduce the use of costly Remedial Actions (RAs) by TSOs later on when reconciling market results with the physics of the system. However, many market parties and regulators had already raised issues of large/disproportional amounts of IVA imposed by some TSOs. This is of particular relevance since such events can in turn considerably reduce exchange opportunities through the Flow-Based domain, and therefore the overall social welfare. In fine, a right balance between market welfare and RA costs must be found. In this context,

the CVA+IVA should - thanks to the added value of coordination – should provide the same operational security than the pure IVA solution, but with fewer RAM deratings (i.e a larger domain).

Concerns on transparency

In the ‘Whereas’ section, the Core TSOs refer to the Articles of the CACM that they deem being fulfilled by this amendment, namely 3 (b), (c), (d) and (g).

We generally agree with this statement, with nonetheless some interactions on methodological choices that we discuss in the next section.

But first and foremost, we would like to express concerns on the amendment’s alignment with Article 3 (f): ensuring and enhancing the transparency and reliability of information. Indeed, we fear the general opacity of the proposed CVA and IVA measures will increasingly become a barrier to allowing MP’s trust and proper monitoring by regulators.

- In the words of TSOs, **the validation phase is becoming the “shadow capacity calculation”**. Indeed, the CC starts with 7 well-documented phases, by the end of which the RAM is made compliant with the 70% rule (or the derogation/action plan in place). However, this 8th phase of validation essentially enables TSOs to override all RAMs with (lower) values that do not create overloads in their grid models. These final RAMs may not even be minram-compliant and constitute the final domain sent to Euphemia. Essentially, what was designed as a low-frequency safeguard mechanism is possibly becoming the CC’s most central component. This is also because its influence is set to grow over time: with the minram level increasing linearly to 70% by 2026, TSOs will have increasing difficulty complying and will have to rely even more heavily on CVA/IVA. As a result, we find it necessary that the level of transparency on this phase matches its importance in the overall calculation.
- Through this amendment, **TSOs allow themselves to change the CVA design parameters** as they see fit, without a clear consultative and stakeholder engagement process (cf Art 20 (4b): *“Core TSOs may decide for the CCC to base the full coordinated validation on further input, as long as this is within the boundaries of Article 3 CACM. Core TSOs may alter the parameters and thresholds of the input where an input would have a significant impact on the resulting CZC, as long as this is within the boundaries of Article 3 CACM.”*). Quarterly reports are mentioned, and these can provide some information ex-post, but we believe Market Parties should be informed ahead if changes are made to parameters (PTDF threshold, ‘circumstance’ selection,...) that could significantly impact expected CVA levels on the market.
- **Additional network elements with different objectives will be included in the CVA**. Beyond the already existing CNEC and MNEC categories, Core TSOs also introduce with this amendment the concepts of ‘XNEs’ and ‘scanned Elements’ in

the DA CCM. While we understand the general need for monitoring a larger set of elements, we find the resulting taxonomy rather confusing:

- **CNEC**: critical elements & contingencies sent out to Euphemia (all cross-zonal + intra-zonal above 5% max ptdf_z2z)
- **MNECs**: network elements for monitoring in the context of the NRAO process (so as to ensure these non-CNEC elements are not loaded beyond a given threshold)
- **XNE**¹: cross-border-relevant network elements, “*on which operational security limits violations need to be managed in a coordinated way*”. Also referred to as “Secured Elements”. Must contain at least all CNECs, but can include any other element above 220KV voltage level.
- **‘Scanned elements’**: “*shall represent a set of elements on which CROSA [TSOs] shall not create new operational security limits violations or worsen any existing violation. [...] Core TSOs shall have the right at any time to include any element excluded from the Secured Elements set in the Scanned Elements set*”

Some process flexibility is of course required, but allowing such reshuffling of elements between different categories (and associated optimization objectives) may once again significantly impact traceability and replicability of the results.

Concerns on methodology and outcomes

- **Introduction of new unsolvable congestions**: As mentioned in the previous section, new non-CNECs elements will be added to the Coordinated Validation. Mechanically, new constraints and congested elements will result in fewer exchange possibilities (RAM restrictions on CNECs), unless of course the application of RAs can solve the pre-congestion. Although the amendment claims all available RAs will be provided to the validation, as we know, the full ROSC solution where all RAs become usable and well-coordinated is set to be only deployed after 2026. Thus, it seems to us that in the meantime, CVA and IVA will remain the interim ROSC solutions with only a limited set of measures to solve pre-congestion. In other words, we remain to be convinced that the introduction of new elements (i.e congestions) will be accompanied by sufficiently strong RAs so that the CVA/IVA does not continue shrinking the FB domain to solve the congestion on non-CNEC elements, but truly optimizes it.
- **Introduction of the ‘circumstance’ concept**, i.e market outcome scenarios against which the the domain compliance will be assessed by the CVA. In essence, we understand the TSOs will attempt to forecast several sets of zonal net positions they “deem likely” to clear, and try to realize these outcomes in the physical CGM. When this is not achievable, the closest net positions from the CGM are translated back into RAM reduction requirements for the market domain (CVA). Beyond the sheer complexity of this approach (GSK change, RA

¹ https://eepublicdownloads.entsoe.eu/clean-documents/nc-tasks/EBGL/SO_GL_A76_CORE_CCR_ROSC%20Methodology.pdf

simultaneity test, soft constraints in the objective function,...), we find it worrying that the requirements for the selection of such circumstances remain very loose, both in terms of number and appropriateness of these scenarios. In addition, the final CVA value will be set to the maximum reduction needed across all circumstances. Therefore, a single ill-selected circumstance may result in drastic CVA reductions. We understand the stochastic nature of RA activation, but always selecting the most conservative outcome will simply overestimate the CVA needs. A statistical averaging (such as a selecting a mean value instead) should prove a better trade-off. In fact, the latter approach is precisely what TSOs use to determine expectations of adequacy requirements such as LOLE or ENS, which are both stochastic processes simulated across multiple scenarios.

- **Introduction of a CVA cap.** Article 20 (4f) introduces a maximum CVA value per CNEC as a percentage of its Fmax. The value of this cap is not provided, and it is unclear why this is necessary at all, given that the following IVA process will be allowed to reduce the RAM beyond this level.

Topic 2: conservation of the Polish allocation constraint

We welcome the news that the Dutch and Belgian TSOs have managed to successfully translate all of their security constraints into flow-based parameters on CNECs. On the other hand, we regret PSE's decision to continue using allocation constraints for two more years on both its global import and export position. According to ACER's latest report on cross-zonal capacities², the Polish allocation constraint has in fact been by far the most welfare-reducing one. In 2022, it set to 0MW the Polish export 56,2% of MTUs, and its import 18.1% of MTUs.

PSE states that Poland, unlike most Core CCR MS, operates under the central dispatch model, and that *“allocation constraints serve thus as a means to limit balancing service providers to sell too much energy in the day-ahead market, so that to ensure and enforce that they will be able to provide sufficient reserve capacity in the integrated scheduling process that is run after the day-ahead market.”*

We acknowledge that, if reserves have not been procured beforehand, allocation constraints are a better alternative than CNECs since they do not disturb trading/flows for other bidding zones. However, on this point we would like to remind that the issue of reserve sizing on the DAM had already been identified and raised as early as 2018 when Poland was applying for its capacity market. At this stage, it provided a comprehensive plan to rework its reserve & balancing market. Among others, it committed to start procuring reserves before the SDAC process³ as early as 2022 and also join the EU platforms for balancing energy (TERRE, MARI, PICASSO) upon their deployment. We deplore the delay in implementing these initiative, which now justifies the extension of allocation constraints.

² https://www.acer.europa.eu/Publications/2023_MMR_MACZT.pdf

³ https://energy.ec.europa.eu/system/files/2020-09/polish_implementation_plan_final_courtesy_translation_0.pdf

Added topic: addition of a PTDF threshold for Evolved Flow-Based (ALEGrO)

TSOs suggest the introduction of a 0.5% PTDF threshold for the ALEGrO virtual hubs. This is justified by the argument that remove CNECs often force a DA setpoint that turns far from operational reality and costly to redispatch. On this basis, we understand and agree with the introduction of a PTDF threshold to neglect these remote effects on ALEGrO.

However, once again in order to ensure proper transparency, we invite TSOs to:

- Clarify at which step of the CC will this threshold be applied
- Clarify the exact formula that will be implemented if it differs from the PTDF threshold already implemented in DA (e.g is the CNEC removed completely or is it only the ALBE/ALDE set to 0 ? If the latter, how can it be applied on the PTDF_z2z rather than the zone-to-hub ?)
- Warn/engage with stakeholders prior to any threshold changes, rather than solely after the facts through quarterly reports.

Other comment: delay on delivery for Topics 3 to 5

Through the amendment, we have found several instances where due deadlines have been delayed by TSOs, without clear justification:

- Topic 2 (definitive methodology for allocation constraints) is delayed from 18 to 42 months post go-live
- Topic 3 (harmonization of GSKs) is delayed from 18 to 42 months post go-live.
- Topic 4 is delayed from 18 to 42 months post go-live.
- Topic 5 (FRM methodology) is delayed from 18 to 60 months post go-live (with nonetheless a harmonized interim 10% value used across all Core TSOs)
- Proper development & update of a list of internal network elements to be defined as CNECs delayed from 18 to 42 months post go-live.

Contact

Lorenzo Biglia
l.biglia@efet.org