



Date: 17<sup>th</sup> September 2014

## CWE Flow-Based Market Coupling

**Subject:** Additional NRA requirements for Go Live

Dear National Regulatory Authorities,

Following the outcome of the public consultation led by the NRAs in June 2014 based on the NRA approval document dated 9<sup>th</sup> May 2014, NRAs requested the investigation of additional data publications and further simulations (specified in the Email of the CWE NRAs of 18<sup>th</sup> July).

Some requests have already been fulfilled via the binding update of the approval document dated 1<sup>st</sup> August 2014.

Please find hereunder the project's answers for the remaining requests following thorough investigation:

### **Intuitiveness / Euphemia**

#### **NRA requests:**

- A) Proposal to Go-live with FBI
- B) New annex explaining functioning of Euphemia / intuitive patch
- C) Assurance that intuitive patch is not endangering Euphemia performances
- D) Study whether FBI patch as an extra constraint has significant impact on the algorithm convergence / performance
- E) Comparison of welfare difference in FBI if Euphemia runs for 10 minutes or for 2 hours
- F) Study whether FBI has an impact on the amount of Paradoxically Rejected Bids
- G) Monitoring of FB plain after Go Live for potential reassessment
- H) Confirmation in the Approval Package that Euphemia is ready and up for the task of running with the current CWE FB MC design.

**Project answer:** The project has provided the requested information for A)-D) and G)-H) in the additional annex 16.18 to the approval package, submitted to NRAs on August, 1<sup>st</sup>.



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#### **The comparison of welfare difference in FBI if Euphemia runs for 10 minutes or for 2 hours (F):**

In the consultation, MPs asked if it is possible to get the assurance that Euphemia provides the same welfare results with FBI, being of higher complexity. The Project can give this comfort based on the parallel run simulations for FB and FBI: the FB results provide an upper bound on the welfare that can be obtained under FBI. Since parallel run did not identify significant differences between the FB and FBI results, this indirectly confirms the efficiency of the “intuitive” patch.

#### **Study whether FBI has an impact on the amount of Paradoxically Rejected Bids (G):**

The study will be published end October 2014 latest. It should be noted however that the algorithm does not aim per se at minimizing the number of PRBs but at maximizing social welfare. The number of PRBs may not be a relevant quality indicator.

#### **Shift of the yearly 2015 auctions**

NRA request: To look into moving the yearly 2015 auctions in time (enough after the possible decision of go-live; except for the first auctions on Dutch borders) so that the go-live decision can be taken on board for the participants in the auctions.

Project answer: The CWE TSOs will use all existing flexibility to support Market Parties in this respect, taking into account the following restrictions based on legislation / the Dutch grid code:

- *The first Yearly Auctions on the DE – NL and BE – NL Borders take place on a Working Day, between the 15th September and 15<sup>th</sup> October.*
- *The second Yearly Auctions on the DE – NL and BE – NL Borders take place on a Working Day, between the 15th November and 15<sup>th</sup> December.*

The Project will check the postponement of the second auctions (DE-NL, NL-BE) from 4<sup>th</sup> December 2014 to 9<sup>th</sup>-12<sup>th</sup> December 2014. Furthermore the feasibility to shift the yearly auctions for DE-FR, FR-BE, not scheduled yet, to 9<sup>th</sup>-12<sup>th</sup> December 2014 will be checked. In case of technical feasibility and OK from CASC, the proposal will be offered to the MPs in the Flow Based user group on 30<sup>th</sup> September.

#### ADDITIONAL SIMULATIONS

##### **Fallbacks**

NRA request: To create test scenarios on Fallback operations and to communicate test results in order to assess TSOs' ability to provide these parameters in tense situations and to see what the results could be.



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Project answer: The project TSOs would like to underline that this kind of arbitrarily created Fallback scenarios need to be taken with caution regarding the representativeness of simulation outcomes.

In order to prove the operational feasibility of TSOs' Backup and Fallback solutions, the project TSOs proposes simulations for two arbitrarily chosen business days of the daily external parallel run.

For the first selected day instead of FB parameters based on a normal process, spanning will be triggered and for the second day default FB parameters will be used and results for both days will be published. The selected days will be announced in advance to the market and simulation results will be published with the correspondent explanation on CASC website. Please bear in mind that the normal FB capacity calculation process will not be followed on those days, since operators will switch to a fall back mode (and that a "triple run" is practically not feasible). In order to see whether this is acceptable for and in line with MPs' expectations, the idea will be submitted to the FBUG on September, 30<sup>th</sup>.

#### **Typical winter days and impact of long-term evolutions**

NRA request: To provide scenarios / reference days for market players' operational needs: typical days and impact of long term evolutions in the system (new infrastructure) as well (when necessary information on these evolutions are ready for CWE Project Partners). CWE NRAs specifically expect various reference days for low temperature days.

Project answer: The project would like to remind that a proposal for the simulation of typical days has been made to Market Parties during the last FBUG on March, 27th which has been considered of not much help by the market.

Concerning the impact on long-term evolutions, this specific knowledge is not available within the project and would require the implication and specific expertise from dedicated internal TSO departments. As resources are scarce to perform additional studies which should then fully meet Market Parties' needs, the project proposes to further discuss the approach together with Market Parties and NRAs during the FBUG on 30<sup>th</sup> September. At this stage, CWE TSOs would like to emphasize that the notion of "typical day" is ambiguous and cannot by itself lead to a concrete workplan on which project parties could commit. Consequently, any concrete progress in this initiative is pending on the active contribution of market parties, in terms of scenario identification and sharing of hypotheses. Based on this, CWE parties can obviously not commit to deliver definitive studies before the Go Live target date. In brief, commitment to actively work on this topic is granted, pending on the constructive involvement of market parties especially via the User Group.

#### **Re-computation of missing parallel run days**

NRA request: CWE NRAs also expect to calculate the FBMC results of the missing days to provide references for these days. These data should be available for mid-October.



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Project answer: The project TSOs assessed each of the missed parallel run days regarding its respective cause to check if re-computation would be feasible based on the related mitigation that is available now or after the Technical Readiness. To the exception of April 9<sup>th</sup> (that will be recomputed ex-post), for all days, coordination/qualification/verification would need to be simulated, which is not feasible or highly arbitrary. Therefore it has been decided to provide results based on default FB parameters for these instances. The ex-post publication will be available on CASC website beginning of October latest.

The project-TSOs would like to remind that the risk of reoccurrence of missed days with technical issues as root cause is significantly lowered due to increase in support and availability of mitigation measures in the current version of the TSO Common System. The need to rely on default FB parameters can therefore not be concluded since less operational safeguards were available at moment of occurrence; an older version of the system was used without the full range of availability mitigations and support. It can be expected that the vast majority of technical issues will not occur or can be mitigated early in the process to ensure the provision of normal FB parameters.

#### **Explanation on impact of LTA inclusion on CBs and welfare**

NRA request: To further explain the impact of LTA inclusion on CBs and welfare. CWE NRAs specifically expect an analysis of the ensuing “virtual CBs” that do not enter the 5% rule and on situations where these virtual CBs are the limiting constraints.

Project answer: In the parallel run performance study (addendum to the “Special investigations on Market Surplus losses/ 1<sup>st</sup> August 2014”), foreseen for end of September an additional section will be added aimed at explaining background information on the LTA inclusion. This section will especially include better statistics and justification for the usage of LTA coverage, as well as an assessment more focused on the actual market impact. This market impact will include, but is not limited to, the scenario where all LT rights are nominated.

#### **Impact on Intraday**

NRA request: CWE NRAs also ask the CWE FBMC Project Partners to give a measurement of the impact of FB MC on the combined timeframes of day ahead and intraday: in terms of expected welfare impact and Net export / import possibilities (DA & ID together).

Project answer:

If the ID capacity is assumed to be the ‘left-over’ capacity of the DA timeframe, which is not true as the TSOs have an operational procedure to adjust the ID capacity bilaterally during the day, one can explore the combined DA + ID capacity capabilities by looking at the capacity domains before the DA allocation.

The project investigated, in line with the analysis performed by CREG, the hourly ATC and FB domains of 2013.



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The maximum import and export positions feasible given the ATC and FB domains have been assessed and compared (results have been provided to the NRAs in September). From this comparison one can see that the import and export potential under FB exceeds the possibilities provided by ATC for all hubs.

Please note:

- The resulting numbers are the non-simultaneous maximum import and export possibilities provided by the FB domain compared with the simultaneous maximum import and export possibilities provided by the ATC domain (i.e. under FB, a maximum import for BE may only be possible at a certain export position of FR).
- It is the combination of capacity domain and order books to make these maximum /export positions happen; from a capacity domain point of view, the values are feasible.
- The latter also implies that if the maximum import and export positions feasible under FB are reached by the market, while they are not possible in an ATC mechanism, that the market welfare established under FB will be higher than under ATC.

As mentioned in the expert call of 4<sup>th</sup> September, CRE internally also analyzed this issue and comes to similar findings as the Project.

Finally, CWE TSOs confirm their commitment to put in place a more advanced capacity calculation process for the ID timeframe, for which an indicative roadmap has already been proposed. However, please bear in mind that progress on ID belongs to another project for which dedicated exchanges within the Expert meetings already exist.

### **Analysis of positive welfare days**

**NRA request:** To provide, in addition on the report on all negative welfare days reports on some specific positive days.

**Project answer:** It is indeed foreseen to include the analysis of positive welfare days for 4 already selected days by Market Parties in the second parallel run performance study in a similar manner as for the negative social welfare days. The publication of this report is foreseen for the end of September.

### **Impact of FB on generation/demand adequacy**

**NRA request:** to perform a study on link between FB and short term generation/demand adequacy

**Project answer:** Project parties fully understand and share the concerns related to generation adequacy, and its potential link with FB implementation. Consequently, a study will be proposed in order to assess the respective import capabilities of CWE hubs in ATC and FB, and, if possible, how the realization of these potentials could be affected (positively or negatively) by the implementation of FB. CWE partners will make their best effort to deliver the study Mid October 2014.

As discussed the expert call of 4<sup>th</sup> September 2014, the study will follow the concept below:



Conceptual approach:

- explanations related to the “brown out concept” (curtailment of price taking orders in some hubs) and how the optimization principles in ATC and FB could play a part in such situations

Quantitative approach:

- Studies on the “import potential” and “realized imports” in Belgium (ATC vs FB) over the parallel run history
- Analysis on the CBs active during the parallel run (statistical PTDF analyses)
- Market couplings simulations: useful scenarios to be discussed

TSO operational approach:

- Winter overview in CWE
- Measures taken to cope with extreme cases and assessment of robustness towards FB implementation

## COMMUNICATION TO MARKET PARTIES

### **Communication about changes in the methodology**

**NRA request:** To notify market clearly of every change in the FBMC methodology and in the way it is applied.

**Project answer:** In line with NRAs’ request, the project has stated in the approval package that “Changes in the CWE FB MC methodology will be published” (see update of chapter 14 of the approval document).

### **Project answers on the Q&A forum**

**NRA request:** To answer all questions on CASC forum in an appropriate time, and at least make an acknowledgment of receipt quite quickly for the most complex ones, before taking more time to handle them.

**Project answer:** The project repeats making best efforts to answer Market Parties’ questions on CASC website as quickly as possible but would like ask for some patience in case of complex questions which need time to be analyzed, discussed and validated before they can be published.

### **Creation of Stakeholder Committee**

**NRA request:** To create, after go-live, a stakeholders committee (with NRAs to join) that will be consulted before implementing new changes.

**Project answer:** The project confirms its interest in the creation of a Stakeholder Committee after Go Live and will propose and discuss the concept in the FBUG on 30<sup>th</sup> September 2014.

*This letter has been written under the November 2014 Go-live planning/ assumption.*



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### **Outcomes of FBUG meetings**

**NRA request:** In general, CWE NRAs expect that promises made to market parties at FBUG level are to be kept. CWE NRAs expect the CWE FBMC Project Partners to leave no open issues regarding clarification of the proposals in the minutes of the FBUGs.

**Project answer:** Project partners welcome to clarify any remaining doubts about FBUG minutes and actions towards MPs during the FBUG meeting on September, 30<sup>th</sup>.

### **Available data and publications**

**NRA request:** To make an easily accessible and commented overview where to find the most relevant topics in the different documents and presentations and the data that are public and give a link to each of these elements

**Project answer:** The project would like to refer to CASC website where all data (<http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Publication-CWE-Flow-based-External-parallel-run>) and documents (<http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Documentation>) are published.

The only missing documentation (complete Euphemia description) is out of the scope and (complete)property of this Project. However it can be simply found in the internet.

## DATA PUBLICATION

### **Publication of base case information**

**NRA request:** To publish base case information of the FBMC (reference day, NEX, adjusted demand/ supply) since the beginning of the daily parallel run. The details of these data publication (type, timing) should be described in the Approval Package.

**Project answer:** In line with NRAs' request, the project detailed in chapter 10.4 in the final approval package submitted to NRAs on August, 1<sup>st</sup> the foreseen publication of aggregated information related to the D-2 common grid model on a monthly ex-pots basis. The start of this publication is foreseen for end of 2014.

### **Publication of ex-post redundant CBs**

**NRA request:** To publish ex-post redundant CBs.

**Project answer:** As explained in the final approval package submitted to NRAs on August, 1<sup>st</sup>, the project commits to publish all monitored CBCOs ex-post with fixed anonymous IDs.

Due to technical limitations, this publication cannot be guaranteed for Go Live and is rather foreseen for Q1 2015. Details of the publication are subject to further discussions with Market Parties in the FBUG.



### **Transparency on maintenance of CBs**

**NRA request:** To be fully transparent on maintenance of CBs

**Project answer:** Transparency on maintenance of CBs will be provided by the implementation of the central ENTSO-E transparency platform. If maintenance should have a market impact > 100 MW it will be published, following art. 10 of EU Regulation -543/2013.

### **Easy data retrieval after Go Live**

**NRA request:** To publish all data that will be published after Go Live in the same format as before Go Live. The issue of publication either on CASC website or on the ftp server should be discussed at the next flow based used group. CWE NRAs call for the easiest and more automated access to data my market parties.

**Project answer:** The project will clarify the question of publication places and formats after Go Live during the next FBUG on September, 30<sup>th</sup> and welcomes Market Parties' feedback in order to facilitate the retrieval where possible.

### **Publication of SA ATCs**

**NRA request:** CWE NRAs expect the problems with shadow auctions ATC publication to be solved.

**Project answer:** The project TSOs apologize for the delay in publishing the corrected data of SA ATCs and is glad to announce that the issues in the publication of Shadow Auction ATCs on CASC website have been fixed since the beginning of September. The publication, including ex-post data, is available again.

### **Publication of static grid model**

Each TSO will bilaterally answer the letter of his NRA.

## MONITORING

### **Continued comparison of a proxy ATC and FBMC after Go Live**

**NRA request:** To continue comparison of a proxy ATC and FBMC after Go Live of FB MC, at least during the rollback period. NRAs have proposed for instance to take average monthly NTC. This comparison would make it possible to assess whether Flow Based is still better than ATC when taking on board market players' new bidding behavior. With such a proxy NTC, this can be done more easily than by asking the project to make a pure reverse parallel run.

**Project answer:** CWE TSOs do not share NRAs opinion that a realistic "ATC proxy" can be derived easily. Especially, comparing FB outcomes with average values might be confusing since it is the very object of FB to adhere to changing physical conditions. In addition, the monthly NTC values are in some cases a significant underestimate of the ATCs that could be offered to the market.

The certainty that FB is performing better than ATC has to be reached during the parallel run.





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Nonetheless, project parties fully understand, and share, the concern of NRAs that FB performance needs to be continuously controlled. In that light, project parties confirm their commitment to deliver an extensive monitoring framework, that will be proposed in the “parallel run performance report” at the end of September.

### **Stable parallel run**

**NRA request:** To have parallel run results with unchanged method for a long enough period of time

**Project answer:** Following annex 16.1 of the approval document the recent and last change was made on 12<sup>th</sup> February 2014 (LTA-coverage). Since this date there have been only 6 missing days, meaning a stability of nearly 97% up to today. The Project-TSOs confirm that no further methodological changes with impact on FB MC results are foreseen to be implemented before Go Live.

The project hopes that these answers give the needed comfort and appropriate information regarding the way it intends to address the requests by to NRAs, in particular in respect of the provision of that CWE TSOs and PXs will provide further simulations results and ensure data publication in order to get formal NRA-approval of the FB MC methodology End November 2014.

Yours sincerely,

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