
POSITION PAPER BY ALL CWE NRAs on THE CWE TSOs PROPOSAL for A FB IDCC METHODOLOGY

15 September 2017

1 Context

The implementation of DA FB MC in the Central West Europe (CWE) region started on the basis of the Annex issues end 2006 of Regulation (EC) 1228/2003 of the European Parliament and of the Council of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity, repealed later by Regulation (EC) 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) 1228/2003. The establishment of a Single Day-ahead Market and Single Intraday Market in Europe is essential to achieve the European objectives of competitiveness, energy security and affordable electricity prices, as described in Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (CACM Regulation) which came into force in August 2015.

In **March 2015**, CWE NRAs approved the implementation of the CWE day-ahead flow-based market coupling (FBMC). In a jointly developed and approved position paper¹ attached to the national approval decisions of the day-ahead FBMC methodology, CWE NRAs listed a number of improvements to the approved FBMC. One of these improvements related to the stepwise development of “Intraday capacity recalculation”.

As a first step of this development, CWE TSOs proposed a coordinated ATC calculation. In **November 2015**, CWE TSOs submitted for approval a “Methodology for capacity calculation for ID timeframe”. In March 2016, CWE NRAs approved the implementation of the ATC calculation for the intraday timeframe.

In **January 2017**, CWE NRAs re-iterated the message of the position paper of March 2015, calling for the development of intraday capacity re-calculation methodology. The proposed methodology needed to be, on request of CWE NRAs, developed by end of Q1 2017 and be compliant with the general and content-related requirements of the CACM Regulation.

The focus of the improvement requested by NRAs was the recalculation of the capacities based on the latest information available.

¹ “Position Paper of CWE NRAs on Flow-Based Market Coupling” (March 2015):
http://www.creg.info/pdf/Opinions/2015/b1410/CWE_NRA_Position_Paper.pdf

This recalculation was regarded as an interim solution and seen in the context of a stepwise approach towards a flow-based calculation – as imposed in Articles 14.1 and 21 of the CACM Regulation – and in line with the requirements contained in Article 1.9 of the Annex 1 of Regulation 714/2009 on the implementation of a coordinated allocation in intraday.

On **17 February 2017**, CWE TSOs organized a workshop for NRAs, explaining the high-level principles and the general content of the intraday recalculation method, based on a flow-based intraday capacity calculation (FB IDCC). This NRA-only workshop was followed by another workshop, on **27 February 2017**, where CWE market parties were presented with the same explanations.

On **1 March 2017**, CWE TSOs launched, via the JAO web site, the public consultation of the draft approval package, including a list of questions to assess the market parties needs in relation to the development of FB IDCC.

A shadow opinion summarizing the first, informal feedback of CWE NRAs has been sent to the CWE TSOs on **31 March 2017**. CWE TSOs have incorporated this feedback in their final approval package on **9 May 2017**, which was followed by an update on **16 May 2017**.

The intraday capacity recalculation proposal is regarded as a possible fulfilment of a condition set on the existing CWE FBMC day-ahead methodology, described in the FB Approval Package (2014), the implementation of which was approved by CWE NRAs in April 2015. More specific, the proposed methodology is considered as a response of CWE TSOs to the NRA request for improvement stipulated in paragraph 9.2 of the NRA position paper in 2015.

This position paper presents the common view of CWE NRAs on this proposal. Where applicable, the position paper will be attached to the national decisions of the NRAs. As explained in Section 2.4.2 below, due to the current lack of a FB allocation to be performed by the NEMOs (MCO), issues like the intuitiveness of the results, the adequacy patch and the flow-factor competition are not covered by this position paper.

2 Analysis of the CWE TSOs' proposal

2.1 STRUCTURE OF THE PROPOSAL

The approval package consists of two parts:

- Methodology for capacity calculation for ID timeframe – for NRA approval; and an
- Explanatory note for capacity calculation for ID timeframe – for additional information.

In the Methodology part, the TSOs describe the methodology and list the inputs, the outputs, the back-up and transparency procedures of the FB IDCC.

In the Explanatory note, the methodology is explained in more detail and a preliminary assessment of the first learnings is presented. It also includes a description of the foreseen parallel run and further improvements to the proposed methodology. The Explanatory note is attached to the Approval Package for information and not for approval.

2.2 LEGAL CONTEXT

As recalled in the letter sent by CWE NRAs to CWE TSOs in January 2017, CWE NRAs consider the CWE intraday capacity recalculation proposal as a part of the CWE FBMC day-ahead proposal, described in the Approval Package, the implementation of which was approved by CWE NRAs in April 2015:

“Any improvement to the current Flow Based Market Coupling, either in the day-ahead or intraday timeframe, that is the direct result of the fulfillment of these requirements or any other short-term improvements, will be treated as an extension of the approval of the DA FB MC decision of the CWE NRAs in March 2015.”

In specific, the proposed methodology is considered as a response of CWE TSOs to the CWE NRA request for a recalculation of the capacities in intraday, as stipulated in paragraph 9.2 of the NRA position paper in 2015:

“The CWE NRAs are open to a stepwise approach, implementing in a first step ATC coordinated calculation, before implementing Flow-Based calculation at this timeframe. (...). Before these improvements are made, CWE NRAs ask for intraday capacity recalculation to be properly implemented in ATC by the beginning of November 2015. This interim solution is intended to allow for more capacity at this timeframe, taking stock of more accurate information on grid, consumption and generation patterns. “

As highlighted in the joint letter to CWE TSOs in January 2017, CWE NRAs put high value on both the speed of implementation and the quality of the methodology:

Specifically, for the development of the Flow Based Intraday Capacity Calculation methodology, NRAs confirm their common position that the quick development and implementation in the existing CWE Project should continue. The envisaged solution should, in addition to its quick implementation (in light of the upcoming methodologies in the CORE CCR) provide a sound, qualitative methodology for capacity calculation for the intraday timeframe.”

CWE NRAs repeat that the proposed methodology for FB IDCC needs to be compliant with the applicable legislation, in particular:

- **Regulation (EC) 714/2009** of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity

This was the legislative framework at the time of approval of the day-ahead flow-based market coupling and the development of the CWE NRA Position Paper. It still applies and is the legal basis for a new approval.

- **Regulation (EU) 2015/1222** of 24 July 2015 establishing a guideline on capacity allocation and congestion management

The CACM Guideline establishes that a FB IDCC methodology needs to be developed and implemented in the CORE CCR. However, taking into account the joint letter of CWE NRAs of January 2017, the early implementation of the CWE FB IDCC should be compliant with the general (i.e. Article 3) and content-related (i.e. Article 20 – 26) objectives of the CACM Guideline:

(...) while any improvements to the current CWE FBMC methodologies will be treated as an extension of the original approval, CWE NRAs insist that any improvements have to be compliant with the general and content-related objectives of the CACM Regulation.

2.3 GENERAL COMMENTS AND ASSESSMENT

CWE NRAs note that TSOs have difficulties with the implementation of FB IDCC and see that this has consequences for the components of the proposal. Given this circumstance the CWE NRAs are sufficiently satisfied with the proposal submitted by CWE TSOs for FB IDCC. However, NRAs expect future improvements of the proposal to ensure future compliance with the relevant Regulations. Therefore CWE NRAs request CWE TSOs to improve the proposal in the necessary areas within as is set out by CWE NRAs in this position paper.

The described method provides one recalculation of the capacities cross-zonal exchanges just after day-ahead market coupling. This recalculation is based on the DACF files and thus includes the most accurate information on load and generation available to TSOs at that point in time. From this perspective, CWE NRAs consider that the recalculation method addresses the request for intraday capacity recalculation, set out in paragraph 9.2 of the CWE NRAs Position Paper.

CWE NRAs consider the implementation of the proposed intraday capacity recalculation method as an extension of the current CWE FBMC - and request clarification on the elements outlined below (§2.3.1 – §2.3.4). CWE NRAs expect these clarifications in an updated approval package 3 months ahead of the go-live date (see below).

CWE NRAs request a fast implementation of the methodology which should provide more capacity for cross-zonal exchange in the intraday framework as awaited by the market participants. Taking note of the project Gantt-chart included in the explanatory note, CWE NRAs ask for a go-live before October 1th of 2018.

The proposed methodology however risks future non-compliance with the applicable EC Regulations. Section 2.4 of this joint position paper includes a non-exhaustive list of identified elements for improvement with associated deadlines.

CWE NRAs expect CWE TSOs to take a pro-active role in developing and implementing these and other improvements at CWE level, in order to be compliant with the EC Regulations so that this methodology can be seen as an possible early implementation towards the Core FB capacity calculation method for intraday.

2.3.1 Flow based domain calculation

To maximize cross-border capacity while safeguarding grid security, improving forecast accuracy and reducing uncertainty are essential.

In intraday, the calculated flow-based domain shall be more accurate and less conservative than in day-ahead, since more information and improved forecasts are available and capacity calculation is closer to real-time.

With the intraday FB CC method proposed, i.e. the recalculation of the flow-based domain using the DACF files, the accuracy is increased compared to day-ahead FB CC based on the D2CF files.

CWE NRAs ask CWE TSOs to confirm that DACF files include:

- the updated GSKs – based on the results of the DA market coupling;
- the updated PST tab positions and Grid topology;
- the updated load and RES forecasts; and

- the remedial actions updated after the DA MCP inclusion so that they include RA already used for the DA FB domain (i.e. in the case of LTA-inclusion)

CWE NRAs ask to explicitly list all improvements achieved through the recalculation in DACF compared to D2CF.

2.3.2 FRM calculations

The uncertainty for the TSOs to be hedged against at the intraday time stage is different from the uncertainty to be hedged against in the day-ahead market coupling. CWE NRAs refer to the Consultancy Group Meeting, held in Brussels in March 2017, where CWE TSOs proposed to take 70% of the Flow Reliability Margin (FRM) used in day-ahead as the FRM in intraday.

It is not clear, from the proposed method description that the potential for reduced uncertainty is included since the description of the FRM calculation methodology of the proposal is the same as for day-ahead. This concern is also shared by market participants.

CWE NRAs ask CWE TSOs to confirm that new FRM values used in intraday are calculated on the basis of DACF-files and will correspond to a reduced uncertainty compared to D-2, as announced in the Consultative Group Meeting of March 2017.

CWE NRAs also ask CWE TSOs to include a description of the post-processing of the data. The description should include a.o. if the FRM applies to a CB or to a CBCO, which flows are used (N, N-1, average/max...) and the applied risk levels. Harmonization is strongly recommended. Where no harmonized values or rules are used, the TSO's are asked to describe the TSO-specific values or rules.

2.3.3 Use of Remedial actions

The Remedial Action Optimization (RAO) is not sufficiently described, a concern which was also raised by market participants. In specific, the description lacks:

- the list of Remedial Actions (RA) considered for coordinated use;
- the methodology used by each TSO to determine which RA will be included in the RAO;
- the mathematical formulation of the optimization problem, with the description of objective function, constraints and optimization variables;
- the description of the optimization algorithm and software used; and
- an explanation on why costly RAs are deemed necessary and – if so - how and at which step of the process they are intended to be used.

The formulation of the RAO should be such that the use of coordinated and local RAs can clearly be attributed to the congestions which are solved by the RAs.

As noted by market participants during the consultation phase, it is expected that re-dispatching measures taken to include the DA MCP in the DA flow-based domain (i.e. in the case of LTA-inclusion) are already taken into account in the DACF files, so before the calculation of the intraday FB domain. As a consequence, the use of coordinated RA in the RAO should not be steered towards including the DA MCP, but towards increasing the size of the ID FB domain.

2.3.4 Validation of capacity

CWE NRAs do not consider ‘unforeseen market behaviour’ as a Security of Supply issue which can be handled as force majeure. Force majeure is a well defined situation and every capacity reduction made for force majeure reasons should be duly justified by the TSOs and reported to NRAs.

2.4 EXPECTED IMPROVEMENTS

This (non-exhaustive) list of requests mainly focuses on improving the submitted proposal to ensure future compliance with the following articles from Regulation 714/2009.

Article 16.3 provides that “The maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation.”

And

Article 1.7 of Annex 1 provides that “When defining appropriate network areas in and between which congestion management is to apply, TSOs shall be guided by the principles of cost-effectiveness and minimisation of negative impacts on the internal market in electricity. Specifically, TSOs shall not limit interconnection capacity in order to solve congestion inside their own control area, save for the above mentioned reasons and reasons of operational security”.

CWE NRAs assess that the current proposal has a risk of non-compliance with the above articles. Introducing the improvements detailed below is necessary to address this risk. CWE NRAs will monitor the quality and pace by which CWE TSOs implement these and other improvements to the method. As indicated below, NRAs request for each improvement a detailed plan of implementation.

2.4.1 Improvement of the flow-based parameter “inputs”

For most flow-based input parameters, the proposal suggests that the same methodology is used for intraday as for day-ahead. As a consequence, concerns of non-compliance with the applicable regulations, raised by NRAs on the FB DA MC methodology, also apply for the FB IDCC methodology.

First, as stated in the common CWE NRA position paper of 2015, the methodologies adopted for defining the following parameters does not exclude discrimination between internal and cross-zonal trade, leading to market distortion and inefficiency. In this respect, we recall the main of points for reconsideration:

- the 5% PTDF CBCO selection rule;
- the use of external constraints, if not justified by the CACM Regulation; and
- the use of positive FAVs, which should be exceptional.

Second, dynamic assessment of the thermal line limits is indispensable to achieve the objectives of maximizing the capacity available to the market and guaranteeing grid security. The use of Dynamic Line Rating (DLR) – especially in intraday – is therefore considered a quick win. The current proposal is vague and several methodologies for the determination of I_{max} remain in CWE. CWE NRAs

encourage CWE TSOs to evolve towards dynamic assessments of I_{\max} using DLR technology, including transparent and harmonized rules for post-processing the DLR forecasts.

Pursuing the use of the current flow-based parameter definitions will result in very small or even empty flow-based domains – as is the case with the day-ahead flow-based domain.

All methodological improvements on the flow-based parameter inputs reached at FB DA level, shall be translated as soon as possible to the FB ID level, with a maximum time delay of 6 months.

2.4.2 Flow-based allocation

According to the proposal the transmission capabilities available on critical branches are translated in intraday in ATC-values. This is suboptimal compared to using the flow-based domain. TSOs are requested to closely collaborate with the XBID project to realize that the full flow-based domain can be used as soon as possible for market coupling.

1 year after the go-live of FB ID CC, CWE TSOs shall deliver a report of the work done and progress made towards the implementation of FB ID MC.

2.4.3 Increased number of recalculations (hourly)

Being able to include updated load and RES generation forecasts closer to real-time is essential for grid operation in case of distributed and renewable energy sources. These updates – and corresponding recalculations - will become ever more important given increasing share of distributed and renewable energy sources - and as such essential to achieve the renewable energy targets in a cost-efficient way.

In order to provide the maximum capacity of the network, multiple recalculations are needed using the IDCF.

Current proposal lacks a description of the means needed – and a project time line - to proceed towards multiple recalculations per day. The means should take into account coordination issues and technical issues, amongst which:

- intraday coordination between TSOs;
- intraday coordination between TSOs and market coupling operators; and
- data communication and IT-framework.

For these recalculations to effectively translate into more available capacity given the same level of risk, improved accuracy of the load forecasts shall be obtained, as ID CC takes place comes closer to real-time. TSOs are invited to indicate which measures they take with respect to:

- the IDCF;
- load and RES forecasting algorithms; and
- generation forecasts and/or scheduling rules.

Finally, TSOs are asked to deliver a roadmap including a deadline for the implementation of multiple recalculations using the IDCF.

1 year after the go-live of FB ID CC, CWE TSOs shall deliver a report of the work done and progress made towards the implementation of multiple recalculations, together with a project roadmap.

2.4.4 Optimization of the FRM through improved intraday forecasting accuracy

The improvements in the intraday common grid model will reduce uncertainties closer to real-time. This reduced uncertainty should be reflected in the significant lowering of the FRM values.

1 year after the go-live of FB ID CC, CWE TSOs shall deliver a report of the work done to reduce the FRM, together with a project roadmap for continuous improvement of forecast accuracy and uncertainty reduction.

2.4.5 Earlier IDCZGOT

CWE NRAs consider an earlier IDCZGOT (21:00 D-1) as possible improvement. CWE TSOs are asked to consider how this can be implemented.

CWE TSOs shall make their best efforts to be compliant with GOT as approved in the CACM proposal. 1 year after the go-live of FB ID CC, CWE TSOs shall deliver a report on the actions taken to anticipate or reduce the calculation time.

3 Conclusion

The proposed methodology for recalculation of the cross-zonal capacities in intraday, is considered as a progress towards completion of the CWE FBMC methodology. This intraday capacity recalculation was requested by CWE NRAs in their joint position paper and its submission is welcomed by the CWE NRAs. The aim of the request, which is considered as an interim solution towards a fully CACM Regulation compliant flow-based approach, is a quick implementation to provide more capacity in the intraday framework.

CWE NRAs welcome the implementation of the methodology proposed by CWE TSOs for the recalculation of the intraday capacities, but point out that the clarity and transparency of the description of the input parameters should be improved in accordance with what is indicated in section 2.3 of this position paper. CWE NRAs expect these clarifications in an updated approval package before the start of the parallel runs.

CWE NRAs acknowledge the difficulties with a short-term implementation of FB IDCC and see that this has consequences for the components of the proposal, but repeat that improvements as stated in section 2.4 are needed to ensure future compliance of the methodology with EC Regulation 714/2009 and the CACM Regulation. CWE NRAs encourage CWE TSOs to take a pro-active and ambitious attitude to fulfill these legal obligations in the future.