



Core Public workshop to discuss the LTCC and LTSR methodology proposals

Minutes of meeting – FINAL

19th of June 2018

ENTSOe premises –Brussels

| PARTICIPANTS | PARTY |
|--------------------------------------|---------------------|
| Katrin TREPPER (STK WG convener) | AMPRION |
| Mike RUBEN (Market WG convener) | 50HERTZ |
| Fabian HEUS (LTCCPT convener) | TenneT BV |
| Jakub PIOŚ (LTCC PT and MaWG expert) | PSE |
| Zoltán FELEKI (LTCCPT expert) | MAVIR |
| Marc LE-BAILLY (LTCCPT expert) | RTE |
| Benjamin GENET (Core SG member) | Elia |
| Raluca CORDUN - IONITA | MAGNUS (PMO) |
| Helene ROBAYE | ENGIE |
| Jakub GUZIKOWSKI | GKPGE (Poland) |
| J. LE PAGE | EFET |
| Markus HAHN | ENERGIEAG (Austria) |
| Jerome MICHEL | EDFTRADING |
| Ruud OTTER | ENERGIE-NEDERLAND |
| Yasmine BENZAAMA | CORESO |
| Vladimir MIJATOVIC | VERBUND |

| PARTICIPANTS by telco | PARTY |
|-----------------------|--------------------------------|
| Hrvoje MILIČIĆ | HERA (Lead NRA on LTCC & LTSR) |
| Thomas QUERRIOUX | ACER |
| Aurélien BERNARD | EDF |
| Silvia MESSA | STATKRAFT |
| Olga BUGAYOVA | CEZ (Czech Republic) |
| | |
| | |
| | |
| | |
| | |



| Abbreviations (in alphabetical order) | Explanations |
|---|---|
| ACER | Agency for the Cooperation of Energy Regulators |
| BZ | Bidding Zone |
| BZB | Bidding Zone Border |
| CACM | Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management |
| CC | Capacity Calculation |
| CCC | Coordinated Capacity Calculator |
| CCR | Capacity Calculation Region |
| CGM | Common Grid Model |
| CNEC | Critical Network Element Critical Contingency |
| cNTC | Coordinated Net Transfer Capacity |
| Core CG | Core Consultative Group |
| Core NRAs | National Regulatory Authorities in Core CCR |
| Core RSCs | Regional Security Coordinators working in Core CCR (i.e. Coreso and TSCNET) |
| CWE | Central Western Europe |
| DA & ID CCMs | Day-ahead and intraday capacity calculation methodologies |
| ENTSO-E | European Network of Transmission System Operators for Electricity |
| FB | Flow based |
| FCA | Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation (Text with EEA relevance) |
| FTRs | Financial Transmission Rights |
| GSK | Generation Shift Key |
| HLBP | High Level Business Process |
| IGM | Individual Grid Model |
| LT | Long term |
| LTCC | Long term capacity calculation |
| LTSR | Long term splitting rules |
| MPs | Market Participants & Associations |
| minRAM | Minimum Remaining Available Margins |
| NEMOs | Nominated Electricity Market Operators |
| NTC | Net Transmission Capacity |
| PMO | Project Management Office |
| PT | Project team |
| PTDF | Power Transfer Distribution Factor |
| RAs | Remedial Actions |
| RAM | Remaining Available Margin |
| RSC | Regional Security Coordinator |
| TS | Time stamps |
| TSOs | Transmission System Operators |



1. Welcome and introduction

K.TREPPER, co-chair of the Core TSOs on behalf of all Core TSOs, opens the meeting and welcomes Market Participants & Associations (MPs) and Core NRA to the meeting. Also a word of welcome by H.ROBAYE, co-chair on behalf of the MPs. A tour-de-table is being held.

Objective of the meeting is to gather MPs' views and clarification questions with regards to Core Long Term Capacity Calculation (Core LTCC) and Core Long Term Splitting Rules (Core LTSR) methodologies, during their public consultation period.

Update developments in Core

K.TREPPER presents an overview of the activities ongoing in the Core CCR, stemming from Network Codes & Guideline obligations.

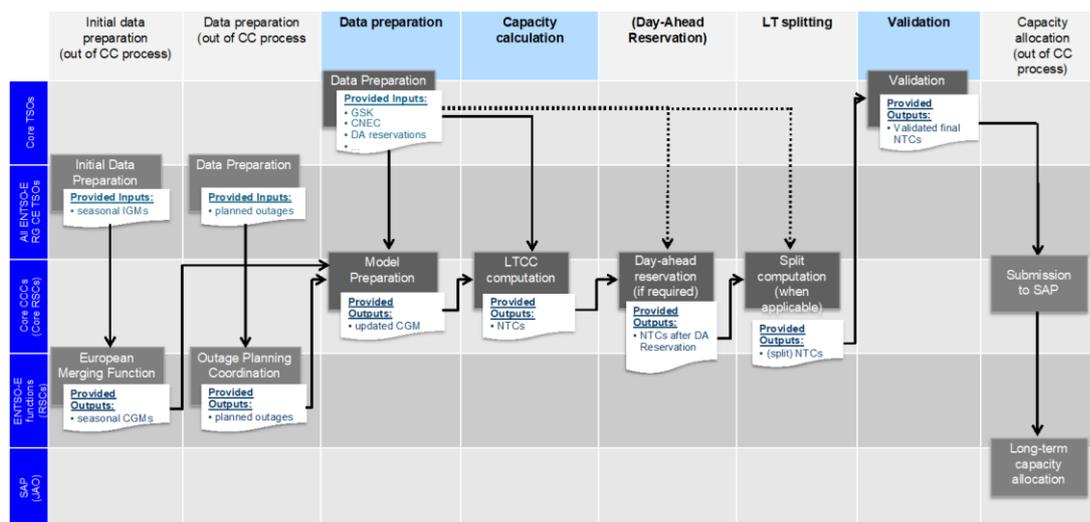
K.TREPPER presents the overview of stakeholder involvement interactions during the drafting phase of both the Core LTCC and LTSR methodologies.

2. Core LTCC Methodology

F.HEUS (Core LTCC PT convener) introduces the process of drafting the Core LTCC methodology lasting for a period of about 20 months. He highlights that currently there are still some topics for which Core TSOs did not take the final decision yet (e.g. the two approaches, CNEC selection, Outage selection, base case quality). In the explanatory note more detailed descriptions of the discussed options are presented. Final solutions and decisions are to be expected by mid-August, for submission to NRAs by August 26th, for which robust experimentation results, feedback from the Public consultation, Core NRAs' shadow opinion and further (principal) discussion will be the basis.

High Level Business Process (HLBP)

Z.FELEKI presents the HLBP for the LTCC process. The capacity calculation steps are highlighted in the columns:



At request of Market Parties, Z.FELEKI highlights the difficulties Core TSOs faced when developing this methodology:

- Large size of the capacity calculation region (CCR) Core
- Highly meshed network (e.g. CWE can be more considered as a ring structure, while Core is a highly meshed network);
- Italy and Switzerland are located in the middle of the CCR Core, but they are not part of it



- Much more uncertainty than in the day-ahead capacity calculation process today when forecasting the capacities (e.g. consideration of coordinated planned outages, determination of coordinated NTCs (cNTCs))
- Methodology should be general/flexible enough to cover the entire region (with its diverging structure and challenges) and should also provide the possibility to include new borders in the future.

Initial data preparation – two databases are merged to deliver the planned grid situation for every timestamp of next year:

- the common grid model (CGM), describing the topology itself and
- the planned disconnections for the next year

MPs inquire about the status of the CGM project. K.TREPPER confirms that Core TSOs are also waiting for official information to be provided by ENTSO-E. K.TREPPER ensures that she will address the MPs' request to ENTSO-E.

Market Parties remark that in the explanatory document, the process is rather open. Z. FELEKI confirms that this is to allow for updated IGMs, should there be any updates. The default seasonal scenarios for outages are provided by all ENTSO-E TSOs and updates are foreseen periodically. The CGM can be updated based on the IGM, if a TSO has considered a relevant change since the last IGM provided (each TSO's responsibility whereby the net position must remain the same as in the relevant year ahead scenario). Month-ahead LTCC will use the most updated grid model (using the coordinated IGMs and latest outage data stored in the Outage Planning Coordination database of all ENTSO-E TSOs).

Market Parties request that the explanatory note should describe also the monthly calculations, not only the yearly ones (e.g. how are these scenarios being updated for each monthly calculation). Core TSOs reply that the HLBP is the same process to be followed by both yearly and monthly calculations and the grid model will be updated for each monthly calculation (also using the most updated outage plans).

The coordinated capacity calculators (CCCs) of Core will calculate the NTC values (automated process as much as possible, in order to provide transparency and ensure non-discriminatory). The rules to calculate these NTCs (including on how to deal with data inconsistencies if they occur) are currently still under elaboration by Core TSOs.

Day-ahead reservations

MPs ask about the inclusion of DA reservations (if required). M.RUBEN replies that Core TSOs have described in the explanatory document that these are only applicable if PTRs are issued on the concerned BZB and it is excluded for FTR borders.

Some topics (e.g. two approaches for LTCC, how to cope with an empty domain, etc.) are still under discussion by Core TSOs. All options currently discussed are described in the explanatory document. TSOs aim to develop clear rules on each of these prior to the final submission of the methodology to Core NRAs. TSOs indicate that this is also mentioned in the splitting rules consultation.

Core concept of likely corners

F.HEUS explains that Core contains 17 BZBs, resulting in 131.072 possible combinations of import and export directions on all these BZBs (corners). Core TSOs propose to reduce the cNTC computation to only the likely corners: Combinations of import and export directions that actually occurred in the past year (831 combinations instead of 131.072).

MPs ask if the concept of likely corners is price-based. F. HEUS explains that it is not price-based, but based on historical trade directions (nomination directions as published on the ENTSO-E Transparency Platform). MPs note that the situation can change in the future (e.g. due to new grid elements), and hence, consider that the sole use of historical data is not robust enough, they propose to add indicators on the forward, i.e. double-check chosen likely corners against forward prices. Core TSOs welcome the suggestion and ask MPs to include it in their official response to the Public consultations.



M.RUBEN mentions that the forward markets were analyzed also in context of LTSRM, but what makes it difficult is that forward markets are not similarly developed across the Core CCR (e.g. while the forward market in CWE is quite liquid with numerous products, this is not the case for other bidding zones). Core TSOs ask MPs to propose in their official response how to deal with these differences in order to base such analysis on a non-discriminatory comparison of forward prices.

Top down and bottom up approaches for LTCC

On request of MPs, Core TSOs explain that there is today currently no common, coordinated methodology/approach within Core to determine coordinated NTC, as this requirement has been introduced by the FCA Regulation. M. LE-BAILLY presents the two current Core TSOs' proposals for the determination of LT capacities:

For each time stamp (TS), a PTDF and RAM is calculated for each CNEC; RSCs apply zero-balance.

Top-down approach:

RSCs calculate max NTC by lowering bilateral NTCs until N-1 is secured.

Sharing of the RAM is based on the PTDF: The biggest portion of the RAM of a CNEC is allocated to those BZBs that are electrically closer to this CNEC

Bottom up:

In this approach, only the positive contributors are considered.

Sharing of the RAM: The RAM of a CNEC is equally shared over the BZBs

The concept of likely corners is similarly considered in both approaches.

Market Parties ask how this is linked to how fallback NTCs are currently being taken into account in CWE DA CC for shadow prices. Core TSOs explain that they will come back with an answer to MPs at a later stage (via the Core CG).

Update: It is not foreseen to change the process for shadow auctions in CORE (compared to CWE). The ATC determined for the shadow auctions will still consider the LTA domain as input data.

MPs ask if a list of pros and cons of the two approaches is available at Core TSOs' side. F.HEUS replies that it is difficult to compile such list as there are different views among Core TSOs.

MPs ask if, by sharing the PTDF pro-rata, the welfare can intuitively be shared (e.g. CWE FB DA). J. PIOŚ (LTCC expert) answers that, if compared to FB, the bottom up approach is more like drawing the square from the 0 point, while the Top down approach cannot be seen as a square.

MPs ask for an explanation of the concept of so-called contributors. F.HEUS explains that a (nomination) on a BZB results in either a loading of a CNEC (positive contribution) or unloading of a CNEC (negative contribution).

Core TSOs highlight that the numeric examples included in the explanatory document will further support the understanding of the differences of both approaches. During the discussions with MPs, F.HEUS further explains that some potential considerations are still open, e.g. the possibility to consider both (positive and negative) contributors in both approaches or the potential combination of both (top down and bottom up) approaches in the final methodology.

Calculation outcomes and reduction periods

J. PIOŚ presents how capacities are calculated in yearly and monthly timeframes.

For the yearly timeframe, capacity is calculated with monthly granularity both for peak and off-peak hours (baseload products with possible reduction periods). Core TSOs will offer the Long-Term capacities (yearly NTCs) resulting from the yearly capacity calculations (in accordance with article 10 of the FCA Regulation) and under consideration of the Long-Term splitting rules.

For the monthly timeframe, capacity is calculated in weekly granularity both for peak and off-peak hours. Core TSOs will offer the Long-Term capacities resulting from the monthly capacity calculations (in accordance with article 10 of the FCA Regulation), reduced by those capacities already allocated to the yearly timeframe.



Questions from MPs on LTCC Explanatory document:

CNEC selection

MPs ask if Core TSOs plan to align the CNEC selection process for LTCC with the one in DACC. F.HEUS explain that this is still under discussion by Core TSOs.

Base case quality → other coordinated measures (Art 2.6.2.(2)) → application of RAs in LTCC process:

MPs remark that these are in fact tools to apply a minRAM. F.HEUS explains that this could be a possible interpretation, but states that they are mainly tools to eliminate congestions. One challenge Core TSOs face is that for each RA applied in the LTCC process, Core TSOs must ensure that this RA will be available in DA too.

MPs ask if Core TSOs plan to optimize the use of RAs across the Core CCR, or if this will be decided by each TSO individually. F.HEUS explains that the optimization of RAs like the RAO applied in the DA timeframe is not applicable for the LT timeframe. A complicating factor is that there is a risk that applying non-topological measures could decrease the NTC of another BZB because it might result in a violation of the (n-1) security principle. In general, any RA must be coordinated amongst all Core TSOs. However, if Core TSOs agree to consider the use of RA in the final LTCC methodology, clear rules to ensure a transparent process will have to be defined in the methodology to be submitted to Core NRAs.

MPs also ask if the application of topological measures would exclude the application of RAs. Core TSOs reply that generally, either both or only one can in theory be applied and that this is currently under discussion by Core TSOs.

Predefined threshold – (Art 2.6.2)

MPs request for more clarification on the concept of a predefined threshold and its difference to the minRAM as applied in the DACC. F.HEUS explains that currently the threshold mention in Art 2.5.2 is not fixed yet, but the idea of the threshold is to ensure that some capacity can be provided to the market even if the base case is already (partly) overloaded.

MPs ask for a more detailed explanation of the problems of Core TSOs arising in case more capacity has been sold than technically is available. They ask if this isn't it only a financial issue. F.HEUS replies that it is both, a technical and a financial issue. It is also a technical issue as TSOs are confronted with (n-1) violations that must be solved. Thus, they need to be reasonably conservative when applying RAs in LT already, also for the reason that RA must be available in real time in order to deal with potential RT congestions.

FRM - (page 6 of EN)

MPs ask if the proposed consideration of the FRM values for DA also in LT is just a temporary solution until Core TSOs build a reliable database for LT. F.HEUS confirms that it is currently foreseen to use the FRM values from DA. MPs would prefer to have the FRM calculated for LT based on historical data, even when the FRM for long-term will be higher than for DA. Yet, they consider it more reasonable to consider the uncertainties in the FRMs (based on "real data") than in the splitting rules. M.RUBEN highlights that Core TSOs did not cover the uncertainties from FRM in the splitting methodology.

H.ROBAYE notes that under the current process, MPs will not be able to give a formal opinion on the final version of the Core LTCC proposal since some aspects are still under discussion between TSOs and asks Core TSOs to inform them on the possibility of an updated process that would allow MPs to provide feedback on the final version.

ACTIONS Core TSOs:

- K.TREPPER to provide feedback to MPs if an update of the process allowing MPs to provide formal feedback on the final version is feasible

3. Long Term splitting rules methodology (LTSR M)

MP Platform and EFET have prepared a common message in response to Core LTSRM sent for public consultation (see below). MPs highlight the current proposal does not meet MPs' views. MPs consider that



all the available capacity should be made available to the market as soon as possible. In order to mitigate some concerns expressed during the previous discussions on the topic, MPs' ideal proposal would be to have yearly capacities offered as monthly base products in the year ahead auction already, with the possibility of block bids across several months. In addition they propose to keep the allocation of Month-ahead products based on remaining capacities (after recalculation capacities on a monthly basis).

MP proposal

- **TSOs to offer all available capacity as soon as possible (i.e. after the year-ahead capacity calculation), while relieving barriers where they still exist to secondary market**
 - ✓ More capacity allocated and a functioning secondary market mean lower risks of capacity hoarding
- The granularity of the products sold year-ahead could for instance be monthly, with the possibility to have "block bids" :
 - ✓ Both MP who only want to buy specific months and MP who want to buy a full year can do so (thanks to block bids in the second case)
 - ✓ Advantage: no arbitrary ex-ante split has to be made → the market determines the most efficient split
 - ✓ If the available capacity is not the same for all months, this can be taken into account
- Additional monthly capacity can be released closer to real time, at the monthly auctions, following capacity (re)calculation process and gradual easing of TSOs constraints as real time gets nearer

Should this approach be infeasible, at least we request the current proposed split (50/50) to be reviewed, in order to increase the percentage for the capacity that is sold during the auctions in Y-1 (in other words, to NOT withhold 50% of the capacity during several months!).

In case this is not possible (at least not in short term), MPs urge Core TSOs to increase the split ratio in a way that foresees a ration for Year-ahead closer to 100.

M.RUBEN welcomes that MPs come up with a constructive proposal for the discussion, while noting that its implementation would require numerous changes in other methodologies due to the large change of market design and auctions. He also notes that FCA requires TSOs to submit a methodology for the splitting between allocation timeframes, not for a splitting between products. MPs explain that considering Core TSOs' definition of splitting, MPs will prefer the 100/0 approach.

MPs note that the analysis of market hedging needs provided in the explanatory document (Art 5.1) does not reflect the hedging needs of MPs and the risk premium, but solely the Core TSOs' view. Core TSOs ask MPs to react in more detail to this in their response to the public consultations and to better explain what is missing from their point of view.

M.RUBEN presents the slides prepared by Core TSOs and highlights that Art 31(2) FCA requires TSOs to offer capacities also for monthly auctions.

MPs note that they do not see a difference between the CWE intraday market offering zero capacities on some borders for some hours (TSOs are not considered as being in breach of CACM for this reason) and Core LT offering zero capacities for some months. M.RUBEN answers that at least for opening ID with 0 MW at 3pm, the reason is that TSOs are still running the security checks by the time DA market results are available. Core TSOs ask MPs to clarify which article in CACM corresponds to FCA art. 31.

Discussion on 50/50 split:

Core NRAs provided clear guidance that long-term capacity should be allocated every month and that a splitting rules methodology should be designed in such a way that it maximizes the probability that monthly capacities will be offered. Also, Core NRAs are of the opinion that a 100% approach does not satisfy these purposes. Therefore, Core NRAs consider this approach not in line with the spirit of the FCA GL. H.MILIČIĆ (Lead NRA on Long Term methodologies) further explains this position to MPs and highlights that the reduction periods are important in this context. He further highlights that also Article 28(2) of the HAR states that the Allocation Platform shall organise by default one auction per month for the monthly timeframe.



M.RUBEN explains that by choosing the 50/50 split ratio, Core TSOs intend to not discriminate one timeframe. MPs remark that by proposing the 50/50 split, Core TSOs actually discriminate as the need of MPs is to cover their risk profiles as soon as possible and propose splitting through the market.

MPs ask if there are any further reasons for Core TSOs, except the breach of FCA, that justifies the necessity to provide some capacity from the yearly calculations in the monthly auctions. If not, then the solution is from their view-point straight-forward: Core TSOs shall reserve a minimum capacity to be sold in monthly auctions, or at least shall increase the amount to be sold at yearly auctions. Core TSOs confirm that the interpretation of being in breach with FCA is the only legal reason for current proposal and that they will discuss with Core NRAs the approach proposed by MPs.

MPs express disagreement with this argument, since there is no guarantee that the 50% of the Yearly calculation that have not been provided to the Year-ahead auction, will indeed be provided in monthly auctions. B.GENET (Core SG member) answers that the 50% estimation is based on the best current available information. Yearly NTCs are calculated year-ahead, half is given to the yearly auctions, and the other half will be fine-tuned closer to real time in the monthly calculations. If these 50% cannot be provided to the monthly auction. this is only because the main input assumptions have changed (Core TSOs will be transparent on why this is no longer possible). Thus, there is indeed no firmness that these 50% capacity will be offered in the monthly auctions. Also the definition of the reduction period will also impact the possibility to have capacities for each month.

Z.FELEKI explains to MPs that the preliminary outage plans are available on Nov 1st, while final outage plans are available on Dec 1st. LTCC is done on the preliminary outage plans, as waiting to the final outage plans (Dec 1st) will mean the calculations will be done too late. As harmonization of outages takes place during November, there might be indeed changes in the calculated capacities, after the yearly capacities have been calculated).

M.RUBEN explains that Core TSOs have considered different ratios based on historical data. MPs note that 50/50 is quite extreme in the other direction. M.RUBEN highlights that to his knowledge, other CCRs started with 95/5 split ratio but now are shifting back to 50/50 in discussions with NRAs. Taking all discussed restrictions into account, the intention of equal treatment between the timeframes finally made Core TSOs to come with up the 50/50.

H.MILIC asks is MPs have already responded to also other LTSR methodologies in other CCRs. MPs confirm that they responded already to public consultations in HANSA, Nordic, SWE CCRs and the informal survey in IBWT, each time with the same approach: requesting a 100%-0 ratio.

Finally, MPs ask what changes are foreseen in the input data, as the HLBP is performed first on a yearly basis, then repeated for month-ahead. Z.FELEKI responds that the default CGM are available mid-Sept (and they are the base for all calculations for next year; but own IGMs can be updated by respective TSOs) (by keeping the NPs unchanged, but change the grid topology where needed). Monthly updating in a rolling planning is up to an updated ENTSO-E process.

4. AOB and closure

K.TREPPER asks MPs if there is any platform organized between ENTSO-E and MPs to discuss the CGM implementation. MPs answers that there is no such platform, although it has been requested by MPs already in the beginning.

K.TREPPER thanks all MPs for their contributions to the discussions and asks if it would be possible for MPs to provide their feedback earlier than 10/07 so that this can be processed by Core NRAs and TSOs as soon as possible. Core TSOs will consider all feedback received for submission of the final methodologies to Core NRAs by 26/08/2019.