CWE Flow-based Market Coupling
Q&A

Flow-Based Methodology

Base Case assumptions

3/5/2013 1:05:34 PM

The results of FBMC depend on the assumptions in the base case. The (un)availability of a large power plant close to a border will impact the preloading of the critical branches in the base case as well as the Generation Shift Keys. Can the project produce some sensitivity results for this phenomenon? For example, by calculating the market results for one day for several cases all with a different set of base assumptions (where these assumptions are being made fully transparent).

4/11/2013 1:35:22 PM

First of all, CWE partners would like to remind that assumptions in the base case do not arise with FB, but are already a fact under ATC based market coupling.
In terms of security of supply, “unfavorable” hypothesis (situations where TSOs would overestimate available margins because of wrong assumptions in the basecase) are covered by FRM values. From a market perspective, unfavorable hypothesis (underestimation of available margins) cannot be compensated, as this would be unacceptable from a security of supply perspective.
TSOs are simply making the best forecast possible, on the basis of available information, while taking necessary yet sufficient security margins (for which the assessment is explained and submitted to NRAs’ formal approval).
Performing the analysis proposed in the question is technically feasible, but CWE partners are concerned by the actual usage and possible interpretation of the results, especially if they stem from a limited, not representative, sample. Performing a thorough, representative, statistically feasible, sensitivity analysis on hypothesis made in the base case is a huge initiative, probably not conceivable given the project resources and time span.
For all these reasons, CWE partners would challenge the true added values of such analyses, but remain open to a continuous dialogue on this matter, especially with respect to the potential learning and usage of subsequent results which are expected on the market side.

Internal lines as critical branches

3/5/2013 1:07:25 PM

It has been proposed to allow for labeling of internal lines (so not interconnectors) as critical branch. By doing so, the cross-border exchanges (or the net day-ahead import/export values per bidding zone), will be influenced by internal congestions. It also means that alternative congestion management measures (like redispatch) to manage the potential congestion on these internal lines, will be ignored. Such practice might not in all cases be compliant with EU regulations. To allow for this practice it seems necessary that TSOs show that the congestion costs caused by labeling internal lines as critical branches are below the congestions costs in case of redispatch. Can the project show the congestion costs caused by labeling internal lines as critical branches? This can be done by showing the total day ahead economic surplus for two cases (one case with the internal line and one case without the internal line as critical branch). This exercise can be done for some days and for all internal critical branches individually.

4/11/2013 1:37:50 PM

In a meshed grid, [u]both[/u] internal lines [u]and[/u] interconnectors are influenced by [u]both[/u] internal trades (local consumption and production) [u]and[/u] cross-border trades.

In terms of congestion management under FB, this split between “internal” and “external” critical branches is artificial, as there is an integrity of the meshed grid. FB is about the modeling of the elements which are impacted by cross-border trades (and could therefore limit their amount), notwithstanding their status/localization which technically does NOT matter. In brief, FB takes into account the fact that congestions do not necessarily happen at borders between bidding areas only. For this reason, TSOs have derived a threshold of significance, at which point a given element of the grid, whatever its status, can be considered a critical branch. This threshold is set at 5%, which does NOT mean that cross-border trades account for 5% of their load, but that 5% of these trades (which can represent several thousands of MW) result in physical flows on these CBs (which total capacity can be limited to a couple of hundreds of MW). Therefore one can see that cross-border trades can easily reach a significant amount of the total capacity of the considered lines.

4/11/2013 1:38:13 PM

In any case, TSOs have the obligation to be efficient in this capacity calculation exercise, which implies not only to consider an optimal range of remedial actions, but to organize adequate coordination in their deployment as well.
The study envisaged in the question makes sense, but would also require a significant effort in which project partners cannot commit today. Besides, it has to be reminded that the analysis would mainly have an interest in the conceptual field, as in practice TSOs, while performing capacity calculation in D-2 and D-1, do not have the knowledge of units availability and prices, and are therefore not in a position to perform a full optimization analysis between various congestion management measures.

Current preference between FBMC and FBIMC

5/7/2013 12:36:12 PM

I notice in the conclusion section (1.5) of the FBMC Economic Assessment that the parallel run indicates only a slight loss of aggregate economic surplus in a relatively small proportion of hours. As discussed in the report and market forum, there is a trade-off between a loss of aggregate surplus for some of the perceived benefits of intuitive market results.

Is there any consensus emerging within the coupling partners (TSOs+PXs) preferring either the intuitive or pure variants of the algorithm? Is there a target date the the final decision being made?

Thanks and regards,

Adam King

6/3/2013 1:22:09 PM

Under [b]plain Flow-Based market coupling[/b] [b](“FB”)[/b] it is possible that a flow occurs from a higher price region to a lower price region if this increases the total welfare of the region. Thus, “non intuitive” situations can happen as the methodology aims at regional day-ahead market welfare optimization, and local counter flows (energy flowing from an expensive hub to a cheaper one) can be observed if they allow superior exchanges on other borders.
Under [b]Flow Based intuitive market coupling (“FBI”)[/b], the algorithm suppresses this behavior to the detriment of the regional welfare.
Please find extensive analysis in the Intuitiveness Report published in June 2012 on this link:
http://www.casc.eu/media/CWE%20FB%20Publications/CWE_FB-MC_intuitiveness_report_v2_clean.pdf

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6/3/2013 1:22:19 PM

Flow-Based market coupling parallel run is currently simulating both possibilities in order to assess the difference between FBMC and FBIMC.
All parallel run market simulation data is provided with results showed for the two variants in order for the market to be able to observe possible differences in results obtained with the plain FB variant and the one obtained with usage of the “intuitive patch”.
CWE FB MC project partners are in principle indifferent towards either variant. The selection of one or the other variant for go-live will be made notably on the basis of market participants’ and national regulators’ feedback. As part of the formal consultation process, market parties are questioned in the online Survey about their preference regarding intuitiveness. We encourage market parties to clearly state their preference for plain (FB) or intuitive FB (FBI). The outcome of the public consultation will be evaluated by project partners and communicated to regulators. The final decision will be made following this process.

ATC vs FB

6/6/2013 1:03:31 PM

Why is the ATC solution not always feasible under FB?

6/6/2013 1:16:41 PM

The two methods are independent and ATC is not the starting point for FB computations. Covering the ATC domain is therefore not an objective per se. Some trades are no longer possible under FB but in the same time the market can explore another area which on the contrary was not feasible under ATC. It has also been stated that the optimization of the FB operational process and tools is not achieved yet, but will be delivered before the Go Live.

ancillaries-reserve / must-run units

6/6/2013 1:05:26 PM

How do the TSO cope with ancillaries-reserve and must-run units? Is this managed before or after the clearing?

6/6/2013 1:15:37 PM

This aspect will not be changed by switching from ATC to FB.
In D-2, TSOs do not have the exact generation pattern. The GSK approach can be divided into two parts:

1) What are the units inside the GSK? (all units which are “on” in the basecase within the day, can vary from one day to the other, but no manual adjustments are performed)

2) What is the rule to move the GSK according to the changes of the net positions of the countries?

GSKs and the basecase are built in such a way that min/max exports respect the constraints of the

units. Ancillaries-reserves are therefore somehow considered in the model. However, different TSOs have different generation patterns resulting in slightly different GSKs in terms of operational application, even if the overall method is commonly agreed. The detailed method for each TSO will be justified and submitted to regulators. Each regulator will then monitor the implementation at the local TSO level.

Reference node

6/6/2013 1:07:15 PM

The PTDF are published compared to a reference node or hub. Is this the same used every day in the parallel runs?

6/6/2013 1:14:03 PM

The node is fixed based on predefined rule. It can potentially vary. In case a different hub was chosen, the hub to hub ptdf would be the same and consequently the market outcome would not be affected. Indeed, the node itself has no influence on market coupling results, thanks to the linearity of the model.

Labeling of critical branches

6/6/2013 1:09:13 PM

How do you prevent TSOs to push internal congestions to the borders by labelling internal lines as critical branches?

6/6/2013 1:13:22 PM

The situation is not going to change with the switch from ATC to FB. It is up to the regulators to monitor this behavior and FB simplifies somehow this surveillance.
Objective rules are developed by TSOs as for example the 5% threshold below which a line cannot be labeled as critical and is not be taken into account for the crossborder flow computation. The split between internal and external lines is not significant more in this CB selection process.

Formal questions on the "CWE Flow Based MC solution" report

10/31/2013 11:09:25 AM

1.a) Can you explain the rationale behind (page 65 of 125):
margin(i+1) = margin(i) – pPTDF_z2z * MaxBilExchange
Something like:
margin(i+1) = margin(0) – pPTDF_z2z * MaxBilExchange
or
margin(i+1) = margin(i) – pPTDF_z2z * min(IncrMaxBilExchange)
Would look more intuitive to me.

1.b) Similar question for page 76 of 125

11/14/2013 8:08:58 AM

1.a) You are perfectly right! Apologies for the confusion caused. The following formulation is the correct one:
margin(i+1) = margin(0) – pPTDF_z2z * MaxBilExchange

1.b) Indeed, being the same principle applied, the same holds true for the algorithm of the SA ATC.

11/14/2013 8:09:27 AM

2) How can you have negative RAMs once the process for RA eand LTA inclusion check is operational?
See page 62 of 125 “curtailed to zero margins in case of a negative RAM"

11/14/2013 8:10:41 AM

2) The situation with a negative RAM is not likely to occur. Indeed, you can check from the data published on the CASC website (utility tool) that during the parallel run hardly any occasion with a zero margin occurs. We would like to underline that at the moment of writing this answer (November 14), TSOs are still operating prototype tools. In this tooling, the LTA inclusion is not yet part of the process. It is part of the process when the industrial tooling is in place.

11/14/2013 8:10:55 AM

3) Are the terms “zone” and “hub” used consistently in your publications?
To me “zone” = FR, DE, BE, NL and “hub” = the abstract reference point.
But for example:
"all profitable deals resulting from the matching of bids and offers in the coupled hubs of the PXs are executed" (page 100 of 125) "The German TSOs have to provide one single GSK-file for the whole German Hub" (page 32 of 125)

11/14/2013 8:11:08 AM

3) The terminology appears to be mixed up in the process of writing a document with so many people involved. Apologies for any confusion caused.

“Hybrid” market coupling – Non CWE flows impact on CWE Critical Branches

12/16/2013 8:55:24 AM

Good morning.
It seems that capacity calculation on non CWE borders (hybrid coupling) entails including a “best case assumption” of the impact of flows from these borders in the “base case”.
My question is whether there are any common critical branches between CWE and UK<->FR flows – IFA is a sizeable and localized injection which might compete with (NL->)BE->FR flows for the RAM

of North-of-France Critical Branches.
Moreover, by the time FB goes live, UK will be market-coupled with CWE as part of the NWE project. Is it possible that UK flows could have an implicit priority on CWE flows in a “hybrid coupling” setup? In that case, a significant amount of barely predictable volatility would be introduced in CWE/NWE prices by the choices made in the UK<->FR “base case”.
In order to avoid this phenomenon, shouldn’t we have a “UK-hub” column in the PTDF matrix?
Regards
Filippo

1/24/2014 10:11:15 AM

Indeed, flows on IFA impact some branches within CWE, which needs to be taken into account at capacity calculation stage. When Flow Based goes live, this impact will be considered indirectly, via indeed on the one hand the assumptions on these exchanges within the D-2 base case, and on the other via the so-called “Flow reliability margins”, which integrate (among other things) the uncertainties linked to non internal CWE borders. This “indirect consideration” has been called “standard hybrid coupling” in the documentation provided so far by project partners. Please note that this way of doing is in the strict continuity of what is performed within the ATC market coupling today, or of what will be done when NWE MC goes live. What’s more, this approach is approved by regulatory authorities on both ends of IFA.
The expression “implicit priority” is according to project partners a bit farfetched as it supposes a deliberate decision made by TSOs (in this case RTE), while what is done is rather a “best forecast”, two days ahead, of what will be the flows on IFA.

1/24/2014 10:11:29 AM

The assumptions made by RTE on IFA flows two days ahead will impact some of the FB parameters eventually provided to the market (as they impact today some NTCs within CWE), and therefore the liquidity on the spot. As is the case for the totality of the technical inputs used by CWE TSOs to compute XB capacities. As is the case for the order books provided by market players. All in all, there is no objective reason to believe today that this alleged effect (of RTE’s assumptions made on IFA flows two days ahead) will be less desirable (that is, “barely predictable”) in Flow Based than today in ATC MC.

Finally, it is clearly acknowledged that this “indirect consideration” of IFA flows (or of any non CWE borders) is not perfect, and that a direct method, which would require an additional PTDF column in the matrix, would be more optimal. This “direct method” has been called “advanced hybrid coupling” in the documentation provided so far. It is more sophisticated and cannot be implemented as soon as FB goes live, however it will be studied by CWE partners for possible implementation within a “FB version 2” delivery.

CB Selection Process

12/16/2013 9:01:40 AM

Good morning.
In the consultation document it is said a CB is considered to be significantly impacted by CWE cross-border trade, if its maximum CWE zone-to-zone PTDF is larger than a fixed threshold value:
For each CBCO the following sensitivity value is calculated:
Sensitivity = max(PTDF (BE), PTDF (DE), PTDF (FR), PTDF (NL)) - min(PTDF (BE), PTDF (DE), PTDF (FR), PTDF (NL))
If the sensitivity is above the threshold value of 5%, then the CBCO is said to be significant for CWE

trade.
It seems that this could allow a CB influenced by less than 5% to constrain the final MC result, provided that it is selected because it is influenced by more than 5%, by at least one zone-to-zone exchange, even if this exchange is very “unlikely”.
An illustration of this is CB4 on 03/12/2013.
BE-hub DE-hub FR-hub NL-hub RAM (MW)
CB4 -0.01426 0.00277 -0.04238 0.03276 135

This constraint appears in the list of eligible constraints because a theoretical NL->FR exchange would have an impact of more than 5%: 0.03276-(-0.04238)=0.7514.
Yet, the real market-clearing configuration is a flow from Germany to the other zones (under ATCs, FB and infinite capacity) which impacts CB4 by less than 5% under any possible configuration: 0.00277-min(-0.01426,-0.04238,-0.04238)=0.04515 – the constraint is active.
• Do you think that this is an intentional effect or something that should be prevented?
• If so, could you please explain the criteria (if any) to prevent this happening?
• For the calculation of bilateral ID ATCs (and day-ahead shadow auction ATCs), shouldn’t the threshold be applied to each individual pair of zones, and not to the entire area?
Regards
Filippo

1/24/2014 10:13:45 AM

By principle, no exchange inside FB domain is « unlikely », because TSO cannot know in advance what will be the final result of the MC. Indeed, these MC results (necessarily inside FB domain) must ensure an acceptable situation in term of Security of Supply, whatever the eventual market direction.
Situations described above can happen, for some specific network cases (unavailability of some Remedial Actions for example). In these cases, some additional studies can be performed by TSOs in order to better understand impact / risk of such situation, to decide if the CBCO remains relevant, or not. Whatever the eventual decision, it will be based on a thorough, global SOS analysis.
At the end, as written in the consultation document, keeping the CBCO in the calculation remains a TSO choice, and each case when the 5% rule is breached is reported and justified to regulators.

1/24/2014 10:14:02 AM

For the calculation of bilateral ID ATCs (and day-ahead shadow auction ATCs), shouldn’t the threshold be applied to each individual pair of zones, and not to the entire area?

It is not possible to apply this proposal: CB selection threshold is an input parameter of the FB domain. Modify the threshold for one direction after definition of the FB domain could lead to delete a limiting element, with possible infinite exchanges in one individual direction, which is not compatible with the respect of the Security of Supply.

Calculation of PTDFs

1/30/2014 8:49:28 AM

For calculation of the PTDFs, where ist the demand of the system actually changed? I understand, that within the methodology it doesn't matter in which zone the additional demand is extracted, but I would assume that it does matter in practice, if it is located in southern vs. northern Germany.

If the additional demand is spread locationally, how exactly? According to demand patterns, according to renewable (which ones) patterns?

Thanks for giving us further insight on PTDF calculation.

3/24/2014 9:38:24 AM

The FB parameter computation starts from the D2CF common grid model. In the ‘Documentation of the CWE FB MC solution - As basis for the formal approval-request’ , the contents of the D2CF are listed. It includes amongst others:

§ best estimation for the forecasted load and its pattern
§ best estimation for the forecasted wind and solar generation
§ best estimation for the outages of generating units, based on the latest info of availability of generators…

The geographical spread of generation and load is reflected in the common grid model. So, TSO forecast the demand. The demand is not changed during PTDF calculation, but the generation as explained below:

For the PTDF computation, a zonal net position variation needs to be translated into a modified infeed or offtake within the zone. This translation is performed by the Generation Shift Key (GSK) that translates the zone-variation into an increase / decrease of generation in the specific nodes. In the CWE FB methodology, a zonal variation is dealt with by the generation only (conventional power plants); the demand does not participate in the zonal shift.
This implies that an export of a zone A on the Critical Branches (CBs) is reflected by the PTDF factors that are computed from scaling the generation up by means of the GSK_A, whereas the import of another zone B on the CBs is reflected by the PTDF factors that are computed from scaling the generation down by means of the GSK_B.

LTA inclusion check and domain adjustment

1/30/2014 8:57:52 AM

This question refers to section 4.2.6 of the "Documentation of the CWE FB MC solution", dated 1st August 2013

If the LTA inclusion check acutally triggered, "a method is applied that enlarges the flow based domain" (p. 56).
Please explain what this method actually is.

According to my understanding if the LTA inclusion check fails, this means that the grid is somehow overcommitted by LTAs. Is this correct? If yes, how can this overcommitment be dealt with in the spot auctions and afterwards? If not, please explain what the enlargement of the FB domain means in practice.

Thank You for further insights.

3/24/2014 9:33:45 AM

The “LTA coverage” method consists in enlarging the FB domain so as to cover long term allocated capacities when they are not fully encompassed by the former. This coverage is performed automatically as a final step of the capacity calculation process (just before adjustment to LT nominations), in case some parts of the FB domain are exceeded by LT allocated capacities (which means that the realization of some long term rights would result in overloads on some flow based critical branches, that is a so called “LTA check failure”). This step results in the creation of “virtual

flow based parameters”, in the sense that they are not directly related to a physical element of the grid, as illustrated in the attached illustration.

In theory, such artifacts are not to be used: indeed the FB domain gives the reference in terms of security of supply, and CWE TSOs have a selection of remedial actions, that can be considered at capacity calculation stage (that is, embedded in the critical branches definition) in order to enlarge the dimensions of the domain.

3/24/2014 9:35:02 AM

In practice, however, resorting to the “LTA coverage algorithm” can be necessary in case the FB model does not allow TSOs to reproduce exactly some complex operating conditions. This is typically the case when TSOs are considering so called complex remedial actions (as a matter of fact, a combination of remedial actions which are applied to cover very specific situations of the grid, and that cannot be modeled within the linear FB model) when they define cross-border capacities. Long term rights are safe, and firm at the moment of capacity calculation, and therefore need to be covered by the day-ahead capacity domain: which is why CWE TSOs have designed and implemented an algorithm that ensures the coverage of the previously exceeding “LTA corner”, but in the same time minimizing the distortion of the initial FB domain. So, LTAs do not overcommit the grid.

This algorithm has been implemented in the new version of the FB system used by TSOs since February 12th. Its usage is the object of careful analysis and will be monitored by CWE regulators.

4/29/2015 12:44:30 PM

Hi,

In the document "Documentation of the CWE FB MC solution - As basis for the formal approval-request" Brussels, 1st August 2014, page 68-69

It states:

"Virtual CBs are created and introduced, which replace the CB for which RAM<0."

I am comparing the 8AM PTDF with the 1030 PTDF for date 2015-04-23. For hour 7 I count 21 CB's in the 8AM PTDF. In the 1030 PTDF I count 22 CB's for hour 7. It looks like a virtual CB is added without removing a CB for which RAM<0. How is this possible?

Given the text in the document I would expect that for each hour the 1030 PTDF number of CB's is always equal or higher than the number of CB's in the 8AM PTDF for the same hour.

What do I miss?

Thanks for your response,
Vincent

5/20/2015 12:29:02 PM

Good morning,
Following up from my colleague’s question, I’ve done some additional analysis and I’d say there are some tiny changes in the set of CBCOs between the 08:00 and the 10:30 publication, whereas I would have expected them to remain constant and only the RAM to change.
The two tables in the attached pdf show the CBCO set for HE19 of 20150521. We see that:
• The CBCO highlighted in red seems to have been “duplicated” between 08:00 and 10:30.
• The CBCO highlighted in blue seems to have been “duplicated” between 08:00 and 10:30.

• The PTDFs of the CBCO highlighted in yellow seem to have slightly changed between 08:00 and 10:30.
Similar things happen in other hours or days.
Could you please explain in detail what happens between 08:00 and 10:30?

Thank you in advance,
Filippo Pirovano

6/10/2015 1:09:48 PM

Answer to Vincent Visser's post:

On this particular day, a TSO did perform an update of its input file between the 8AM computation and the 1030 computation, which created in this case an additional presolved branch.

If nothing changes on the TSO input side, the number CBs in the 1030 computation will be the same as in the 8AM, since only the shift of the reference point with the LT nominations is performed.

In addition: as described in the document, the 8AM computation is for information and analysing purposes, so it is always possible that the FB domain can change between these two computations.

6/29/2015 1:21:19 PM

The determination of the most limiting branches is mathematically done based on the PTDFs and the RAM.
Pre-solved branches are determined at every computational step. Due to the selected precision for RAM (zero digits) and PTDFs (five digits), rounding may cause a CB - which is very near the limit of being presolved - to appear or disappear in the list of presolved branches. Due to the finite precision of computers, this behaviour cannot be prevented.

For CBs that are very near to each other, the set of pre-solved CBs can change following a domain translation (which is done towards ZeroBalance for the pre-final computation (8:00) and LT nominations for the final computation (10:30).

To conclude: even if different CBCOs are shown, the results of the FB domain are identical (mathematically speaking) between Pre-Final and Final, within the chosen precision.
As a reminder: as described in the document, the 8AM computation is for information and analysing purposes, so it is always possible that the FB domain can change between these two computations.

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hour to hour net position volatility

3/3/2014 1:02:08 PM

Dear,

The hour to hour volatility of net positions increases under FB. The "CWE_FB-MC_feasibility_report" states that ramping constraints in the algorithm could be activated if desired by TSO's.

Are there currently any ramping constraints applicable for net positions? If yes, could these constraints be made public.

Thanks,
Vincent Visser

3/12/2014 4:06:49 PM

Ramping constraints, in terms of net position changes from one hour to the other, can indeed be activated in the market coupling algorithm. The hourly volatility of net positions in the market simulation results is monitored by TSOs since the beginning of the parallel run. Based on these observations, no ramping constraints have been activated yet in the algorithm as part of the parallel run.

Long term nominations

3/10/2014 1:01:36 PM

Dear all,

A part of the flow over critical branches is caused by nominations of long term contracts.
In the report [url=http://www.casc.eu/media/CWE%20FB%20Publications/CWE_FB-MC_feasibility_report_2.0_19102011.pdf]http://www.casc.eu/media/CWE%20FB%20Publications/CWE_FB-MC_feasibility_report_2.0_19102011.pdf[/url] this is shown on page 99 as Y/M trade of day D.
Is this data of long term nominations published somewhere? It would already help to have the long term nominations of the FBMC countries, either bilateral between these countries or as a NEX to the FBMC area. It would be better to know the long term flow over a critical branch.
In our market model all trades are done on the spot market. We need to somehow remove these long term nominations and include this capacity to the simulated spot market.

Thanks,
Reinier van Offeren
Vattenfall

3/25/2014 9:37:02 AM

Long Term nominations themselves are indeed not published as such today but can be inferred from the comparison of daily NTCs and ATCs, available on the CASC website for all CWE borders (entsoe.net is another source of information).
As the realization of long term allocated physical rights, long term nominations only exist in “bilateral format” per border, but can be translated into shift of net positions per hub (simply by adding the level of nominations on each hubs’ borders).

Nothing is foreseen at the moment regarding the daily parallel run publications to display directly the flows induced by LT nominations on the critical branches. Nonetheless, for ex-post analyses, the level of long term nominations (that can be derived from the difference between NTCs and ATCs) and the corresponding shift of net positions of each CWE hub, could be applied (via the PTDF already published) to infer the corresponding flows on the critical branches. The chart in the attached document describes this process.

3/25/2014 9:38:23 AM

For the post Go live period, the publication of “LT nominations-free” flow based parameters is indeed foreseen by project parties to facilitate the preparation of market parties for FB. A publication of anticipated FB parameters at 8 am, that is before LT nominations adjustment, is currently being assessed by project parties.

If concretized, this initiative would result in a two-step publication, before and after LT nominations at respectively 8 and 10.30 am D-1, where the only difference between the two sets of FB parameters would be the effect of LT nominations on the critical branches available margins (PTDF would remain unchanged). The FB domain published at 8.00 am would therefore correspond to a situation at so called “0 balance”, an equivalent of NTC applied to FB concepts, where the exchanges on CWE borders would be put at 0.

Please note that even if it is assumed that the CWE hub is balanced (meaning zero exchanges within CWE), the critical branches remain loaded by a “base flow” which is the physical consequence of the generation and load present in the grid.

3/28/2014 11:45:16 AM

Hi,

For after go-live. Could the long term XB nominations be published?

This could be helpfull by using the 8:00 AM PTDF matrix. Under the assumption that the long term XB nomination does not change from day to day, one could use this to adjust the RAM's in the 8:00 AM PTDF matrix and have a better forecast for the 10:30 matrix.

Let me know what you think,

Vincent

7/23/2014 2:42:24 PM

First, project partners would like to remind that LTN are available on local website.
Additionally please be informed that project partners are now publishing long term nominations on CWE borders on a daily basis on the CASC website as part of the parallel run process:
http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Publication-CWE-Flow-based-External-parallel-run

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Cabel and ATC PTDF's

3/10/2014 1:16:35 PM

Dear all,
In the report [url=http://www.casc.eu/media/CWE%20FB%20Publications/CWE_FB-MC_feasibility_report_2.0_19102011.pdf]http://www.casc.eu/media/CWE%20FB%20Publications/CWE_FB-MC_feasibility_report_2.0_19102011.pdf[/url] on PDF page 116 (document 117) a PTDF factor for HVDC cables is introduced at the bullet point Flow-Based constraints at the bottom of the page. Is this factor used in practise? Is this factor published?
On the next page there are PTDF factors for the countries coupled via ATC-MC. Are these factors used and published?

Thanks,
Reinier van Offeren
Vattenfall

3/25/2014 9:42:59 AM

The explanations given in this part of the Feasibility report are related to the “[b]advanced hybrid coupling[/b]” methodology that enables to couple market areas in which cross-border exchanges are limited both by FB and ATC constraints.
Indeed, even if the integrality of the coupled area is not subject to FB constraints (as will be the case within NWE once CWE FB goes live), the exchanges happening on the “non-FB area” will influence the critical branches of the FB area, which needs to be taken into account when computing the transfer capacities.
The “advanced hybrid coupling” solution depicted in the report page 116 is the optimal way to do so because it allows to take directly into account the influence that the “non FB exchanges” will have on the FB critical branches. In practice, this means that some PTDFs will actually quantify this influence. These PTDFs can be related either to the influence of a DC cable or of other AC exchanges.
However, this method is currently not applied in the FB parallel run and will not be applied at Go Live. The PTDFs mentioned in pages 117 and 118 of the report are therefore neither used nor published, and will not be at Go Live.

3/25/2014 9:44:02 AM

The method applied in the parallel run and afterwards for go live is called “[b]standard hybrid coupling[/b]”, and is depicted in the previous sections of the Feasibility report.
In the standard approach, the influence of the exchanges within the “non FB area” on the FB critical branches” is indirectly taken into account via the assumptions made in the base case and the Flow Reliability Margins (that cover against uncertainties of these assumptions). CWE partners will further analyse the advanced approach for potential implementation in a second stage, after Go Live.

Impact of countries outside CWE

5/26/2014 10:29:54 AM

Hello,

I have two question regarding the link with countries outside CWE :

1.How do you take into account the flows with countries outside CWE, for example Austria, Spain, or even UK, Nordic countries? Are the expected flows taken into account in the CGM and thus they would impact implicitely the PTDFs?

2.How is the mixed coupling done in NWE with part in ATC and part in FB, how to mix both constraints in the algorithm?

Thanks

7/29/2014 4:48:26 PM

1. This implicit consideration of flows with countries outside of CWE has been called “standard hybrid coupling” and is planned to be used from CWE FB MC go-live.
Please see the response to a previous post: http://cascforum.my-ems.net/yaf_poststt90_-Hybrid--market-coupling---Non-CWE-flows-impact-on-CWE-Critical-Branches.aspx
For more detailed explanation please see the chapter 4.5. of the approval document about “capacity calculation on non CWE borders (hybrid coupling):
http://www.casc.eu/media/pdf/FB/140530%20CWE%20FB%20MC%20Approval%20document.pdf

2. The algorithm used for NWE coupling and further MRC (multi regional coupling) initiatives, Euphemia, can handle both type of network constraints as input data: ATCs but also Flow-Based

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parameters. While FB parameters will be used (in form of a PTDFs matrix) for the borders within CWE, the capacity constraints for borders outside of CWE will still be communicated in form of bilateral ATCs from TSOs. Both type of constraints can be handled by Euphemia for optimizing the flows and calculating the prices for the whole coupled area.

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display of exchanges between countries without physical interconnector

7/11/2014 12:55:44 PM

Hello,

Why do you display, eg. in the utility tool, the hub-to hub exchanges between countries, which have no physical interconnection (Germany-Belgium & Netherlands - France)?

Thanks & Best regards

7/29/2014 4:52:50 PM

The CWE FB MC facilitates trades between all hubs of CWE, even those without physical border. Indeed, in the CWE FB MC all bids and offers compete with one another to make use of the (possibly scarce) capacity. Please see the response to a previous post: [url=http://cascforum.my-ems.net/yaf_postst36_Border-Germany----Belgium.aspx]http://cascforum.my-ems.net/yaf_postst36_Border-Germany----Belgium.aspx[/url]

Graphical comparison of the ATC and FB domain

7/28/2014 1:37:19 PM

Dear,

I was wondering how the FB domain is drawn for 3 zones, with on the axes the bilateral exchange from zone A to zone B and zone A to zone C. [img]null[/img]
The only information I can find about it in the documents is the part included in picture1 (attached).

First question:
Is PTDF zone A to B = PTDF zone A – PTDF zone B ?
or should I only calculate with the positive PTDFs if I calculate with bilateral exchanges?

Second question:
Can we then assume that for each CB, with BEX being the positive or negative bilateral exchange:
PTDF zone A to B * BEX zone A to B + PTDF zone B to C * BEX zone B to C + PTDF zone A to C * BEX zone A to C <= RAM

Third question:
Which restriction has to be added to draw the domain (two dimensional)?
If for zone A, can I just assume BEX zone B to C as zero to take the intersection?

This implies that there are 3 drawings for each market clearing that have to be compared if there are 3 zones, or 12 corners have to be checked?

Kind regards

11/14/2014 4:35:56 PM

Dear Lynn,

First answer
Essentially we only use the bilateral exchanges on the axes of ATC/FB-domain graphs for illustrative / pedagogical purposes.
You are correct on your equation. The zone-to-zone PTDF factor A>B is computed from the zone-to-hub PTDF factors in the following way:
PTDF(A>B) = PTDF(A>hub) – PTDF(B>hub)
PTDF(B>A) = - PTDF(A>hub) + PTDF(B>hub) = - PTDF(A>B)

Second answer
Correct.

Third answer
For the three-zone example, when trying to depict the capacity domain in two dimensions with bilateral exchanges on the axes, you have to assume that in one of the trading directions (in your case: B>C) the bilateral exchange equals a certain value, e.g. zero. In fact, this exchange would be on the z-axis, and by choosing it to be zero we look to a two-dimensional slice of the capacity domain.

In case of the three-zone example, there are 8 (ATC) corners involved:
1 A>B, A>C, B>C
2 A>B, C>A, B>C
3 A>B, A>C, C>B
4 A>B, C>A, C>B
5 B>A, A>C, B>C
6 B>A, C>A, B>C
7 B>A, A>C, C>B
8 B>A, C>A, C>B

CBCOs missing from the PTDF_Fixed_CBCO_ID_all dataset?

1/9/2015 11:57:06 AM

Good morning,
I'm trying to do some analysis on the PTDF_Fixed_CBCO_ID_all dataset.
I would expect each CBCO (as defined by characters 4 to 8 of the "row" column) to appear at least once per day and per hour in the dataset. But, unless I am mistaken, this is not the case, for example CBCO 58158 appears only HE09 to HE15 on 01/08/2015, then disappears until 11/08/2015 where it appears only HE11 to HE17, ...
I'd be grateful if you could explain the logic behind the appearance and disappearance of CBCOs in the dataset.
Moreover a couple of days seem to be missing from the dataset (e.g. 08/09/2015).
Best regards,
Filippo

2/19/2015 10:40:27 AM

Due to high work-load within the CWE FB MC project as the targeted go-live readiness is approaching, it is not possible to guarantee a normal response time. The project cannot commit to respond all questions (especially linked to analysis of parallel run results) before go-live. Therefore, we kindly apologize in advance for the delay in answering your question.

3/12/2015 3:08:29 PM

Changing of operational conditions in general (e.g. maintenance schedules) influence the CBCO selection process of each TSO, which explains why a given element appears or disappears over time.

For explanation on the fixed label, please see next answer: http://cascforum.my-ems.net/yaf_poststt153_Eight-character-in-the-fixed-anonymous-CBCOs.aspx

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Eight character in the fixed-anonymous CBCOs

2/10/2015 12:56:57 PM

Good morning,
I am trying to make sense of the eight character in the fixed-anonymous CBCOs.
According to “CWE FB MC_Additonal parallel run publications_Nov2014.pdf” it is: 0 = Fmax / Spanning / Fallback
I would assume that if the eight character is 0 the CBCO is a “normal” one, if the eight character is 1 the CBCO is a “spanning” one and if the eight character is 2 the CBCO is a “fallback” one.
Why then is the eight character occasionally equal to 3? E.g. #15058433000 on 30/09/2014 and #18239853000 on 21/10/14.
Also, how can a CBCO be 0, 1 and 2 at the same time? E.g. # 17610770002, #17610771002, #17610772001 hour 2 of 30/10/2014.

I would be grateful if you could provide more details on this eight character.
Best regards,
Filippo Pirovano

2/19/2015 8:27:11 AM

I have the same question about the Element IDs and an additional question about Enlarged and Virtual CBs

When I look at the elementID in the data I have the following questions
1. Fmax /Spanning / Fallback has values 0,1,2,3,4. The description suggests 3 values for Fmax /Spanning / Fallback. What does each number mean?
2. What does the “Enlarged and Virtual CBs” number mean?
3. Could we have a fuller explanation of the parts of the ID and the combinations of values that are in the results dataset.

Elements ID explaination from the document "CWE FB MC_Additonal parallel run publications_Nov2014"
• There are 11 characters in total, different characters represent various elements
o XX – XXXXX – X –XXX (Hub – CBCO – Fmax /Spanning / Fallback – Enlarged and Virtual CBs)
o 14439660000 (14 = Hub, 43966 = CBCO, 0 = Fmax / Spanning / Fallback & 000 = Virtual CBs)

Thanks

Paul

2/19/2015 10:40:05 AM

Due to high work-load within the CWE FB MC project as the targeted technical readiness is approaching, it is not possible to guarantee a normal response time. The project cannot commit to respond all questions (especially linked to analysis of parallel run results) before go-live. Therefore, we kindly apologize in advance for the delay in answering your question.

3/12/2015 3:10:06 PM

The 8th digit of the anonymized ID represents:
• 0/1/2 are digits used to distinguish a unique CBCO with different monitored Fmax values (for example absolute Fmax limit and the Fmax limit after Remedial Actions). CWE TSOs used up to 3 different limits -> 3 different Fmax values possible.
• 3/4/5/6 are digits reserved to avoid non-unique IDs in the files provided for publication.
• 7/8/9 are digits indicating either Fallback/Spanning_Before/Spanning_After (in this order)

Information on LTA enlarged (virtual CBs) can be found in earlier publications, see DX//run performance report: http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results

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Clarifications how the base case is created

4/15/2015 11:40:58 AM

Good morning,
I'd like to have some clarifications how the base case is created.
As the interface will not let me post a long message, I've attached the questions in a .pdf.
Thank you in advance for the elements you can provide on these rather technical points, but that would help our understanding of the Flow-Based parameters.

Regards
Filippo Pirovano

4/22/2015 6:45:12 PM

Good morning
As a follow-up to the previous questions, I'd have a couple of new ones re: the aggregated D2CF data from 01/01/2013 to 19/02/15 recently published on the ftp.
1/ The net position data is different from what I can get from the Utility Tool after 20/02/15: on the ftp I see CWE bilateral flows, whereas form the Utility Tool I can see best forecast net position for the entire zone.
2/ These CWE bilateral flows look like bilateral flows from a reference day, but the reference day is not D-1 for weekdays and D-7 for weekends. I've tried to infer what they were in December 2014 and found a perfect fit from the crazy table below, where the reference day for a Wednesday is sometimes a Sunday, or for some days the reference day is in the future (something is probably wrong with my analysis, but I've checked it several times and the fit, as shown in the attached chart, is too good to be true).

Could you please explain whether anything changed in the methodology on 20/02 and how we can

use this D2CF data?

Regards
Filippo Pirovano

5/5/2015 10:20:38 AM

Dear Filippo,

Please find answers to your questions in the first post below.

[b]Assuming the first explanation is correct, what happens if in the process of going from Best Forecast Net Position to RefProg a RAM becomes negative? Is it capped at zero or kept negative? Does this have an impact on the RAM=Fmax-Fref-FRM-FAF calculation described page 68 of the main approval document? [/b]

If by going from Best Forecast to RefProg a RAM becomes negative, then the methodology is the same as if the RAM were positive. As Flow-Based is a linear approach the Flow-Based domain will remain the same as the one with a different refprog where RAM is positive.
Whatever the starting point what is relevant is to stick to the slope of the Flow-Based linearity. As long as you are on this slope, Flow-Based results will remain unchanged, with +3000 MW or – 3000 MW of adjustment, you are still on the same line, so the Flow-Based domain will remain the same.

5/5/2015 10:21:54 AM

[b]Is the Best Forecast Net Position during the parallel-run made specifically for Flow-Based or the same as for the ATC operational process? I imagine the two can differ quite markedly, e.g. an expected high wind generation in Germany will result in a lower net position under ATC (because of the C-Funktion) but a higher net position under Flow-Based – both compared to an expected “normal” wind generation.[/b]

This improvement was made possible because of the Flow-Based methodology (linearity by using GSK). So Best Forecast Net Position was made for Flow-Based.

5/5/2015 10:23:10 AM

[b]Are the RefProg used in the parallel run the ATC or the FB exchanges on the reference day? From the utility tool I would guess they are the ATC ones, but again the two can differ quite dramatically. [/b]

RefProg published as part of the parallel run are the one from the market closure, so the ATC ones.

6/29/2015 9:42:24 AM

Please note that it appeared from our investigations that the formerly published file with historical aggregated D2CF assumptions was corrupted. It was replaced meanwhile by the correct file on the Ftp server. We apologize for the inconvenience caused.

Intuitive patch

5/12/2015 12:20:30 PM

Dear,

In the document "CWE Enhanced Flow-Based MC intuitiveness report" version 4 October 22nd, 2013, Page 47.

It says: ordinary FB constraints can be also be written as:

BEX(z1,z2)(PTDF(z2)-PTDF(z1)<=RAM

Should this not be:

BEX(z1,z2)(PTDF(z1)-PTDF(z2)<=RAM

Does the same hold for the "intuitive" FB constraint?

The example on page 50 seems to support this.

Best,
Vincent

6/23/2015 8:20:56 AM

Yes, your correction is the right one. Thank you for pointing this out. We updated the [url=http://www.casc.eu/media/CWE_FB-MC_intuitiveness_report_v4_1_final%20(Projectplace_151616).pdf]corresponding annex[/url] in the report taking your correction into consideration.

Calculating the Congestion Income

6/3/2015 1:52:43 PM

I was trying to calculate the total congestion income for few hours where there was a price spread between the CWE countries and couldn't get the results from the CASC Utility Tool.
I did the following:

I used the formula given in the documents: CI = -SUM(netPOS country CWE)*CP country

For the 2nd of June, the 1st hour this would be:

Net position:

BE DE FR NL
-824.2 1735 1145.7 -2056.4

Prices

BE DE FR NL
33.72 24.24 23.2 27.11

So with the formula I get: CI=14904.388EUR

While if I make the sum of the congestion income of the 4 hubs from the Casc Utility Tool, I see 673.895EUR

Where is my mistake?

6/16/2015 3:53:11 PM

You have used the correct formula to compute the congestion income. But please mind that the congestion income values reported in the utility tool for the CWE hubs are the “[b]net[/b] congestion income values”. The value you have is the gross figure, and the difference equates to the resale costs from the “Use It Or Sell It” (UioSi) mechanism for long term capacity rights.

Operational process

Adjustment of PST in the D-1 refinement?

3/15/2013 2:14:22 PM

During the forum a question was raised if Phase Shift Transformers (PSTs) are optimised in the FBMC algorithm. It was answered clearly that PSTs are not optimised automatically. In a presentation it was mentioned that the FB process starts at D-2 and at D-1 the TSO's are allowed to make final adjustments.

Is the manual changing of a tap position of a PST allowed in the D-1 refinement? And is this done in practice?

Thanks. Reinier van Offeren. Vattenfall.

4/4/2013 3:19:31 PM

TSOs are allowed to modify/verify/optimize the input data (especially the Remedial Actions) until D-1. Before this deadline, based on intermediate calculations, it is possible to adjust the tap position of PSTs, in coordination with impacted TSOs. After this deadline, like all input data (remedial actions, critical branches), no more actions from TSOs are possible to modify the parameters given to the market.
For security reasons, the full range of PST taps is not used at capacity calculation stage: remaining tap positions of PSTs need to be available to real time processes and operators, in accordance to local TSO and CWE procedures.
In practice, there are quite often some changes in PST tap positions used between initial (starting D-2 20h) and final (D-1) calculations.

Report of market simulation results

4/8/2013 10:18:10 AM

In the report of market simulation results there is the sheet called "Nex". What does it show?

4/8/2013 4:56:51 PM

Please see on this link the answer provided to a similar request: http://cascforum.my-ems.net/yaf_poststt43_Data-interpretation.aspx

The “nex” sheet gathers rounded Net Exchange Positions for each hub at each hour (of the simulation) with Flow Based (FB), Flow Based Intuitive (FBI), Available Transfer Capacity (ATC) and Copper Plate (Infinite) network configurations.
Of course, when exchanges are not constrained for network security reasons (i.e. there is no congestion), the Net Exchange Position in a hub c at hour h will be the same for each algorithm (FB, FBI, ATC and Infinite) and will be equal to the Copper Plate (Infinite) net position.
Thus, differences in Net Exchange Positions between FB, FBI, ATC algorithms reflect different trade opportunities. Presence of Net position values for Infinite capacity aims to estimate the congestion’s significance.

Impact on ID

6/5/2013 7:22:41 AM

How is the impact of FB DA on intraday welfare assessed? How will be the FB/FBI DA compatible with the calculation of ATC ID? In terms of operational process, would it be possible to recalculate the PTDF after DA clearing instead of maintaining ATC ID calcultion on D-2 forecast? Thank you.

7/1/2013 10:00:33 AM

The FB MC already optimises the welfare of the day-ahead market creating a new market optimum different from the ATC MC. The impact of FB DA on the intraday welfare is not assessed. Please note that the FBMC computations are simulations, that assume that the actual ATC order books are equally valid when the FB domain would have been provided to the market. Indeed, this is already a strong assumption. Any follow-up simulation by using actual Intraday transactions seems rather unrealistic from this point of view and it is not feasible for the project to make additional assumptions of what the intraday market would have been if the day-ahead market were flow based.

The initial ID ATC values will be computed from the DA FB domain. Indeed, after the FBMC the remaining capacity will be provided to the Intraday stage just like today. In order to facilitate this, an ID ATC domain is computed from the FB domain after the FBMC. As the selection of a set of ATCs from the FB domain leads to an infinite set of choices, an algorithm has been designed that determines the ATC values in a systematic way. This value serves as an initial ID ATC value, being the left-over capacity after the DA FBMC.

Yes, it is possible to recalculate the PTDFs and margins for the ATC ID calculation, instead of using the D-2 forecast for this purpose. Even better, this is the foreseen way forward. However, this requires Common Grid Models (CGM) closer to real time as well as a FB capacity calculation closer to real time. The intention is to stabilize both the CGM and the FB capacity calculation for the DA stage first. The introduction for the Intraday timeframe may follow afterwards, by using the proven methodologies that allow a smooth transition from ATC to FB for Intraday.

Fallback solution

6/6/2013 1:10:48 PM

The public consultation document says: “the principle of the proposed fall-back arrangement is to allocate the fall-back ATCs derived from the FB parameters via a shadow explicit auction ...” (page 33).
What happens if the fallback is due to the fact that “some network/market data may not be generated”?

6/6/2013 1:12:27 PM

Two different independent fallback situations are to be considered:

1) On the pre-coupling (capacity calculation) stage: problems in the FB computation on TSOs’ side. In case of missing input or problems with IT tools, TSOs will rely on fallback solutions in order to deliver FB parameters in any case even if these parameters may not be ideal ones (for example default FB values).

2) On the coupling stage: failure of the market coupling system leading to decoupling in CWE which happened once until now two years ago. In this case shadow auctions based on ATCs are organized.

As TSOs will already have computed FB parameters, an ATC set inside the FB domain will be calculated and provided to the shadow auction system. This process cannot be considered as a real capacity calculation process but rather a splitting of capacities on the borders.

6/6/2013 1:17:58 PM

What is an acceptable number of fall-backs days to ATC per year once the flow-based is operational?

6/6/2013 1:18:44 PM

After the CWE FB MC Go Live, there will be no fallback to ATC MC. In any case, FB parameters will be provided and no ATCs will be computed anymore.
The number of acceptable days for decoupling is of course zero. The decoupling scenario is only the latest resort and not favoured by MPs neither by project partners. Shadow auctions will only be triggered in case of a serious problem in the coupling process, mainly due to technical IT problems.

Publication of fallback ATC values

10/24/2013 9:49:33 AM

The project plans to publish “fall back ATC values”. These values will be used to run a ATC-based MC in case the FB fails.
Are these “fall back ATC values” the same values as the current ATC values? If not, why? And can then these fall back ATCs be published as part of the parallel run?

10/24/2013 9:58:26 AM

TSOs committed to provide FB parameters to the market coupling system under any circumstances. Fallback ATCs are therefore only needed in case an issue has been encountered in the coupling process if for example PXs are not able to process the FB parameters. In this case, Fallback ATC values, which are derived from the FB domain and sent on a daily basis to PXs, will be used. The Fallback solution in this case are Shadow Auctions via CASC.
For further explanation on the Fallback principles and the model for computing Fallback ATCs, different from the current ATC values, please refer to the market forum presentation http://www.casc.eu/media/CWE%20FB%20MC%20Market%20Forum,%20October%2010th,%202013.pdf (P.152-156) or to the approval package: http://www.casc.eu/media/CWE%20FB%20Publications/Approval%20Documents/130801%20CWE%20Flow%20Based%20MC%20solution%20Approval%20document.pdf
The project has not yet decided if and when these Fallback ATCs will be published but investigations are ongoing.
Please also note that Fallback ATCs are only used for ATC MC during the two months of Rollback period, as explained in the approval package.

Daily schedule

1/30/2014 9:28:24 AM

In chapter 5 of the documentation I fail to find any specific points in time for the individual steps of the

process.

To enhance the understanding of the overall process please give an *indicative* timeline:
- D2CF-File exchange
- PTDF-calculation
- LTN adjustment

Thank Your for Your reply.

3/24/2014 9:41:38 AM

D2CF-File are created by a Merging entity, based on local inputs from CWE and non-CWE TSOs.

Target Time for TSO to provide the local D2CF input at D-2 19:00, in order to have the merged D2CF at D-2 20:00.

Several PTDF-calculations are launched during the process, in order to provide a adequate domain both for the market and the security of supply.

During the common process, three PTDF-calculations are launched (D-2 20:00 for initial calculation, D-1 04:00 for intermediate calculation and D-1 09:30 for final calculation).

LTN adjustment is a part of the final calculation, which is launched at 09h30, just after the LongTerm Nomination process (between D-1 08:00 and D-1 09:30).

Depending on the final performance of the system (and specially the duration of the last calculation), and experience gained during the daily parallel run, these timelines could still slightly change before the Go-live.

Capacity allocated

10/16/2014 2:24:04 PM

On page 123 in [b][i]Documentation of the CWE FB MC solution – As basis for the formal approval-request[/i][/b] (Brussels, 9th May 2014), it is stated that the following will be published on the CASC website (after Market Coupling calculation):

• [i]Capacity allocated (being defined as the sum of the used margins on the tie-lines of a bidding zone border)[/i]

Could you please explain in detail what this means? Could you give an example to show how this data should be interpreted and what information it actually provides?

Thanks!

12/5/2014 10:55:30 AM

In line with transparency regulation EU543/2013 (Art. 12.1 f+g) the flow figures will be published on the central ENTSO-E transparency platform.

12/15/2014 7:34:24 PM

[quote=CWE FB MC Project Partners 2;301]In line with transparency regulation EU543/2013 (Art. 12.1 f+g) the flow figures will be published on the central ENTSO-E transparency platform.[/quote]

Hi,
In your earlier post, I am very interested in the “advanced hybrid coupling”model that you mentioned.Is any document that illustrate how it works in terms of mathematical formulation. Thank you very much.

2/19/2015 10:42:58 AM

Due to high work-load within the CWE FB MC project as the targeted go-live readiness is approaching, it is not possible to guarantee a normal response time. The project cannot commit to respond all questions (especially linked to analysis of parallel run results) before go-live. Therefore, we kindly apologize in advance for the delay in answering your question.

3/12/2015 3:04:56 PM

More information on the advanced hybrid coupling can be found in earlier publications, see feasibility report version 2 (October 2011), documentation section:
http://www.casc.eu/media/CWE%20FB%20Publications/CWE_FB-MC_feasibility_report_2.0_19102011.pdf

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Publication of daily results after go live

11/26/2014 4:13:38 PM

A quite practical question.
During the dry run we get daily publications of FBMC parameters and results via the ftp site. Will this data still be published after the go live? I'm thinking mainly about the PTDF matrix with RAM, prices of the market outcome and NEX.

Reinier van Offeren
Grid analyst - Vattenfall Energy Trading

1/9/2015 5:41:04 PM

The simulation data (FB parameters as well as the market results from the parallel run period) will still be available on the Ftp server accessible through the [url=http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results]CASC website[/url] for a period of at least 6 months after FB MC go-live.

Please consider that from go-live on, the production network constraints which will be used for market coupling purpose (in form of FB parameters – PTDF matrix and RAM) will be available on the CASC website in another section where daily ATCs are currently published. PXs will publish market results as it is the case today and exchanges will be further available on the [url=http://www.entsoe.net/#RS]ENTSOE website[/url].

1/23/2015 2:44:27 PM

Will this be scheduled or physcial cross border flows?

2/19/2015 10:43:15 AM

Due to high work-load within the CWE FB MC project as the targeted go-live readiness is approaching, it is not possible to guarantee a normal response time. The project cannot commit to respond all questions (especially linked to analysis of parallel run results) before go-live. Therefore, we kindly apologize in advance for the delay in answering your question.

Publication of NTCs and capacity allocated

3/18/2015 11:14:20 AM

First I would like a simple confirmation. It is my understanding that NTCs will practically cease to exist with the introduction of FBMC, and hence will not be published any longer. Is this correct?

Secondly, I would like you to explain more in detail the data you actually will publish. On page 123 in Documentation of the CWE FB MC solution – As basis for the formal approval-request (Brussels, 9th May 2014), it is stated that the following will be published on the CASC website (after Market Coupling calculation):

• Capacity allocated (being defined as the sum of the used margins on the tie-lines of a bidding zone border)

Could you please explain in detail what this means? Is this just another way of saying the FRMs of the Critical Branches? Could you give an example to show how this data should be interpreted and what information it actually provides?

3/18/2015 11:15:17 AM

The monthly and yearly NTCs will still be published, but the daily NTC will not be computed anymore. As a consequence, this can also not be available for publication.
Used margin of the tie-lines will not be published, Bilateral Exchange will be published instead and serve as allocated capacities. The used margin of critical branches can be found in the following manner:

used margin = Sum i [i]ptdf i[/i] x [i]NP i[/i]

With i the market hub and NPi the CWE market coupling net position of the market hub i.

Does the FBMC system cope with exrteme wheather situations? Like on 31.3.

3/31/2015 7:16:01 AM

We can read in the news that the storms of 31.3.2015 have a significant effect on the electricity grid. At there is a lot of wind power generated in the north of Germany and conventional power plants need to be dispatched in the south to keep the grid stable, although they are too expensive for a market based dispatch.

Can you confirm that the industrialised FBMC mechanism is stable to cope properly with these kinds of exceptional weather? Can the remedial actions that are apparently taken now, also be taken after go live? Or are there then even better remedial actions available?

(German news: [url=http://www.welt.de/wirtschaft/energie/article138935153/Auslaendische-Kraftwerke-sichern-deutsches-Stromnetz.html]http://www.welt.de/wirtschaft/energie/article138935153/Auslaendische-Kraftwerke-sichern-deutsches-Stromnetz.html[/url] or Google translated into English: [url=http://goo.gl/GY23eP]http://goo.gl/GY23eP[/url])

4/28/2015 1:31:16 PM

We are performing the FlowBased external parallel already for many months with success.
In this period of parallel run the project shows that indeed the Flow-Based approach can deal with such extreme (windy) situations.

The remedial actions which are available to ensure a secure transmission grid are independent of the capacity calculation approach.
That means that there is no change in terms of remedial actions after Flow-Based Go-live.

Publication of Net Export Position

5/12/2015 12:13:51 PM

For the parallel runs the internal net exchange position for each hub (BE, DE, FR and NL) can be found in the reports on ftp://ftp.cwe-sf2.com/2015/Report/ in the sheet cweNEX.

Where will the internal net exchange position be published for the live runs?

5/20/2015 4:24:49 PM

Please note that all network data as well as post-coupling operational data is as of today to be found on the following link:[url=http://www.casc.eu/en/Market-data/Implicit-Allocation/Market-Coupling]http://www.casc.eu/en/Market-data/Implicit-Allocation/Market-Coupling[/url]
The [url=http://www.casc.eu/media/CWE%20FB%20Publications/20150417_CWE_%20CASC%20Publication%20Handbook_final.pdf]CWE Publication Handbook[/url] is made available to guide you through the published data.

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publication of active CBCO

5/24/2015 10:25:28 PM

Where and when will active CBCO be published?

6/23/2015 8:38:18 AM

Please note that information concerning CBCOs is already provided in different timestamps to Market actors:
- On D-1 at 8:00 the preliminary presolved (active) CBCOs (constraining the FB domain and therewith the possible exchanges within CWE) are published. Please note that these do not take into account the day-ahead long term nominations. You can find the data daily in the [url=http://utilitytool.casc.eu/]Utility tool on CASC[/url].

- On D-1 at 10:30 the final presolved CBCOs are published in the Utility tool on CASC as well taking into account the nominations made by market participants and therefore providing the market with the final FB matrix which constrains the exchanges possible within CWE.
- On D+2 all CBCOs are published with fixed labeling. The anonymous CBCOs with fixed ID are published ex post on the same CASC website. You can find the information only for the presolved CBCOs or also for all CBCOs (including also the ones not constraining the domain for the specific hour and day).
We invite you to have a look on the following [url=http://www.casc.eu/media/CWE%20FB%20Publications/20150417_CWE_%20CASC%20Publication%20Handbook_final.pdf]Publication Handbook[/url] which supports market parties in the understanding of data related to FB MC.

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questions about FB results

5/31/2015 10:11:00 AM

1) Does the PTDF published at 10.30 differ from the one published at 7.30 only due to the LTN? Do TSO put any different ´forecast´ that leads to a new base case scenario ?
(some of us don´t believe that the difference in forecast that we get utilizing the PTDF of 7.30 and 10.30 can be due only to the inclusion of the LTN)
2) In the utility tool the sheet 'Refprog' includes all the borders beside the ones that are DC (the cables connecting CWE with UK, the one to EDK, the one to Norway and to Sweden…)
Can we think that the volumes exchanged via these borders are simply in the ´aggregated curves´ and not ´visible´ via the utility tool?
As we assume they should also impact the price formation we would have expected that they are also published in the utility tool. Do you know why this is not the case and where we should find the information instead?
3) LTN: he had several internal discussion about this topic: many think that from a theoretical perspective the LTN shouldn´t affect the price formation, in reality we see that with or without LTN the results that the full FB gives are significantly different: is this interpretation correct? Could you explain us why a LTN might affect the price formation?

thank you in advance, Silvia Messa

6/10/2015 10:04:47 AM

1) As described in the documentation, the 7.30 (8AM) FB matrix is for information and analysis puproses, so it is always possible that the FB domain can change between these two computation. But under normal operation, the published FB matrix only change due to the LTN shift.

2) The 'Refprog' sheet only takes Continental Europe into account (because they originate from the grid model merging process). The DC cables are incorperated into the individual D2CF models and are as such reflected in the vertical load in the utility tool.
More information on the exchanges on the DC cables can be found on the Entso-e Transparancy Platform.

Utility tool

Hub-to-Hub trade

2/22/2013 1:10:40 PM

Hi,

A Hub-to-Hub trade is feasible if no PTDF constraint is violated over all hours. Why not only look for violation of contraints in the hour that is seleceted by the user in cell B9?

Thanks for the reply.

2/28/2013 8:12:24 AM

The utility tool checks whether a set of hub-to-hub trader OR a set of net positions are feasible within the FB domain of all 24 hours of one day. If on one hour or more a violation of the FB constraints is detected, the utility tool indicates that there is a constrained transmission system on at least one hour. In the worksheet ‘PTDFs’ you can indeed trace the hour(s) where a FB constraint would be violated by the set of hub-to-hub trader or set of net positions specified.
Please note that the utility tool is an attempt of the CWE project, in consultation with the members of the FB User Group, to provide the market participants with a useful tool to get a grip on the hourly FB domains. This check on all 24 hours on one day was implemented upon special request of the market participants that were involved in the FB User Group.
We are of course open for any suggestions that you may have to improve the utility tool!

2/28/2013 8:12:38 AM

In order to prevent any unclarity, please note the following.
On the sheet ‘market view’ of the utility tool, the information module indicates the maximum bilateral echanges and maximum import/export positions feasible within the FB domain of the hour specified in cell B9. These values are non-simultaneous values!
If you now specify a set of net positions in the interactive module on the worsheeet ‘market view’ of the utility tool, the tool checks whether these net positions are simultaneously feasible on all hours of the day. In the worksheet ‘PTDFs’ you can trace the hour(s) where a FB constraint would be violated by the net positions specified. If for hour2 there is a violation it means that for hour2 the net positions specified are not simultaneously feasible and cannot result from a FBMC for this hour. If, on the same day, for hour3 there is no violation it means that for hour3 the net positions specified are simultaneously feasible and can result from a FBMC for this hour.

Border Germany --> Belgium???

2/22/2013 2:54:41 PM

Will there be a new border between Germany and Belgium which will be offered/sold?

2/28/2013 8:05:37 AM

Currently there is no direct electrical connection between Belgium and Germany. Nevertheless the CWE FBMC facilitates trades between Belgium and Germany, like it does between Belgium and France, and Netherlands and France for example. Impact of one exchange between two countries is

done not by looking border by border as now in ATC (in the indicated case, Germany to Netherland and Netherland to France or Germany to France and France to Belgium), but directly by simulating the impact of the final exchange, whatever the number of borders crossed and the possible path. The CWE FBMC facilitates trades between all hubs of CWE, even those without physical border. Indeed, in the CWE FBMC all bids and offers compete with one another to make use of the (possibly scarce) capacity.

8/19/2014 12:49:19 PM

I have a question about the utility tool you provided to market participants. I would like to know why in the “Market view” sheet there are 6 potential flows (from cell “E12” to cell “E17”) but there exist only four “real” physical flows. In other words why do we need to fill an exchange between Belgium and Germany and between Netherlands and France ? And to what does that correspond in the real world ?

9/17/2014 3:31:52 PM

There exist many real (without the quotation marks) physical flows: the flows on the critical branches. Under the ATC model four interconnections are explicitly represented to model the contract paths. Even under ATC this concept can be generalized to any pair of markets and reflect the maximum exchange allowed between them: the hub to hub exchanges. E.g. a BE->DE exchange is limited to the sum of the two routes:

1. BE->NL->DE (capacity = min {BE->NL, or NL->DE});
2. BE->FR->DE (capacity = min{BE->FR, FR->DE});

Under FB the maximum exchanges between pairs of hubs are limited too, and the utility tool tries to provide a handle on what is possible.

Transparency of CGM

3/5/2013 1:08:53 PM

The proposed Utility Tool has the objective to allow market participants to explore the “security domain” in the day ahead stage. Market parties, however, need to perform price forecasting / market analysis for much longer periods. For example, market parties need to do price forecasting for the next calendar year, when submitting bids for the yearly explicit auctions of cross-border capacity. For investment decisions, time frames up to 10-20 years are not uncommon. For this purpose, it is necessary that market parties receive much more detailed information on the network. Can the full Common Grid Model be made public?

4/11/2013 1:42:07 PM

Provision of “Long term Common Grid Models” is not foreseen today, however Market Parties are kindly invited to specifiy their needs in the scope of day ahead Flow Based Implementation, especially via the consultation and the FB User Group. CWE project partners also wish to remind market parties that ENTSOE’s “TYNDP” (Ten Year Network Development Plan) remains a solid, coordinated and publicly available estimation of the grid for the next years.

Bugs?

3/8/2013 9:59:07 AM

Hi,

If I download utility tool of March 3 and retrieve data for reference date March 3. I get data that does not make sense (i.e. huge numbers in PTDF matrix).

Same story for other dates as well. Also 'old' utility tools that I downloaded earlier do not work properly anymore.

Rgds,

Vincent

3/28/2013 5:56:37 PM

Thank you for reporting us possible bugs but we would need more details in order to be able to solve the situation and help you out.
Could you please attach a screenshot to your post in order for us to understand better what you mean by “huge numbers”.
Once we have a better idea of your request, we will be able to investigate on the IT side in order to check there whether there is a bug in the utility tool.

4/17/2013 9:36:41 PM

I've attached the screenshot.

4/19/2013 12:40:25 PM

Thank you for sending the screenshot that enabled us to better determine the problem. It seems that this is however not a bug of the utility tool but that your issue with high numbers displayed is related to your local settings. We cannot be entirely sure about which settings create this differences in numbers, but our IT would expect this has to do with your regional settings as the numbers are correct, only 10 to the power 9 larger.

Please follow these instructions for windows: Control panel > Region and Language > Formats > Additional settings and then switch the decimal symbol and digit grouping symbol (comma to dot and vice versa).

We hope this will solve your issue enabling you to have the correct display of numbers in the utility tool.

Using the same utility tool for different reference days

3/14/2013 11:24:10 AM

Good morning,
I download the utility tool for a given reference day, e.g. 20120312.
Apparently it is possible to use the same .xls file for a different reference day (as opposed to manually downloading a file per day) by changing cell B7: if I change it, a macro runs and at the end I get the message "The data for dd/mm/yyyy has been successfully retrieved".
But now the spreadsheet is populated with obviously wrong data (e.g. nex of several TW).

Is this a bug? Could it be solved?
Thank you in advance,
Filippo

3/28/2013 4:58:06 PM

Indeed the functionality is there to change cell B7 in the Utility tool and the data for that specific reference data will be retrieved (when available). Normally the right data should then appear in the different cells (i.e. on the Market view sheet).

We understand from your question that this was not the case for the instance you have tried. To be able to conclude whether this was a bug or errors in the data itself, we have to know for which reference date specifically you have tried this.

We expect that the data itself was corrupted as we have tested the functionality for random dates and it works correctly.

3/29/2013 7:43:38 PM

Hi, in relation fo my earlier post (soory for the awkward presentation, but it looks I cannot reply to posts), please find hereby attached a screenshot of the problem.
Regards
Filippo

Good morning,
I download the utility tool for a given reference day, e.g. 20120312.
Apparently it is possible to use the same .xls file for a different reference day (as opposed to manually downloading a file per day) by changing cell B7: if I change it, a macro runs and at the end I get the message "The data for dd/mm/yyyy has been successfully retrieved".
But now the spreadsheet is populated with obviously wrong data (e.g. nex of several TW).
Is this a bug? Could it be solved?
Thank you in advance,
Filippo
Report

User ProfileView All Posts by UserHide User Posts
CWE FB MC Project Partners 2 #2 Posted : a day ago
Posts: 12

Indeed the functionality is there to change cell B7 in the Utility tool and the data for that specific reference data will be retrieved (when available). Normally the right data should then appear in the different cells (i.e. on the Market view sheet).

We understand from your question that this was not the case for the instance you have tried. To be able to conclude whether this was a bug or errors in the data itself, we have to know for which reference date specifically you have tried this.

We expect that the data itself was corrupted as we have tested the functionality for random dates and it works correctly.

5/3/2013 8:15:47 AM

Thank you for reporting us this malfunction. This should have been solved with the last deploy of the

utility tool (i.e. the version with representative day visibility).

Impossible to connect to web service

3/14/2013 2:55:49 PM

The access to the webservice is denied (certainly due to a very stringent firewall) so that, I cannot refresh the UT. [b]Would you provide aggregated sets of all the data contained in the UT? [/b]

Namely,
- Prices
- Clearing Volume
- Min/Max Volume & Position
- PTDFs

3/15/2013 12:20:58 PM

Good day all,

As I cannot reply to the message I sent yesterday, here are some more details
[u]Re the error [/u] When using the same address as computed in the vba code directly in internet explorer it works fine which excludes the firewall from the scope. However, the UT keeps raising an Error 70 pop-up claiming the access is denied: has the data format changed?

Thanks.

3/28/2013 4:50:50 PM

The connection difficulty could be linked to disabled Macros which have to be enabled in order to work with the webservice. Please check your macro settings.

Max net pos definition

4/11/2013 6:52:11 PM

Good morning,
Could you please explain in detail how the “max net position” of a hub is defined? How is it compensated on the other hubs?
I'm referring to range J20:K23 of the “Market view” sheet or range H1:P25 of the “Max net pos” sheet of the utility tool.
Thank you in advance,
Filippo

5/2/2013 2:33:28 PM

The max net position for a certain hub, that is feasible within the FB domain, can be solved as an optimization problem:

Maximize the net position for one hub, while the other hubs are facilitating this, thereby respecting :

1. Sum of net positions equals zero
2. All the FB constraints (The point must be inside the FB domain).

In this way, one specific point of the FB domain is identified, with all the CWE net positions known.

As an example, for the 16/04/2013 at 00:30 :
Max Net Position of France is 4711 MW.
This position is reached with these CWE net positions : -1401 MW for BE / -59 MW for DE / +4711 MW for FR and -3251 MW for NL.
Min Net Position of Belgium is -2868 MW
This position is reached with these CWE net positions : -2868 MW for BE / -4672 MW for DE / +3153 MW for FR and +4387 MW for NL.

By definition, every other feasible trade within the CWE region will offer less export or import capacity than the selected Max/Min Net Position.

Odd data in the "PTDFs" worksheets

4/18/2013 7:47:26 PM

Hi,
The data in the "PTDFs" worksheets of the utility tool look odd for some days.
For example on 21/03/2013 there are two blocks for hour 23 (rows 452:474 and rows 495:515) and for hour 24 (rows 475:494 and rows 516:537).
Could you please check it and in case it's a bug republish all the affected utility tools?
Regards
Filippo

6/3/2013 10:21:11 AM

Thank you for drawing our attention on the bug you detected in the Utility tool.
It has now been fixed by our IT provider. The mismatch between the CBs and hours has also been corrected.

CWE FB MC Project Partners

Max net pos definition - follow up

5/30/2013 1:38:04 PM

Good morning,
Thank you for your explanation.
I have not done an extensive analysis, but I can find days/hours where I (mistakenly, probably) can find a different solution to the optimization problem.

Let’s take flow date 18/03/13, HE21, as an example. A maximum DE net position of 5028MW is shown in cell J20 of the utility tool.
Is this value the maximum DE-to-reference exchange, with no balance from other nodes? I do not think so as clearly CB3,4,5,6,15,16 would be violated.
Is it the maximum DE can export assuming an optimal configuration of the nex of the other hubs? In this case I think the following set of hub positions:

DE 5860.110512
BE 5646.872181
FR -4179.631484
NL -7327.351209
would satisfy all constrains of HE 21, with a higher DE net position than shown in cell J20.

Could you please take a look at this example?

Thank you in advance for your reply,
Filippo

6/13/2013 9:36:18 AM

Mid March, the FB prototype tooling used to perform the parallel run was upgraded, to be compliant with the future FB Common System.
Despite tests that were performed before using it in the daily FB capacity calculation process, it appeared that some files were incorrectly used by the prototype tooling during the calculation.

The external constraints (= import/export limits) were correctly taken into account during calculation of FB Parameters and calculation of indicators (sush as MaxBilateralExchange), but they were not taken into account when translating the data in the proper format for the FBMC simulations.

In practice, for the days where the problem appeared (i.e. 15/03 and 18/03), the:
• Max volume module available in the utility tool is correct
• Check Volume module in the utility tool is false, due to missing constraints in the PTDF sheet (missing import/export limit).
• FBMC results are false, due to missing constraints in the file that was provided to the FBMC simulation software (missing import/export limit).

In the case given, the missing constraint is the NL import limit, set for this day at a value of -4150 MW (-3893 MW of Min NL as shown in page MaxNetPos of the utility tool and -257 MW of LongTerm Nomination for this hour).

Minor inconsistencies between the .csv PTDF files and the Utility Tool?

1/21/2014 10:49:20 AM

Hi,
Some very minor issues regarding the PTDF and RAM dataset for the parallel run so far:
• For some days, there are two files in the new section: ftp://ftp.cwe-sf2.com/2013/PTDF/ (e.g.20130112, 20130213, ...): which are the correct ones?
• Looks like you can't download the .xls utility tool from http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Publication-CWE-Flow-based-External-parallel-run for more than one year rolling.
• However, days before 365 days ago can still be downloaded by changing the date in cell B& of the "market view" sheet. But then sometimes the data in the "PTDFs" sheet does not match the .csv files on ftp://ftp.cwe-sf2.com/2013/PTDF/. For example, this happens for deliver day 20130112, retrieved via the 20130123 utility tool.
• Sometimes, the same CB is repeated twice, and but not in the same manner in the utility tool and in the .csv files: e.g. CB 881 and 882 (in the csv file) and CB782 and CB783 (in the utility tool), for flow date 20130318. Is that just an oversight or were other CBs meant to appear in lieu of the repeated ones?

Regards

Filippo

4/10/2014 1:56:29 PM

For some dates indeed there was a discrepancies between that a data available on the CWE FTP and Utility tool. This is caused due to data that has been corrected in the past, but not processed correctly as it seemed. Below an overview of the data that was available on the CWE FTP, the highlighted files have been removed to align the available files on both the CWE FTP and Utility tool

[b]20130112.csv[/b] 20130112v2.csv
20130213.csv [b]20130213_3_0.csv[/b]
20130214.csv [b]20130214_4_0.csv[/b]20130215.csv [b] 20130215_5_0.csv[/b]
20130216.csv [b]20130216_6_0.csv[/b]20130217.csv [b]20130217_7_0.csv[/b]
20130218.csv [b]20130218_1_0.csv[/b]20130219.csv [b]20130219_2_0.csv[/b]
20130220.csv [b]20130220_3_0.csv[/b]20130221.csv [b]20130221_4_0.csv[/b][b]
20130520_1_0.csv [/b] 20130520_1_0v2.csv

Data of the external parallel run is indeed available on the Utility tool for one year, after which data will be archived. Next to this, data is still available via the Utility tool, by changing the date, after which the respective data will be retrieved. Normally this data present here is equal to the data on the CWE FTP. For the specific date of the 20130112, this was incorrect on the CWE FTP at that time. As explained earlier the wrong version has been deleted, so they should be equal now.
The question with regards to repeated lines for 20130318 & 20130315 can be explained by a malfunction of the pre-solve algorithm with the prototype at that time. http://cascforum.my-ems.net/yaf_postsm122_Max-net-pos-definition---follow-up.aspx#post122. As explained in an earlier answer the data for this day is not representable on some indicators, so it has been advised to not take this into account for thorough analysis

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Intraday ATC FB //run

3/12/2014 10:02:07 AM

Hello,

I'm writting to you regarding the intraday ATC from parallel run, the calendar doesn’t allow me to go further than the 4th of April 2014.

So, I am not able to make any extract for February. If you still didn’t publish data for February, we would be sincerly grateful if you could do it asap and let us know for when it will be done.

Many thanks,

Best regards,

Guillaume

3/26/2014 2:42:26 PM

Unfortunately, the project experienced some delays in publication. The data is now available.

Please note that the publication of Intraday ATCs as part of the FB parallel run is subject to regular updates as it is meant to support market parties in their preparation for Flow-Based Market coupling

implementation. However, project parties cannot commit to any specific publication dates.

Odd PTDFs again

3/12/2014 2:06:31 PM

Good morning,
Since mid-February some odd (at least to my eyes) PTDFs have appeared in the .csv files. I.e. PTDFs that are influenced by BE, DE, FR, but not NL.
E.g. Flow date 03/03/2014, HE15, IDs 864 to 877:

Date Hour Id BE DE FR NL Ram
03/03/2014 15 855 0.02663 -0.15341 0.06446 -0.12685 1222
03/03/2014 15 856 0.06461 0.22008 0.31549 0.15106 1678
03/03/2014 15 857 0.06591 -0.05921 -0.06699 -0.03336 204
03/03/2014 15 858 0.02289 0.13764 0.06613 -0.02428 717
03/03/2014 15 859 0.01478 0.20545 0.1388 -0.03823 1128
03/03/2014 15 860 0.01368 0.13122 0.05912 -0.09408 923
03/03/2014 15 861 0 0 0 -1 3892
03/03/2014 15 862 0 -1 0 0 4838
03/03/2014 15 863 -1 0 0 0 4423
03/03/2014 15 864 0.07714 -0.02252 -0.03098 0 164
03/03/2014 15 865 -0.10942 -0.01597 -0.14898 0 240
03/03/2014 15 866 0 -0.05339 -0.14657 0 265
03/03/2014 15 867 -0.11905 -0.13235 -0.14344 0 290
03/03/2014 15 868 -0.1358 -0.01151 -0.14934 0 236
03/03/2014 15 869 -0.13047 -0.01036 -0.14936 0 236
03/03/2014 15 870 0 -0.07392 -0.10615 0 210
03/03/2014 15 871 -0.12533 -0.01465 -0.12533 0 199
03/03/2014 15 872 -0.1213 -0.09803 -0.1213 0 236
03/03/2014 15 873 -0.09931 -0.03653 -0.05136 0 211
03/03/2014 15 874 -0.12507 -0.01456 -0.12455 0 199
03/03/2014 15 875 -0.07108 -0.0156 -0.04313 0 140
03/03/2014 15 876 -0.0685 -0.01768 -0.03576 0 141
03/03/2014 15 877 -0.067 -0.01963 -0.03157 0 142

How are they explained?
Thanks,
Filippo

5/21/2014 8:25:29 AM

Good morning,
I do not think you've ever answered this question - yet we'd really like to know more about these "odd" constraints and how to forecast them.
It looks like they had disappeared for the last month or so (or, to be more precise, they moved to a part of the Flow-Based domain unlikely to be close to the market solution, so they were not binding) but on delivery date 21/05 they are back with a vengeance and are binding 23 out of 24 hours: see attached file.
This leads to a large welfare destruction compared to the ATC outcome.
Could you please provide some general background on these constraints and explain in detail waht happended on 21/05?

Thank you in advance, and regards.
Filippo

7/23/2014 2:36:14 PM

The ‘odd’ PTDFs to which is referred to in the question, belonged to virtual PTDFs that are generated by a so called LTA coverage algorithm that is triggered when long-term capacities are not fully covered by Flow-based parameters provided by TSOs. As this this is virtual, there is no need for a slack node, so that is way PTDFs of NL was arbitrary set to zero.
For more information, we kindly refer to the part of the approval package related to LTA inclusion check (4.2.6.):
http://www.casc.eu/media/pdf/FB/140530%20CWE%20FB%20MC%20Approval%20document.pdf

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7/23/2014 3:55:23 PM

As regards the explanation for the specific day on 21 May was published on the CASC website shortly after, please see: http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results

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"cweNEX” and “NEX” difference ?

3/13/2014 3:05:16 PM

Hello,

I am writting to you regarding to the new daily publication of a Flow based parallel run.

What’s the difference between the tab “cweNEX” and the tab “NEX” in the new publication? and the difference compared to tab “ nex” in the previous weekly publication ?

Many thanks,

Best regards,

Guillaume Landenne,

6/9/2015 2:57:15 PM

The “NEX” corresponds to the net positions (respecting the FB constraints) of the CWE hubs taking into account the exchanges with hubs outside of CWE but coupled to CWE through ATC (multi regional coupling).
And the “cweNEX” corresponds to the net positions in CWE without taking the exchanges at the borders outside of CWE into account (cweNEXs are the results of the “CWE internal” exchanges only).

ID of Critical Branch in xml fomat as it is for excel files.

4/28/2014 1:47:55 PM

Hello,

Could you please include the ID of the Critical Branch in the xml files, as it is included in the excel format.

Many thanks,

5/20/2014 2:05:00 PM

Please note that for now the IDs indicated for critical branches in the PTDFs are random IDs (meaning they are not fixed, a specific CB could be one day “CB2” and the other day “CB16” for instance), therefore it is hard to understand the purpose of your inquiry.
Besides, the Project would like to highlight that a proposal was made during the last FBUG meeting ([url=http://www.casc.eu/media/CWE%20Flow%20based%20project_FBUG%20meeting%20minutes_20140327_Final.pdf]Minutes available on this link[/url]) to publish the PTDFs with fixed IDs ex post in D+2 thus enabling Market Parties to perform correlation analyses.

8/28/2014 11:43:05 AM

Hi, few questions:
1.what does the single digit for Fmax/Spanning/Fallback indicate?
2.what do the three digits for virtual cbs indicate? Does this signify the number of virual critical branches? If yes then how will this part of domain be physically translated?

9/9/2014 2:54:53 PM

1.This digit is used to discriminate some CBCOs between themselves:
It includes 2 different parts:
- The Fmax one. Some TSOs are monitoring the flow of one CBCO with different values of Fmax, according to network security rules (for example, maximal absolute value allowed (before Remedial Action), and standard maximal value (after Remedial Action)).
We use this digit to discriminate these CBCOs.
- When Spanning / Fallback is applied (Approval package chapter 4.6. Backup and Fallback procedures for Flow Based capacity calculation), the digit is used to indicate that the process was used in a fallback way, which allows to discriminate these days/hours e.g. in statistical analyses.

2. As described in the Annex 16.6 Information regarding LTA inclusion (where it’s possible to read the link between LTA inclusion and the correspondence to physics), Virtual CBs can be created during the FB capacity calculation.
To keep the unicity of the fixed anonymous numbers, we need to discriminate these virtual CBs, and the 3 digits used for that purpose (starting from 001).

D2CF Data

3/27/2015 2:35:06 PM

Hi,

Could you explain why Generation-Vertical Load doesn't equal to Best Forecast Net Positions.

By Generation, what do you mean (output at the plant, transmission losses included?).

Regards,

Patrick

4/15/2015 8:29:38 AM

[quote=Patrick;336]Hi,

Could you explain why Generation-Vertical Load doesn't equal to Best Forecast Net Positions.

By Generation, what do you mean (output at the plant, transmission losses included?).

Regards,

Patrick[/quote]

Good morning,

On a similar subject, could you please explain whether the "DE" vertical load, generation and net position in the D2CF sheet are for the Amprion+50Hz+TransnetBW+TennetDE perimeter, the DE+AT+LU bidding zone, or other?
Thank you in advance,
Filippo

4/28/2015 4:10:54 PM

For capacity calculation purposes, each CWE TSO generates one individual grid model per hour. This tab publishes the aggregated assumptions that are taken in the common and individual grid models for each market coupling hour:

• “Vertical load” is the load as seen from the transmission grid in MW in the Common Grid Model;
• “Generation” is the generation in MW in the Common Grid Model;
• “Best forecast net position” is the forecast of the overall balance of the countries in MW in the [b]Individual Grid Models [/b](please note that DE contains also the information of Denmark West (DK1) before merging into the Common Grid Model.

Please note that a CWE Publication Handbook has been published on the CASC website to support you:
[url=http://www.casc.eu/media/CWE%20FB%20Publications/20150417_CWE_%20CASC%20Publication%20Handbook_final.pdf]http://www.casc.eu/media/CWE%20FB%20Publications/20150417_CWE_%20CASC%20Publication%20Handbook_final.pdf[/url]

We will answer your further question as soon as possible.

RefProg for Nordics and UK

5/14/2015 10:15:38 AM

Good morning,
Unless I am mistaken, the "Refprog" sheet in the Utility Tool does not contain the CWE/Nordics and CWE/UK border flow assumptions. This makes it impossible to reconcile the "Refprog" with the "Best Forecast Net Positions" in the "D2CF" sheet, which are based on the full perimeter.

Could you please publish the missing borders?

Thank you in advance,
Filippo Pirovano

6/10/2015 1:20:55 PM

The 'Refprog' sheet only takes Continental Europe into account (because they originate from the grid model merging process). The DC cables are incorperated into the individual D2CF models and are as such reflected in the vertical load in the utility tool.
More information on the exchanges on the DC cables can be found on the Entso-e Transparancy Platform.

Intuitiveness

5/27/2015 8:17:30 AM

Where can we find intuitiveness informations since Go Live (like displayed in the reports during parallel run on each hour)?

Thanks

6/23/2015 8:40:09 AM

CWE is running a FB Intuitive (FBI) market coupling, and all market results are intuitive. It has been agreed that the project will keep running and simulating the FB plain in parallel and provide CWE NRAs with a detailed monitoring on the results that would have been engendered by Flow Based Plain.
It is foreseen to compile and to share with market parties bi-annual reports including analysis of the functioning of Flow-Based MC.

BEC computation

5/27/2015 3:35:34 PM

Good afternoon,
BEC values are calculated thanks to specific formulas that have been described in a document called : Computation of bilteral exchanges.
This document states that for exemple

BEC_ma BE to FRF = -(3*Bfr + 2*Bde + Bnl)/4

B being the net position in the relevant country.

When I do apply these formulas using net positions publised in the utility tool, I always find differences between my calculation and the offical BEC values published in the utility tool.
Do you what is the reason ?

Thank you in advance.

6/23/2015 8:18:19 AM

The initial BEC formula does not necessarily respect the intuitiveness constraint. Given that the CWE FB project launched in “intuitive” mode, projected partners decided to make sure the published BECs are consistent with the prices. This results in periodic deviations of the BEC formula. More details can be found in this
[url=http://www.casc.eu/media/Note%20on%20the%20Computation%20of%20Bilateral%20Exchanges%20from%20Net%20positions.pdf]note on the computation of BECs[/url].

DE-DK2

6/16/2015 8:57:30 AM

Is there a reason why there is no DK2-DE column on ATC?

6/29/2015 3:00:20 PM

The Utility tool displays information on certain non-CWE lines, including DK1-DE which is part of continental Europe area (whereas DK2 is part of Nordic area). Indeed the publication is not fully consistent but it is linked to the fact that CASC can only publish information on links for which there is an agreement to do so, therefore DK2-DE data is not displayed in the Utility tool. Please note that DK2-DE data is published on the ENTSO-E website.

Flow-Based project

Transparency

2/13/2013 4:18:21 PM

How will the project ensure that all information is public available before the consultation starts?

2/13/2013 4:19:18 PM

The Project is organized and works closely with regulators in order to secure the consultation process. Moreover the consultation will last for two months in order to give a reasonable amount of time to everybody to react on the published documents.

Public consultation

2/13/2013 4:30:17 PM

How and where will the consultation be published?

2/13/2013 4:30:39 PM

Public consultation documents will be published the 1st of May on each project partners' website. In addition, a survey will be opened for you to react on different topics and to answer specific questions.

Content of Public consultation

2/13/2013 4:30:59 PM

What topic will be consulted?

2/13/2013 4:31:36 PM

The Public consultation document will include the following:
- CWE Market Coupling Solution
- Fallback arrangement
- Roll back
- Coordinated Flow Based capacity domain determination
- Economic Assessment
- Publication of data
- The Intuitiveness Report

Survey

2/13/2013 4:31:58 PM

How does the project ensure that relevant questions are asked?

2/13/2013 4:32:29 PM

A survey to point at specific topics will be opened which will include open text fields for all participants to ask the questions they want.

Evaluation of public consultation

2/13/2013 4:33:17 PM

How will consultation results be evaluated? Who does evaluate? Where will the results be published?

2/13/2013 4:36:08 PM

Results will be evaluated via the survey tool which will extract and analyze the quantitative data. Qualitative data will be reviewed, evaluated and included in the final approval package for NRAs. Survey results will be published one month after end of the survey the latest, results of the qualitative feedback will be published after discussion with and acceptance of the CWE NRAs.

Public consultation outcome

2/13/2013 4:34:01 PM

Who decides on changes? How is the decision process?

2/13/2013 4:34:22 PM

The results of the consultation will be summarized to all parties. Regulators will approve the final package of documentation and approve the Go live.

CWE FB MC Go Live decision

2/13/2013 5:33:32 PM

Who does decide on the Go live?

2/13/2013 5:33:42 PM

The Go Live decision will be made by the CWE Joint Steering Committee where all TSOs and PXs are represented and after approval by all NRAs.

CWE FB MC Go Live requirements

2/13/2013 5:34:12 PM

What are the requirements for a Go live decision?

2/13/2013 5:34:30 PM

The project has established a list of acceptance criteria for the Go Live decision. Based on a thorough analysis regarding the achievement of these criteria, project partners will assess the Go live readiness.

Measurement

2/13/2013 5:35:18 PM

How is efficiency and improvement measured?

2/13/2013 5:35:30 PM

The project is engaged into a long experimentation process, which started more than a year before the launch of the external parallel run. TSOs and PXs have a monitored and analyzed performance of the experimentation and have a set of criteria which are continuously monitored.

Information for MPs

2/13/2013 5:37:45 PM

How will the project ensure that everyone is well informed?

2/13/2013 5:38:22 PM

During the external parallel run, MPs will have a lot of occasions where they can get all the necessary information. Several events will be organized and a Q&A Forum will allow MPs to ask their questions during the whole length of the external parallel run. Information will be provided during the foreseen CWE FB MC Market Forums, FBUG Meetings, public consultation and beavailable on project partners'/CASC's website.

February 2012 results

3/5/2013 1:03:02 PM

Last year, around February 2012, we have seen quite extreme market results. It would be useful to provide parallel results for this period as well, as such extreme market results might not re-appear in the coming months and might show some more extreme impact between ATC market coupling and flow-based market coupling. Can such parallel results be provided?

4/26/2013 2:03:06 PM

Please note that this information has already been published in the CWE Enhanced Flow-Based MC

intuitiveness report (2012).
In this report, results for Feb 9th 2012 with extreme prices in the French market have been compared with the results obtained during the experimentation cycles. However, the assumptions in terms of FRM, GSK, and qualification have evolved until the end of 2012.
Unfortunately, re-run this day ex-post with the current methodology is not possible. Therefore, please read these simulation results carefully and based on the methodological assumptions explained in the Intuitiveness Report.

The observations are:
The difference in DAMW between FB “plain” and FB “intuitive” is significant (1.3M€)
9 hours of the day were non-intuitive, of which:
- 3 hours NL was involved (cheapest market and importing);
- 6 hours BE was involved (cheapest market and importing);

This different conclusion is highlighted in the graph (see attachment), where the welfare observed during the experimental cycles (i.e. a 75 day period) is contrasted with the single day Feb 9 event.

These results still need confirmation on a longer simulation period. This is even stronger for the results of Feb 9th, since this information is just a single day.

Source: CWE Enhanced Flow-Based MC intuitiveness report (2012), p.23.

Powerpoint slides for Flow based Forum Dusseldorf 07/03

3/8/2013 11:45:41 AM

Hello

Would it be possible to download the slides of the morning briefing and the afternoon workshops of 07/03/12 in Dusseldorf?

Thanks

3/8/2013 2:55:04 PM

Please be informed that the Forum's presentations have been published in a newly created section on the CASC website dedicated to project documentation ([url=http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Documentation]http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Documentation[/url]). You will be able to find further information and documentation in this section in the future.

FBMC Transparency expert group

6/5/2013 7:42:40 AM

The complexitiy of Flow Based makes it much more difficult to forecast market prices. In ATC, NTC are relatively stable from one day to another. Market models used by market participants are based on this NTC-approach and the results are used to take important decisions in years, month, week and day-ahead stage(such as investments, maintenance scheduling, operational scheduling, disptach,...). With FB, the value of the XB-capacties are not following any (relatively) stable pattern from one day to another, making it much more difficult to use in the market models currently developped, and consequently making it much more difficult to take important decisions in years, month, week and day-ahead stage. During the last workshop, it was mentionned that a Transparency Expert Working Group would be created to tackle this issue. Could you confirm? Thank you.

6/17/2013 2:06:42 PM

The CWE FB MC project fully understands your point and the need for market actors to have access to transparent information and get some visibility for long term decision purposes.
It is however not planned to create another platform in parallel to exchange with market parties specifically on transparency issues. The transparency topic is continuously raised during the FB User Groups from a market participant perspective.
We believe the FB User Group is the right forum to tackle the issue you raise but also the public consultation should enable a wider part of market parties to clearly indicate the challenges faced not only in daily processes but also for long term business decisions. The free comments made through the online survey tool will be scrupulously assessed and taken into account in further project steps.

Start Date Flow-Based MC

5/19/2014 12:56:53 PM

Hello,

what is currently the official expected go live date for flow-based market coupling, still Sep14? Daily publication of parallel runs appears to work reliably, but haven't seen an update on the expected start date.

Thanks

7/23/2014 4:07:28 PM

Please see the updated CWE FB project planning which was presented during the last cwe Flow-Based Market Forum on the following link (p. 5):
http://www.casc.eu/media/20140623_CWE%20FB%20MC%20Market%20Forum_final.pdf

According to the planning communicated, CWE FB MC project partners aim at a readiness target date in October with a go-live window foreseen in November 2014.

8/19/2014 5:13:52 AM

Hello,

my question is: Is there a deadline for a Point of no Return meaning a start date which is definite. The start date has been postponed several times. The last update for the start of FB we have is November which is just 2 1/2 months ahead. Since we are active in all affected countries we need to be certain about the start date.

Ingo Klause

10/27/2014 4:14:34 PM

Dear Ingo,
Project partners are fully aware of the importance for Market Parties to get enough certainty about the FB MC go-live date and taking your remark as well as general request from MPs into account, communicated as early as possible on the go-live shift (see: http://www.casc.eu/media/CWE%20-

%20Com%20MP%2014%2009%2024%20VF(1).pdf).
Please note that the postponement of FB MC launch to March 2015 is due to exceptional circumstances out of the Project scope. The project partners still aim at a technical readiness for November but the actual go-live target date is set for 31 March 2015. We hope this announcement gives you enough time and clarity to anticipate the transition to FB MC in the CWE region. Please be assured that the Project will communicate on due time with further details regarding launch.
KR,
CWE FB project partners

1/5/2015 12:28:22 PM

According to http://www.casc.eu/media/CWE%20FB%20MC_Sept%202014_Updated%20project%20planning.pdf the go live date is 31 march 2015. Is this still the most up to date information?

In the document a disclaimer is made by "subject to final confirmation with regulators on 25 September [2014]". Is this confirmation from the regulators given?

The last paragraph of the document states: "The project partners therefore confirm the technical readiness target date by the end of November 2014 and expect that Market Parties will also have prepared their internal processes and systems by the end of the year to ensure the actual Flow-Based go-live on 31 March 2015." Can you comment on these mile stones? Are they met?

Thanks.

2/10/2015 10:46:07 AM

Apparently the regulatory approval was not given. How is it with the technical readiness? Well maybe the systems need to be patched to be acceptable by the regulators.

I find it weird that there is no official communication about the delay on the casc website [url=http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Documentation]http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Documentation[/url] section Market Communication but there is still information on the April 1st go live.

2/12/2015 4:16:23 PM

You will see that the documentation section has been updated with the last information which was sent out to Market Parties:
http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Documentation

The project partners will inform market participants as soon as a new target date has been decided on.

Kind regards,

CWE FB MC Project

2/13/2015 8:11:47 AM

Thanks

3/31/2015 7:34:00 AM

In the past we have been surprized negatively about delays in the project and last minute communication.

According the the latest public time schedule, there are some mile stones that should have been reached. Can you confirm reaching the mile stones?
[url=http://www.casc.eu/media/CWE%20FB%20MC_Planning%20target%20Go-live_6March2015_final.pdf]http://www.casc.eu/media/CWE%20FB%20MC_Planning%20target%20Go-live_6March2015_final.pdf[/url]

[quote]...provided that the Project will answer the latest NRAs requests on 13 March (final update of the approval documents).[/quote] Are those approval documents sent in? Are they accepted by the NRAs?

[quote]This leads to the following agreed timeline regarding go-live: Project full readiness assessment: end of March ...[/quote] It is now the last day of March, so are you ready? Is there a assessment report?

4/14/2015 4:41:55 PM

Please be ensured that project partners always try to communicate in the most transparent way to market parties and in order to provide as good visibility on the go-live as possible.

The planning presented during the last Market Forum and communicated to the Market on the same day is still accurate and the CWE Project can confirm that both mentioned milestones have been reached.
The last document (on Adequacy mitigation) has been submitted to Regulators as foreseen and published on the dedicated CASC page: [url=http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Approval-Documents]http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Approval-Documents[/url].

The project partners are now ready and checking the final steps until go-live which is still foreseen on 20 May (first trading day) provided the NRAs approval is given on 23 April. We will communicate to confirm the go-live following NRAs approval and at the same time provide the Market with the latest information on the final data publication framework.

Best regards,

CWE FB MC partners

Flow data

10/28/2014 9:56:55 AM

Hello,

It is clear that the publication of nominated XB capacity in the current form will end with the go-live of FBMC, but what about nominated and physical flow? Will the publication of the flow data continue in its current form?

Thanks.

12/5/2014 10:50:15 AM

In line with transparency regulation EU543/2013 (Art. 12.1 f+g) these figures will be published on the central ENTSO-E transparency platform.
There will be no change compared to today ([url=http://www.entsoe.net/]www.entsoe.net[/url]) with the launch of the new ENTSO-E transparency platform in 2015.

Approval Package

3/9/2015 3:29:43 PM

Hello,

Regarding the approval package, you mentionned on your website:

The below Approval Documents (dated 20th February 2015) and non-confidential annexes include further updates and represent the reference documentation for the approvals organized by CWE Regulators. The initial Approval Document for consultation purposes and NRAs' survey questions can be found on each NRA website

http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Approval-Documents

However, the date on the document is still 20 August 2014. So, could you provide the last version or could change the date if it's the version of February.

Thanks,

Kr,
guillaume Landenne

3/27/2015 9:00:20 AM

Thank you for your comment. The accompanying text was amended by the Project to avoid any misunderstanding.

Please note that the initial approval package was submitted by project partners earlier in 2014 and not all documents were updated since then (last document updated on 13 March 2015).

The final Approval Documents and non-confidential annexes published ont his page represent the relevant documentation for the formal approval by CWE Regulators foreseen on 23rd April 2015:
[url=http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Approval-Documents]http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Approval-Documents[/url]

CWE project partners

Implementation of FTRs in the CWE region

3/31/2015 10:14:56 AM

[b]Market Participant (Market Forum 6 March):[/b]In the context of the Project's investigations to implement Financial Transmission Rights (FTRs) Options in the CWE region in 2016, would it be possible to clarify how FTRs Options will be treated with regards to MIFID regulation?

3/31/2015 10:15:32 AM

[b]CWE Project:[/b] After a first legal assessment, it seems that all potential impact resulting from MIFID I & II and MAD I & D shall be equal for Physical Transmission Rights (PTRs) with UIOSI (Use-It-Or-Sell-It principle) and FTRs Options. Consequently, the in-depth legal impact assessment would be carried out in parallel and not be part of the scope of a possible implementation project for FTRs Options.

Credentials to ftp

5/19/2015 1:55:17 PM

Can someone please send me fresh credentials for ftp://ftp.cwe-sf2.com/ to access the simulation results?

Thanks.

5/20/2015 7:47:11 AM

You can access all the historical Flow-Based parallel run simulation data on the following link:
[url=http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results]http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results[/url]
The credentials for accessing the Ftp are:
CWE_MC_FB
CAn2Buse

Please note that these simulation results will remain available through the Ftp server for a period of 6 months after go-live.

Discussion on external parallel run data

Functioning of parallel run

2/13/2013 4:20:38 PM

How does the parallel run work?

2/13/2013 4:21:46 PM

- During the parallel run Flow-Based parameters and market simulation results will be published to the market. This publication will first be on a weekly basis where results from the previous week will be published before daily results will be made public.

- All data will be published in a report including the following information resulting from current ATC based operation and from Flow Based simulation: hourly prices, volumes and net positions for all CWE market areas, graphs on price convergence/divergence and welfare calculations.

- Traders will also have at their disposal a Utility tool displaying the relevant Flow-Based parameters which will be helpful for their simulations.

Data of parallel run

2/13/2013 4:24:25 PM

What data is used for the parallel run?

2/13/2013 4:26:40 PM

- TSOs generate on a daily basis Flow Based parameters based on operational data.

- PXs simulate market results on a a weekly basis with a simulation facility based on ATCs order books. The process is performed with experimental tools, pending industrialization of the systems.

Flow based results

2/13/2013 4:27:59 PM

Generators might produce differently. Will Flow based results bereally applicable: don’t they need input from generators (d-2)for the parallel run?

2/13/2013 4:28:18 PM

Under FB, forecasts are performed by TSOs as they are performed today in D-2 for ATCs. Uncertainties linked to capacity calculation are embedded in the FRM values.

Reliability of Flow based results

2/13/2013 4:28:48 PM

How reliable are the results?

2/13/2013 4:29:35 PM

A full year of parallel run is made to convince all partners that the FB methodology is a positive step forward. All parties will have the ability to assess the results prior to the Go live.

Data headers explained

2/21/2013 2:24:55 PM

what is the difference between FB and FBI?

2/22/2013 5:02:13 PM

“FB” stands for “Flow-Based” market coupling and “FBI” stands for “Flow-Based intuitive” market coupling.

Under Flow-Based market coupling (“FB”) it is possible that a flow occurs from a higher price region to a lower price region if this increases the total welfare of the region. Thus, “non intuitive” situations can happen as the methodology aims at regional day-ahead market welfare optimization, and local counter flows (energy flowing from an expensive hub to a cheaper one) can be observed if they allow superior exchanges on other borders.

Under Flow Based intuitive market coupling (“FBI”), the algorithm suppresses this behaviour to the detriment of welfare.

Flow-Based market coupling parallel run is currently simulating both possibilities in order to assess the difference between FBMC and FBIMC. Analysis and first interpretation about the observed data concerning Intuitiveness will be presented during the Market Forum on 7th March.

Are parallel run results reconciled with all relevant grid operators?

2/22/2013 9:20:47 AM

My understanding from the last CWE Market Coupling Forum in Brussels is that there remained open issues with local grid operators with respect to local grid security. Are these resolved now or how are these concerns being addressed now?

2/28/2013 8:07:28 AM

The internal parallel run that preceeded the current external parallel run was indeed intended to ‘operationalize’ the FB method. This means that all operators involved in the capacity calculation process needed to be trained and were ‘learning by doing’.
The start of the external parallel run was triggered by a number of quality criteria, set by the project, that were fullfilled. The ‘readiness’ for performing a double capacity calculation process on a daily basis by all TSOs (one for the operational ATC proces and one for the FB parallel run proces) was one of those criteria.

In short: concerns have been addressed, comfort gained, but of course there will always remain lessons to be learned!

Days missing - representative days

3/1/2013 1:57:08 PM

Some days are missing, can you please explain precisely why? In particular, what is the practical meaning of "representative days (successful simulations)"?
Can you provide more details?

3/8/2013 10:21:57 AM

The parallel run which was launched in January 2013 is an operational process performed by operators on a daily basis, which consists in the computation of FB parameters, on top of “normal” ATC market coupling operations, on the basis of prototype tooling. For these reasons, CWE partners cannot guarantee a full availability of the results. Indeed, some technical issues related to the prototype tooling can prevent TSOs from running a complete FB process. This can result in situations where TSOs are not able to fully assess the security of supply under Flow based. Should the case arise, FB parameters will be labeled as being “not (operationally) representative” and are not subjected to market coupling simulations. Indeed, in order to safeguard the representativeness of the data provided, a priority is given to data quality, rather than quantity.

In this context, CWE partners would like to remind you that FB parallel run data cannot be recomputed ex-post, as it is not possible to reproduce ex-post the exact operating conditions of a given day. Indeed, the computational process would be biased by the knowledge of the operating conditions of the past day(s), and would not reflect anymore the uncertainty that is associated to the day-ahead/real time stage. An ex post analysis often leads to different results than an ante analysis. In short: the essence of the parallel run would be lost.

The implementation of the industrialized IT tooling in the course of 2013 will make the FB operational process and the data provision even more robust, so that stakeholders can fully assess the impact, and taste the benefits, of the FB approach.

Hours with odd results

3/4/2013 3:21:31 PM

Hi, would it be possible to get a remark on the following 'odd' hours:

10 hours (2% of dry-run period) result in full ATC price convergence while FB diverges. Does this mean the ATC case is restricted by lower security margins?

(hours with full ATC price conv. and FB divergence)
07.01.2013 02:00
07.01.2013 14:00
09.01.2013 17:00
13.01.2013 08:00
28.01.2013 11:00
07.02.2013 03:00
08.02.2013 10:00

15.02.2013 07:00
18.02.2013 04:00
20.02.2013 18:00

The following hours show significant price differences (>1€) between FB and ATC although there is full price convergence in both security domains. How could this be explained?

(ATC price >1 € higher than in FB)
07.01.2013 15:00
10.01.2013 15:00
23.01.2013 18:00
28.01.2013 07:00
28.01.2013 15:00
12.02.2013 18:00
13.02.2013 07:00
13.02.2013 15:00

(FB price >1 € higher than in ATC)
23.01.2013 06:00
25.01.2013 06:00
08.02.2013 17:00
12.02.2013 21:00
14.02.2013 07:00
14.02.2013 16:00
18.02.2013 19:00
22.02.2013 06:00
22.02.2013 17:00
26.02.2013 06:00
26.02.2013 14:00

Looking forward to your response.

4/4/2013 3:28:26 PM

In general, the FB domain is larger than the ATC domain. Therefore, we would expect a higher welfare and a higher price convergence under FB than ATC.
This is not always the case, as indicated in your question. The reason for this can be twofold:

- The operational ATC capacity calculation is independent from the parallel FB capacity calculation process (it is really double work at the TSOs). In a minority of cases, it can happen that in the ATC capacity calculation process more capacity is given to the market than would have been the case under FB. Indeed, TSOs apply the same risk policy under ATC and FB when optimizing their capacities...on the basis of the information they have. The FB method is much closer to the physics of the grid though. This enhanced knowledge can in some occasions lead TSOs to decrease the capacity, in some market directions, below the levels granted in ATC.

- Block bids interlink the optimization of the 24 hours of the day with one another. As a consequence, the result for one single hour may sometimes look strange or less optimal. The impact of block orders was highlighted in the FB Forum presentation as well.

4/4/2013 3:28:46 PM

The significant price differences you observe are related to these block effects. Between FB and ATC at least for some hours the results do differ, which in turn causes different blocks to be activated between. And since the blocks span across multiple hours, they affect the pricing of all hours. In case one of those adjacent hours face no congestion in either FBMC or ATCMC, both see full price convergence, but at different price levels.

In the slides of the CWE FB Market forum of 7 March 2013 this effect was also illustrated (albeit comparing FBMC with FBIMC). Consider slide 28 of the following slides:

[url=http://www.casc.eu/media/pdf/Flow%20base/CWE%20Flow%20Based%20Market%20Forum_WS2_Flow%20Based%20results%20discussion_2013_03_07.pdf]CWE FB presentation (results discussion)[/url]

Data interpretation

3/5/2013 1:35:46 PM

Downloading the available XLS-files reveals some questions:

how is the volume in the section "mcv_hourly" calculation (price*...)?
what do "FBI" and "Infinite" in the section "nex" mean and what's the difference between "FB", "FBI", "ATC" and "Infinite" data?
from which data basis are convergence hours in the "convergence" section selected?
how are consumer and producer surplus calculated (which volume data)?

3/12/2013 5:00:49 PM

[b]How is the volume in the section "mcv_hourly" calculation (price*...)?[/b]

The “mcv_hourly” sheet gathers Market Clearing Volumes for each hub at each hour (of the simulation) with Flow Based (FB), Flow Based Intuitive (FBI), Available Transfer Capacity (ATC) and Copper Plate (Infinite) network configurations. Those values are computed as followed:

Consider:
• mcv: market clearing volume;
• sup: accepted supply volume;
• dem: accepted demand volume;
• nex: net postion:
o nex > 0: export volume;
o nex < 0: import volume;

mcv = sup + import = dem + export

Note that a market either imports or exports, one of the two always is zero in the above equation. Therefore we can use an alternative, but fully equivalent definition of mcv, namely: [b]mcv = max(Sup , Dem)[/b]

3/12/2013 5:01:31 PM

[b]What do "FBI" and "Infinite" in the section "nex" mean and what's the difference between "FB", "FBI", "ATC" and "Infinite" data?[/b]

The “nex” sheet gathers rounded Net Exchange Positions for each hub at each hour (of the simulation) with Flow Based (FB), Flow Based Intuitive (FBI), Available Transfer Capacity (ATC) and Copper Plate

(Infinite) network configurations.
Of course, when exchanges are not constrained for network security reasons (i.e. there is no congestion), the Net Exchange Position in a hub c at hour h will be the same for each algorithm (FB, FBI, ATC and Infinite) and will be equal to the Copper Plate (Infinite) net position.
Thus, differences in Net Exchange Positions between FB, FBI, ATC algorithms reflect different trade opportunities. Presence of Net position values for Infinite capacity aims to estimate the congestion's significance.

3/12/2013 5:02:14 PM

[b]From which data basis are convergence hours in the "convergence" section selected?[/b]

It is the number of hours where the spread (i.e. price difference between hubs) is greater than the tolerance threshold which is defined at 0.01 (cell B1 of the "hourlyPrices" sheet).

3/12/2013 5:02:59 PM

[b]How are consumer and producer surplus calculated (which volume data)?[/b]

Producer and consumer surplus:
For all sell orders: accepted volume * (market clearing price – limit price of the order)
For all buy orders: accepted volume * (limit price of the order – market clearing price)

Please see formal representation in the attached file.

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daily publication of the results of parallel run- Is it skiped?

3/8/2013 4:04:28 PM

In the project plan presented on the market forum the "daily publication of results" is no longer shown?

In former presentations, daily publications of results was planned staring in summer.
Is the daily publication skipped? And when "yes", can you give reasons?

regards

3/19/2013 3:08:06 PM

Indeed, in the project planning the "daily publication" of external parallel run results has not ne shown but this does not imply that this step has been skipped. It is still foreseen to publish data on a daily basis to the market. The switch to the daily publication process is linked to the availability of a fully industrialized tool which may be available after summer. Unfortunately, it is too early right now to communicate a fix date but be assured that we will inform you in time.

Explanation of prices under FB

3/12/2013 5:17:13 PM

The results for 01-01-13, 02-01-13 & 28-01-13 are unusual as there the EEX clears lower (because

they export less) vs. the current system. Can somebody comment on these outcomes?

3/12/2013 5:18:15 PM

Normally the FB domain provides more capacity to the market compared to the ATC domain, leading to a higher price convergence and increased welfare. Indeed, this is not always the case on the dates mentioned: a closer inspection reveals that for those days the welfare under FB is lower than under ATC.

The reason for these effects is that on these days the capacity domain under FB is actually smaller than under ATC. One can confirm this by assessing the ATC net positions in the utility tool and to observe that these are not always feasible (e.g. for 28 January only in the hours 4,6,7,8,9,17 the ATC net positions are feasible within the FB domain).

Please also consider the slides of the 7 March market forum. In Workshop Session 2 - case #2 explains why it can be observed that some days have a smaller capacity domain than under FB. The Forum's presentations have been published in a newly created section on the CASC website dedicated to project documentation ([url=http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Documentation]link to CASC[/url]).

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non-published days wanted

3/14/2013 9:48:58 AM

Hi everybody,

we again see that you were not able to publish all data for week 10. Can you explain us why this is so difficult especially given that FBMC is expected to be operational in 10 months time? This is a major credibility issue for FBMC. When do you think you will have a more stable model in place?

Regards

Ingo Klause

3/19/2013 3:23:13 PM

Please refer to the answer already given which can be consulted via this link: [url=http://cascforum.my-ems.net/yaf_postst37_Days-missing---representative-days.aspx]http://cascforum.my-ems.net/yaf_postst37_Days-missing---representative-days.aspx[/url]

4/26/2013 3:04:07 PM

After the 1st quarter of 2013, and following market parties' inquiries, CWE partners would like to provide an overview of the external parallel run performance including explanations on the different types of errors which led to some missing data.

Please find attached the compiled data from the beginning of 2013 until now showing welfare and price convergence graphs.

As market parties could observe during this period, there are several days for which data has not been published; you will find hereafter a classification of the different reasons which lead to missing data. The detailed list of concerned days with the issue identifications published on the CASC website:

http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results

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4/26/2013 3:06:33 PM

Non representative days classification:

1. [b]Human error in applying the common process[/b]: The Operators who actually perform the common Flow-Based activities are working in rotating shifts which means that a same company will apply the FB process only once every 6 weeks in average. However, extra training is being provided by TSOs as well as continuous update of operational procedures to avoid these kinds of errors.
2. [b]Error linked to local tool (local): [/b]FB parallel run is being performed without an industrialized system and relies on local tools (usually Excel macros) which are not always optimal. All local tools will be integrated in a new industrialized system to be delivered in autumn 2013.
3. [b]Error linked to prototype[/b]: The prototype has been continuously improved during the internal parallel run. The latest bugs have been corrected and a new version delivered in April 2013. However it remains a prototype which does not have the same robustness, technical support and backup as the foreseen industrialized solution will.
The prototype is computing the FB parameters based on input data provided by local TSOs.

4/26/2013 3:06:45 PM

4. [b]Error in preparation of input data / local process (local): [/b]The FB process is a more complex system than ATC. Local TSO operators need to adapt and fully integrate the procedures. This is being addressed by reinforced continuous local training.
5. [b]Error linked to learning process of FB methodology[/b]: This kind of issue is linked to the fact that FB is a new system which therefore may present some unforeseeable errors in application of the methodology (on a local or more global level). However this type of error is rare and is part of the learning curve of the FB methodology.
6. [b]Exceptional circumstance[/b]: for example clock-changes, inundations …

CWE FB MC project partners would like to emphasize that the external parallel run is a [b]learning period for project partners and market participants[/b]. Therefore the data has to be taken cautiously, keeping in mind the facts mentioned on the CASC website.

4/26/2013 3:27:42 PM

The FB parallel run is a learning process based on no- industrial tools, which mainly explains missing days. As project partners focus on quality and representativeness of published results, it is preferred not to run market coupling simulations when the FB operational process is not run optimally. For transparency reasons, project parties now publish on CASC website http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results a synthetic table displaying the missing days together with explanatory factors.

One will read there that reasons for failures are multiple: technical problems with the prototype equipment used by TSOs, operators' errors or finalization of procedures. In this respect, it is true that exceptional circumstances like high wind infeed into the German Grid put the FB process under constrains, not only because some complex procedures or tools still need to be finalized, but also because ATC operations are to be handled in parallel. This kind of outcome is characteristic of the

learning phase and the prioritization (compared to real-life ATC operation) of the external parallel run and cannot be extrapolated to the Go Live perspective.

Therefore, one can also not draw a direct correlation between high wind conditions and failures of the FB process. If indeed the conditions observed during the period mentioned above are one of the explaining factors for the missing days, they are not the only ones. Reciprocally, project partners have already been able to demonstrate their ability to run successful FB computations, together with significant welfare gain for the society, under high wind conditions in Germany, as for instance on the 29th of January, 5th of February or 23rd of March.

Bilateral Exchange Data

3/14/2013 3:18:46 PM

In my point of view the release of the bilateral exchange data instead of the total net exports would help a lot to understand, interpret the outcome of the results and make it more transparent! Thx

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3/28/2013 10:38:59 AM

Please note that bilateral exchange data is not uniquely determined with net postions: a set of net positions could correspond to different sets of bilateral exchanges. Example with 4 areas and net positions of +100, -75, -50 and + 25:

[img]http://i49.tinypic.com/1zgvo0w.png[/img]

The two solutions above illustrate different sets of bilateral exchanges, each resulting in the same net positions.

For the ATC modelling the bilateral exchanges will be uniquely determined in case of congestions (i.e. flow as much as capacity allows). However under FB modelling even the congested case just results in a set of net positions that respects the FB constraints. This will not give any handle on a unique set of corresponding bilateral exchanges. Not to raise any false expectations we opted not to publish any bilateral exchanges.

Convergence

3/15/2013 8:50:54 PM

Again on the "convergence" calculation.

I am referring to the table in the "convergence" sheet where there is the indication of the number of hours for each week when the spread is included in one of the 8 categories.

Since the formulas are not showed, can you please indicate how do you compute the thresholds of the spread for each hour?

Is it a weighted average of prices at each hub * volumes (and which volumes)?
Or is it the weighted average of the difference between the hourly prices at the single hubs * volumes (and which volumes)?

Or is it the sum of the absolute values of the differences between the prices between hubs?

As a suggestion for the next weeks, it is strongly suggested to publish the formulas of the "convergence" sheet.

Many thanks

3/28/2013 10:37:09 AM

The price convergence sheet considers the difference in price between the highest price area and lowest price area. The information on the sheet compiles a histogram of these price spreads. E.g. if you consider the]1;2] category it contains the number of hours where the spread was:
€ 1 < spread <= € 2

Total welfare higher under ATC than with FB MC in week 10?!

3/14/2013 12:04:06 PM

Please can somebody explain why in the latest weekly publication (6.3.-12.3., 11th is missing) the global welfare under FB or FBI is lower than under ATC?
I am referring to "Total" in the Chart "Global Welfare Distribution" on the sheet "Welfare" of your publication "report_wk_101.xlsx".

3/18/2013 4:28:39 PM

in your publication report_wk_101.xlsx the total welfare as displayed on the sheet "welfare" is higher in the ATC world than with flow-based market coupling.

I am aware that this can happen in particular circumstances and single hours - however, here it has happened for the whole week (or rather the 6 published days) despite (maximum) total welfare being the target of the flow based approach. Could you explain why?

4/16/2013 9:05:48 AM

High import circumstances in combination with a specific scheduling of the DC cables on the 8th, 9th and 10th caused a high loading of NL Critical Branches (CBs) in the base case used for FBMC. The sensitivity (zone-to-zone PTDF) of these lines to NL-DE exchanges in combination with the actual ATCMC order books (with a high price difference between NL & DE) caused an NL CB to be constraining to the final market coupling result of these specific days. In comparison to the other days, on the 9th of March the most constraining CB was relieved due to differences in the production scheduling. The difference in the market outcome between these 3 days can be explained due to this effect.

Under the operational ATC market coupling, the loading of the concernig critical branch did not appear as problematic a/o because in operational ATC market coupling the coordination process is already finalized, fully implemented and thereby adequately able to deal with it. Since the TSOs coordination process under CWE FB MC is new, fundamentally different and in the implementation stage, it now occured that the concerning critical branch appeared problematic for the specific days in the external parallel run.

The full set up of a coordination process under flow-based which is currently in the implementation stage in the project will help preventing such a problem from occurring again.

Aggregated curves under FB

4/17/2013 9:15:59 PM

Hi,

How will FB affect the published aggregated curves, how does the NEX position enter the curve?

Is it possible to publish the aggregated curves (and blocks) for the parallel run?

thanks for the reply,
Vincent

4/26/2013 12:24:51 PM

The curves published on the respective websites of APX, Belpex and EPEX have shapes that follow from the hourly orders that are in the market. These curves receive an offset equal to the net postion plus the net block volume:

[list]
[*]supply curves are shifted with the import volume (i.e. net position < 0) + the volume of accepted sell block orders;
[*]demand curves are shifted with the export volume (i.e. net position > 0) + the volume of accepted buy block orders.
[/list]

Coupling using ATC or FB can result in different net positons and consequently different prices. The different prices in turn can drive different block selections. However the principle via which they are reflected in the curves remains the same.

[i]Illustration of curves shifted by net positions:[/i]

[img]http://i38.tinypic.com/20i8g2d.png[/img]

For the parallel run it is not foreseen to publish the curves that are shifted with the net position as obtained under the FB model.

6/14/2013 11:59:09 AM

Dear,

Thanks fot the response. I would sugggest to publish the aggregated curves and block bids for the parallel run. I think this is the only way people can check and verify the prices under FB.

Regards,
Vincent

Number of missing days increasing, rather than decreasing

5/23/2013 1:19:55 PM

Hi,

it appears the number of non representative days missing in the publication recently increased (4 days in week 20), is there any reason for that? In general I would expect that the longer the process is online, the better it should work.

Thanks

5/31/2013 1:15:15 PM

Indeed, the significant number of missing days in week 20 is linked to a specific reason (see also the updated overview: http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results). As you know, the project is continuously improving its current IT tools for the external parallel run in attendance of the implementation of the fully industrialized system. In this respect a new version of the prototype has been delivered mid-May but the switch has presented some unforeseen difficulties leading to some non-published days. In the meantime, these problems have been corrected and the error in question should not occur anymore. However, please note that it remains a prototype which does not have the same robustness, technical support and backup as the foreseen industrialized solution.

Strange results for 20th of May

6/6/2013 1:20:11 PM

May 20th: Extremely high prices in Belgium both under FB and FBI. Larger than usual difference between FB and FBI. Likely welfare destruction. Export profile of Belgium under FB/FBI much different from the “infinite” case, whereas the profile under ATC is close to the “infinite” case. Can you please explain what happened?

6/6/2013 1:21:47 PM

On TSOs’ side, the operational process was not correctly performed and some CBs were corrupted. As a consequence, high pre-congestions and a drop of welfare were noted and normally this day should not have been provided to PXs for market simulations.
For Go Live, the management of pre-congested cases will be implemented.

Week 33: unlogical Observations

9/12/2013 10:10:52 AM

Hello,

Based on the parallel run posted on Casc, we are surprised of data’s for week 33.
Indeed, we observed that FB prices are continuously further than ATC in regard to the infinity price; especially for 12/08/2013 and 17/08/2013. Moreover, the total welfare seems negative for this week.

We would be sincerely grateful if you can explain us the reasons of these observations.

Many thanks,

Kind Regards

Guillaume Landenne

9/26/2013 11:42:48 AM

Hello,

I would also like to hear an explanation of the simulations during this week. Namely on examples such as Belgian price in hour 10 on 13.08.2013. Other days this week in Belgium seem to have alogical price profiles.

Many thanks for the timely response.

Best regards,
Plamen Mavrodiev

10/24/2013 8:04:50 AM

We understand that the concept of ATCs exceeding the Flow-Based domain, especially within the configuration of significant degradation of DA welfare, triggers need for further explanation. Please note that your interrogations were well acknowledged and addressed during the last FB Market Forum.

It has indeed been observed during the FB parallel run that the ATC clearing point is sometimes out of the FB domain and thus bilateral spreads are higher under FB than under ATC. However, in the large majority of cases when FB constraints are violated by the ATC clearing point, the benefits remain largely in favor of the FB approach in terms of global welfare and convergence indicators.

Please consider that this does not contradict the fact that TSOs apply strictly equivalent levels of global risk policy in ATC and FB. Indeed, differences at implementation level and increased accuracy of the FB model can sometimes lead to discrepancies between two independent approaches based on different assumptions, but still applying the same risk policy standards. As the accuracy of the FB method is meant to be further improved, a progressive decrease of these occurrences is though expected during the parallel run.

10/24/2013 8:06:28 AM

You can see the detailed explanation on the following link to the dedicated presentation of the Forum (slides 86-96):
[url=
http://www.casc.eu/media/CWE%20FB%20MC%20Market%20Forum,%20October%2010th,%202013.pdf]10 October market forum[/url]

The rare cases in which losses of welfare could be observed from ATC to FB when the ATC domain was not fully covered by the FB one however deserve specific explanations. Please therefore see the focus on the case of week 33 for which the welfare “gain” was negative (slides 94-96).

It appears that an internal line of BE close to the NL border was constraining the exchanges in CWE, especially towards NL, more than in ATC. In the Utility tool it could be observed that two overloads would appear when applying the ATC solution. One is due to the CB already active in FB (the internal BE line) and the other is due to a BE-FR interconnector. It appears that the FB domain was over constraining in this case, mainly due to incomplete coordination. Please consider that additional

coordinated remedial actions will be shortly implemented by TSOs and that the CB set is continuously monitored and adjusted during the course of the parallel run. All in all, this is expected to result in a decrease of the occurrences of such situations.

What went wrong on the weekend Aug 17 - 18 ?

9/12/2013 11:43:27 AM

Dear TSOs,

Some odd results appeared in the weekend: 17/8-18/8, mainly in the morning hours.

Therefore it would be great if you could perhaps clarify what went wrong during the following "incidents"

17/8 3h - 10h
FBMC: FR, BE, and NL prices strongly diverge with BE and FR dropping significantly and with DE relatively unchanged.
ATC: prices converge much more towards "system price" (i.e. unlimited grid) with NL slightly above.

Further analysis tells us that the average (i.e. MWh-specific-) price spread between imported and exported electricity is also lower in the ATC-domain, and finally we see almost 40% more power exchanged in the ATC than in FB during these hours.

17/8 1h - 5h
Same pattern as described above, however with even bigger BE/FR price drops and larger MWh-specific price spreads between bought and sold electricity, respectively.

For us it seems unlikely for the FBMC domain to result in less exchanged power (even) at higher price spreads per traded MWh unless an error of some sort occurred.

Did an error occur?

Looking forward to your clarification

Kind regards,
Thorbjorn

10/24/2013 7:53:03 AM

We understand that the concept of ATCs exceeding the Flow-Based domain, especially within the configuration of significant degradation of DA welfare, triggers need for further explanation. Please note that your interrogations were well acknowledged and addressed during the last FB Market Forum.

It has indeed been observed during the FB parallel run that the ATC clearing point is sometimes out of the FB domain and thus bilateral spreads are higher under FB than under ATC. However, in the large majority of cases when FB constraints are violated by the ATC clearing point, the benefits remain largely in favor of the FB approach in terms of global welfare and convergence indicators.

Please consider that this does not contradict the fact that TSOs apply strictly equivalent levels of global risk policy in ATC and FB. Indeed, differences at implementation level and increased accuracy of the FB model can sometimes lead to discrepancies between two independent approaches based on different assumptions, but still applying the same risk policy standards. As the accuracy of the FB

method is meant to be further improved, a progressive decrease of these occurrences is though expected during the parallel run.

10/24/2013 8:02:14 AM

You can see the detailed explanation on the following link to the dedicated presentation of the Forum (slides 86-96): [url= http://www.casc.eu/media/CWE%20FB%20MC%20Market%20Forum,%20October%2010th,%202013.pdf]10 October market forum[/url]

The rare cases in which losses of welfare could be observed from ATC to FB when the ATC domain was not fully covered by the FB one however deserve specific explanations. Please therefore see the focus on the case of week 33 for which the welfare “gain” was negative (slides 94-96).

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Price divergence under FBMC highlighted in external parallel run reports

10/7/2013 6:57:11 PM

Hi,

With regard to the CWE MC external parallel run reports produced, it is clear that price convergence is notably higher under FBMC than ATC MC. However, could you please provide some explanation with regard to the increase in full price divergence?

Thank you.

10/14/2013 3:45:29 PM

Full price convergence corresponds to the situation where no network constraint is limiting the market. Under FBMC the size of the domain is typically larger than under ATC MC, hence less often restrictive. Therefore we expect some of the cases that under ATC MC were limited by the network, to result in full price convergence under FBMC. This coincides with your observation from parallel run results.

Your question relates to the increase in full price divergence. Please first consider the intermediate case of partial convergence: the case where at least two, but not all markets have converged prices. In ATC this would correspond to a situation where at least one border remains uncongested, e.g. no congestion on BE-FR => BE and FR have converged prices. If we assume congestion on the other borders DE and NL will have different prices and we consider the situation to be only partially converged. Under ATCMC this is a very common situation.

10/14/2013 3:45:51 PM

Under FBMC the frequency of situations like this one decreases. Why? As explained during the [url=http://www.casc.eu/media/CWE%20FB%20MC%20Market%20Forum,%20October%2010th,%202013.pdf]10 October market forum[/url] section on capacity allocation, but also in appendix 8.1.5 of the [url=http://www.apxgroup.com/wp-content/uploads/CWE_FB-MC_intuitiveness_report1.pdf]Intuitiveness Report[/url] one can prove that for welfare maximizing solutions under FBMC a property holds relating prices to flow factors (PTDFs):
mcp[i] – mcp[j] = SUM(cb|(PTDF[j, cb]-PTDF[i, cb]) * mu[cb]).

But this implies that even the congestion of a single critical branch will result in different prices for all four markets, provided all markets have different flow factors for the constraining cb. This typically is the case with the exception of the import / export constraints: for these “cbs” the flow factor equals 1 (for export constraints) or -1 (for import constraints) for the applicable market, and 0 for all other markets. I.e. a cb where 3 markets all have equal (0) flow factor values. This is the one partial convergence case that does exist under FBMC. All remaining congestions under FBMC will results in full price divergence, and explains the increase in full price divergence.

Simulated data for Netherlands with regards to Norway DC cable

10/9/2013 2:09:29 PM

Hello,

My question is to what extent does the Dutch Flow Based volume (nex) and hourly price simulations take into account bids via the NL-NO2 cable between Netherlands and Norway? More specifically, if for a given hour of Flow Based simulated data the transmission flow and respective price in Netherlands change, will this also change the flow on the NL-NO2 cable.

Hope my question is clear enough. And thank you for your prompt answer.

/Plamen

10/21/2013 4:11:03 PM

Today, there are two sequential market couplings that couple the CWE-Nordic market areas, first the ITVC volume coupling that determines the flows on the ITVC interconnectors between the CWE and the Nordic markets. Subsequently, amongst others based on these flows, the internal CWE price coupling will run. The CWE FB project and therewith the parallel run simulates the situation of a switch from ATC to FB coupling of this secondly mentioned CWE MC.

For now the FB parallel run simulation considers all [url=http://www.marketcoupling.com/market-data/table]ITVC interconnectors[/url] (that includes NL-NO2) implicitly: the cable results are represented in the order books of the NL and DE markets. However the results on these cables were established as part of the daily operational ITVC processes, but are out of scope for the CWE FB simulations. So even though one can expect the flow on NL-NO2 to change when the NL price changes as a consequence of a switch the FBMC, these effects are currently not included in the parallel run results: the ITVC flows are fixed to their historical values.

With the launch of the [url=http://www.amprion.net/sites/default/files/pdf/20130930_NWE_Target_Go-Live_date_Communication_with_PCR_final_version.pdf]NWE market coupling scheduled for 26 November[/url] this changes and the scope of the parallel run will increase. From that week onwards the FB parallel run will explicitly take results for interconnectors to both Nordic areas and GB into account.

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about flows and net exchanges: doubts

10/19/2013 7:32:10 AM

Good morning: in our models, so far, the volumes out of a country into other countries have been represented always as ´flows´.
The impression is that instead the coupling algorithm uses the NEX, so net exchange volumes (which could represent also exchanges with not adiacent markets).

I started analysing scheduled flows vs NEX (scheduled flows reported from Point carbon and NEX reported by the results of FBMC – Casc webpage)
I took Belgium because it is the only country where the neighbouring countries are all in CWE (France and Netherlands)

Please find here below the graph of scheduled flows into Belgium and compare these with the NEX exchange in ATC for the day of the 8th of October published in the parallel run: they are different.
[img=http://http://www.pointcarbon.com/trading/pmteex/supply/netimport/actual/totalbe/?reportOffset=7]
Belgium tot flows from PC[/img]

my question is: how is it possible that the NEX can be different than total scheduled flows in this case? Belgium has only 2 borders and both are in the run of the ATC coupling. Shall I consider that part of the NEX go to Germany? But if so how?
Would you please explain me how does the swap of volumes between two not adjacent countries work?
My impression is that our model is stuck on this point as it cannot foresee an exchange between two countries which don´t share a border.

Thank you for your anyswer, Silvia Messa

10/21/2013 3:56:17 PM

To better understand the relationship between net position (= net export = nex) and scheduled exchanges, one can apply the formula:

nex = sum of all outgoing exchanges – sum of all incoming exchanges

This is precisely the exercise you performed, yet a mismatch remains. This is because for the DA market coupling we compute a CWE DA net position, which corresponds therefore only to the DA schedules. The mismatch you observe is probably linked to the fact that the PC data contains LT schedules as well.

In order to check the correctness of the formula, please consider both the DA net positions and the DA schedules from CASC website. For the purposes of creating a useful input for a fundamental model, we leave it up to you to consider the most useful input.

Price convergence under FB

10/24/2013 10:16:58 AM

As you can see from the slide 9 of the [url=http://www.casc.eu/media/CWE%20FB%20MC%20Market%20Forum,%20October%2010th,%202013.pdf]10 October market forum[/url] , so far flow based MC results in a weekly full price convergence in about average 20% of the time. And this weekly full price convergence ranges from 0 to 60%.
As you know, partial convergence is not possible with flow-based. Either full convergence or full divergence.
Full price convergence is only obtained if there is no single critical branch congested. There are many critical branches in the FB algorithm, I do not how many exactly, but all interconnectors plus several internal lines are also labelled as critical branch.
Normally there should always be at least one of these critical branches congested. As one expects that even small market price differences drive the grid to be used up to the limits. So, I would expect a much lower price convergence.
Could the project explain this phenomenon in more detail?

10/24/2013 10:19:07 AM

Please first consider the intermediate case of partial convergence: the case where at least two, but not all markets have converged prices. In ATC this would correspond to a situation where at least one border remains uncongested, e.g. no congestion on BE-FR => BE and FR have converged prices. If we assume congestion on the other borders DE and NL will have different prices and we consider the situation to be only partially converged. Under ATCMC this is a very common situation.
Under FBMC the frequency of situations like this one decreases. Why? As explained during the 10 October market forum section on capacity allocation, but also in appendix 8.1.5 of the [url=http://www.apxgroup.com/wp-content/uploads/CWE_FB-MC_intuitiveness_report1.pdf]Intuitiveness Report[/url] one can prove that for welfare maximizing solutions under FBMC a property holds relating prices to flow factors (PTDFs):
mcp[i] – mcp[j] = SUM(cb|(PTDF[j, cb]-PTDF[i, cb]) * mu[cb]).
But this implies that even the congestion of a single critical branch will result in different prices for all four markets, provided all markets have different flow factors for the constraining cb. This typically is the case with the exception of the import / export constraints: for these “cbs” the flow factor equals 1 (for export constraints) or -1 (for import constraints) for the applicable market, and 0 for all other markets. I.e. a cb where 3 markets all have equal (0) flow factor values. This is the one partial convergence case that does exist under FBMC. All remaining congestions under FBMC will results in full price divergence, and explains the increase in full price divergence.

10/24/2013 10:20:23 AM

We would like to indicate that the number of active constraints can be checked in the utility tool. Indeed, you will discover that the number of active constraints (the number of FB constraints limiting the net positions of the four involved countries on an hourly basis) is limited and around / up to 20 constraints per hour.

However one must keep in mind here that FB market coupling simulations are made on the basis of the current actual ATC order books, which is an intrinsic limitation of the parallel run. Indeed, the bids that market parties put on the daily implicit auctions take into account the ATCs published by the TSOs, and ore optimized in this respect. This means that FB parameters consideration by market parties is not included in the simulations of the parallel run, which can result somehow in a “sub-utilisation” of the FB domain, where the market “is looking for the ATC limits”, and not the FB ones. Following this logic, one could imagine that after Go Live, market parties’ bidding strategy will this time take into account FB parameters, which is expected to result in a “better” usage of the FB domain, or in other words of a grid

used closer to its limits. This phenomenon could indeed result in decreased convergence, as the market will this time look for the actual FB constraints, but also in increased economic surplus thanks to maximized exchanges within CWE.

Wk48 vs Wk47

12/16/2013 8:54:14 AM

Good morning.
Under the current ATC market coupling system, wk47 (from 20/11 to 26/11) and wk48 (from 27/11 to 03/12) look similar:
• France is the highest-priced country in the weekdays. Prices were somewhat higher in week48, though.
• France had a ~1GW global export position in both weeks. Flows to France from Germany and Belgium were similar, at ~3GW. One difference is that the UK<->FR flows flipped direction (and Spain and Italy+Switzerland flipped in the opposite direction).
• Wind levels in Germany were indeed higher in wk48 than in wk47 – but not at levels never seen before.
In wk47, the switch from ATC to FB allows Germany to export ~1GW more than under ATC - intuitively, most of it finds its way into France, which is the most expensive country.
This is not the case in wk48 despite even higher additional German exports – actually on November 29th and December 02nd prices in France are higher under FB than under ATC because France exports more to the Netherlands.
In wk49 (from 03/12 to 10/12, much more windier, though) it seems it seems that the situation is back to the wk47 configuration, the additional German export mostly find their way into France
If this analysis is confirmed, could you please explain what happened and how the market could have forecast the switch from one pattern to the other?
Regards
Filippo

7/15/2014 4:08:42 PM

The analysis can be confirmed as illustrative to some of the challenges faced by MPs. However the project is not in a position to issue forecasts of changing market conditions. The project does recognize a responsibility in providing MPs with the relevant transparency information to support their analysis.

Netherlands “external constraint” import limit

12/16/2013 8:57:16 AM

Good morning.
A Netherlands “external constraint” import limit seems to be a rather stable feature of Flow-based since late February. It is set at a minimum of 200MW higher than the sum of the DE->NL and BE->NL ATC given to the current market-coupling system, but occasionally the gain is much higher, up to 1000MW.
Given that the PTDF of this constraint is -1 for NL, and 0 for the other hubs, why can’t the higher value be used under the current ATC based market-coupling system and hence improve the social welfare of the daily market coupling ATC results?
Regards
Filippo

1/24/2014 10:12:50 AM

In the Documentation of the CWE FB MC solution, as basis for the formal approval-request, Brussels, 1st August 2013, it is mentioned about Dutch External Constraint:
TenneT NL determines the maximum import and export constraints for the Netherlands based on off-line studies, which also include voltage collapse and stability analysis during different import and export situations. The study can be repeated when necessary and may result in an update of the applied values for the external constraints of the Dutch network.
(see_http://www.casc.eu/media/CWE%20FB%20Publications/Approval%20Documents/130801%20CWE%20Flow%20Based%20MC%20solution%20Approval%20document.pdf)

The maximum import position of the Netherlands is in this respect not only linked to thermal constraints on transmission lines based on DC load flow, but also to offline studies that consider stability issues.

1/24/2014 10:13:00 AM

Currently, a total capacity of 4150 MW is released to the market considering both day-ahead and intraday timeframes as the maximum import. Therefore the current additional capacity for intraday is considered in the total capacity value applicable as external constraint within flow-based. The intraday ATCs can be considered as a leftover of the D-1 FB capacity as illustrated in the Documentation of the CWE FB MC solution which was the basis for the formal approval-request (Brussels, 1st August 2013). Under flow-based it is not by definition that the limit imposed by the external constraint is limiting the import position of the Netherlands.

Furthermore, we would like to underline again that the TSOs are currently performing two independent capacity calculation processes: ATC and FB. Although there is a learning process interlinking these two capacity calculation processes, it is nearly impossible to have exactly the same outcomes.

Laundry list of questions related to the industrialized tool

2/26/2014 6:29:45 PM

Good morning,
A few minor questions related to the industrialized tool.
1) Since which date exactly is the "report" based on the industrialized tool?
2) The daily report shows welfare creation with a daily granularity. Would it be possible to have the same for the previous period?
3) How exactly the Welfare of each zone is defined?
3.a) It is somewhat strange that the (absolute, not FB-ATC) « Buyer surplus » is negative in the “rest” of the NWE zone (column S of the « welfare » sheet in the new-format report file)
3.b) How is "congestion rent - Rest" defined? It looks like there is an increase in the nonCWE congestion rent by going from ATC to FB (column U of the « welfare » sheet in the new-format report file)

Thanks and regards,
Filippo

3/25/2014 9:53:42 AM

Dear Filippo,

Please find the answers to your questions below.

1) The change of report is not linked to the industrialized tool, but to the launch of NWE market coupling supported by the EUPHEMIA algorithm, as of 05th of February (delivery day). The industrialized tool has been used by CWE TSOs since February 12th (delivery day), but this had no effect on the reports or on the results in general since strictly the same capacity calculation methodology is applied by TSOs.

2)We noted your request which will be investigated by project parties.

3)Welfare per zone:

Welfare can be broken down into three components:
- consumer surplus;
- producer surplus;
- congestion rent;

The report provides surplus values per area, but congestion rent only per region. Two regions are considered: CWE and non-CWE (referred to as “rest” in the report). The congestion rent is not distributed over the different areas to result in aggregated welfare values per area.

3/25/2014 9:54:59 AM

For the breakdown of congestion rent into CWE and “Rest” parts we consider:
- The CWE net positions and prices to compute the CWE congestion rent;
- The global net positions and prices of all areas to compute the overall congestion rent;
- The difference is the “Rest” congestion rent;

Note that this “rest” term also includes all congestion rent that is generated on links between CWE and adjacent areas (e.g. DE-DK1, DE-DK2, DE-SE, FR-GB, NL-GB, NL-NO).

The difference between the global CWE net positions and the CWE only CWE net positions are the exchanges across the aforementioned interconnectors.
a) Negative absolute “buyer surplus” should not be possible. This appears to be an issue in the report creation. We will fix this issue and do a retroactive publication where this issue will be corrected;
b) Cf. welfare answer

5/13/2014 5:56:25 PM

Hi,
Have you been able to have a think about the publications of daily welfare figures for the period covered by the "weekly" parallel run?

Thanks,
Filippo

7/18/2014 9:13:32 AM

The daily welfare figures for the period prior to NWE go-live have been made available on the following page: http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results

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Questions on the new Report format

2/27/2014 7:54:13 AM

You have added GB2 in the MCP sheet. Why GB2 and why is it not present in the MCV/NEX/Welfare sheets?

You have added info to the Welfare sheet:
In the fourth graph the title says: "Surplus distribution per type (global)". Does global mean the whole NWE?
Could you explain what countries are included in the "Rest" category?
Can you provide data on exchanges with these countries?

3/25/2014 10:01:05 AM

The GB2 index is the one corresponding to the GB hub operated by APX. The GB1 index is the index corresponding to the GB hub operated by NPS (N2EX). To perform the parallel run NPS did grant permission to use their order books to support the parallel run simulations, but did not grant permission to publish their indexes. Hence only the GB2 index is published.

The GB1 and GB2 hubs are linked together in the GB virtual hub, effectively creating one integrated GB market. Publishing only the GB2 MCV/NEX/Welfare would create a skewed picture, since it misses the other GB hub. By nature the two GB areas clear at the same price, hence it was considered of added value to publish the GB2 price.

The global welfare on the welfare sheet for now indeed relates to the whole NWE region. However if NWE is further extended (e.g. to the SWE region) the notion of global welfare extends to this new scope too.

The areas captured by the “Rest” category are the ones outside CWE, but inside the NWE (or later NWE+SWE) scope. For now they are: GB, NO, DK, SE and FI.

The aggregated exchanges with areas adjacent to CWE are available indirectly. Two sets of net positions are published; the global net positions and the CWE net positions. Both are only published for CWE areas. The difference between global and CWE are the exchanges on interconnectors to regions outside of CWE, i.e. the exchanges on the lines highlighted in the graph in the attached file.

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delivery 06March14 hour 12

3/6/2014 5:28:09 PM

Dear,

For hour 12 for delivery 06-03-2014 ATC NL price=48.6
The FB NL price for hour 12 is 53.55. Under FB NL is importing more than under ATC (cweNEX=2845 MW versus 2748). Why is the price higher under FB if NL imports more?

Is this related to the amount of filled block volume being different under FB than ATC? If so could this info be shared with MP's so we could get more insight in cases like this.

Regards,
Vincent

3/12/2014 4:05:15 PM

You correctly understood that the difference relates to differences in accepted block volume: in the FB result for the Dutch market the accepted (net) sell block volume was 910.9MWh vs 500MWh for the

ATC result. This difference offsets the difference in net position.

We will take your request for sharing this information as part of our publication in consideration and investigate the possibility to publish it.

Difference in parameters from FTP server and Utility tool

3/10/2014 12:38:14 PM

Dear all,

I downloaded the history of the PTDF matrixes from the FTP server and via the utility tool. Regarding the data from March 15th 2013, hour 21, there is a difference between the two. The data from the utility tool seems ok, but via the FTP you get a PTDF matrix with hundreds of critical branches. That doesn't seem correct. Also the PTDF parameters from the utility tool are not present in the parameters from the FTP, so it is not a case of cleaning up or constraint reduction.

* Could you check what happened with the data for this day? And publish the correct results?
* Could you check the other data as published on the FTP server?

I looked at the CBs per hour from the data of the FTP, below is a table with the hours with the most CBs. I checked one in detail (see above) the rest needs to be investigated further:

[code=plain]
TABLE: number of CBs per hour, sorted from higest #CBs downwards.

YYYYMMDD hh #ofCBs
20130318 20   811
20130315 21   370
20130315 12   47
20130903   8   38
20131031 14   33
  ...   .
[/code]

Thanks,
Reinier van Offeren
Vattanfall

4/10/2014 1:59:26 PM

For some dates indeed there was a discrepancies between that a data available on the CWE FTP and Utility tool. This is caused due to data that has been corrected in the past, but not processed correctly as it seemed. Below an overview of the data that was available on the CWE FTP, the highlighted files have been removed to align the available files on both the CWE FTP and Utility tool

[b]20130112.csv[/b] 20130112v2.csv
20130213.csv [b]20130213_3_0.csv[/b]
20130214.csv [b]20130214_4_0.csv[/b]20130215.csv [b] 20130215_5_0.csv[/b]
20130216.csv [b]20130216_6_0.csv[/b]20130217.csv [b]20130217_7_0.csv[/b]
20130218.csv [b]20130218_1_0.csv[/b]20130219.csv [b]20130219_2_0.csv[/b]
20130220.csv [b]20130220_3_0.csv[/b]20130221.csv [b]20130221_4_0.csv[/b][b]
20130520_1_0.csv [/b] 20130520_1_0v2.csv

Data of the external parallel run is indeed available on the Utility tool for one year, after which data will be archived. Next to this, data is still available via the Utility tool, by changing the date, after which the

respective data will be retrieved. Normally this data present here is equal to the data on the CWE FTP. For the specific date of the 20130112, this was incorrect on the CWE FTP at that time. As explained earlier the wrong version has been deleted, so they should be equal now.
The question with regards to repeated lines for 20130318 & 20130315 can be explained by a malfunction of the pre-solve algorithm with the prototype at that time. http://cascforum.my-ems.net/yaf_postsm122_Max-net-pos-definition---follow-up.aspx#post122. As explained in an earlier answer the data for this day is not representable on some indicators, so it has been advised to not take this into account for thorough analysis

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Non CWE flows

3/11/2014 1:42:12 PM

Could non CWE flows also be published per border? It would be very helpfull to see flows on borders that are part of NWE like:

FR-UK
NL-NO2
NL-UK
DE-DK1
DE-DK2

Thanks,
Vincent Visser

7/15/2014 4:09:52 PM

The project will consider the request and assess the impact of extending the publication to include these additional items. If the request is honoured the publication can be done retroactively (starting from NWE go-live of 5 February).

11March2014

3/12/2014 9:47:41 AM

I could not find data for delivery 11March14. Is this not available? Why not?
Thanks,
Vincent

4/9/2014 1:30:59 PM

There was indeed no parallel run data published for delivery day 11th March. This missing publication was due to a technical error on one of the application servers which resulted in TSOs not being able to assess the results from the common computations as their shared analysis tools were not available. The root cause of this issue has been found and this will be fixed. In the meantime, mitigating measures have been taken to overcome the re-occurrence of this issue.

Please note that in case of missing data in parallel run publications, the overview file with explanation for missing days is updated: http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results

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Difference :cweNEX vs NEX ?

3/12/2014 9:53:10 AM

Hello,

I have a question regarding the new format of the FB // run daily publication:

What's the difference between the tab "cweNEX" and the tab "NEX" in the new publication? and the difference compared to tab " nex" in the previous weekly publication ?

Many thanks,

Best regards,

Guillaume Landenne,

3/25/2014 10:03:56 AM

The difference between the global CWE net positions and the CWE only CWE net positions are the exchanges across the interconnectors directly adjacent to CWE (i.e. DE-DK1, DE-DK2, DE-SE, FR-GB, NL-GB, NL-NO. Please see explanation also in previous post about "Questions on the new Report format".

Intraday domain calculation

4/28/2014 2:41:29 PM

Hello,

Do you recalculate the FB or ATC domain to allocate extra available transmission capacity in Intraday?

Many thanks,

Guillaume

5/12/2014 3:47:34 PM

As part of the external parallel run, so called "initial Intraday ATC values" are published since December 2013. These initial ATCs are derived from the FB domain taking into account the simulated FB market coupling net positions. To answer the question, the values which are provided are only a set of ATCs derived from the "left over capacities" after DA clearing in FB MC environment. Please find more detailed information on this link:
http://www.casc.eu/media/CWE%20FB%20Publications/SHORT%20NOTICE%20ID_ATC_13.12.13.pdf
As part of this parallel run process, there is no recalculation of available capacities (so no new FB parameters) after Day-ahead MC. However, when FB MC will be implemented, an additional operational step will be introduced in order to calculate the final ATC values available for the intraday timeframe. Indeed, the initial ID ATCs can be adjusted following some grid assessments performed by TSOs. Please see the detailed explanation by clicking on the link mentioned above.

ID capacity after DA ATC clearing publication

4/28/2014 3:05:58 PM

Hello,

In the same way that you publish the intraday ATC from FB // run, would it be possible to publish the current ID capacity after DA ATC clearing ? I would be easier and more transparent for everybody.

Many thanks,

Guillaume

5/12/2014 3:47:12 PM

The CWE FB MC project understands you ask for publication of initial intraday ATCs calculated today after ATC based MC (i.e. the left-over capacities after the ATC MC) as part of the operational process in order to have a comparable value with the data published as part of the FB parallel run but in any case warn market parties about too fast comparisons between currently used ID ATCs and ID ATC from the FB parallel run (for more detailed explanations, please refer to the document already mentioned in the reply to your previous post). The project partners will investigate the feasibility of your request and come back to you.

Shadow Auction ATCs

5/5/2014 5:32:20 PM

Good morning,
I'd have the following questions on the "shadow auction ATCs" that you've recently started publishing.

I think that the SA ATC pseudo-algorithm published on http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Publication-CWE-Flow-based-External-parallel-run has the same issue as the one I had pointed out some time ago for the ID ATCS:
1.a) ... The following formulation is the correct one:
margin(i+1) = margin(0) – pPTDF_z2z * MaxBilExchange
=> Is that correct?

Assuming that the RAMs in the pseudo-algorithm have been rescaled to the LTAs as indicated in the top part of the page, intuitively, I would expect a final step to the pseudo-algorithm, something like:
SA_ATCs = Integer(MaxBilExchanges) + LTA -LTN
=> Is that needed?

Regardless of the two points above, I would expect something called “ATC for Shadow Auction” to be a “rectangle” whose corners fit perfectly into the “FB domain” as defined by the flow-based parameters available on ftp://ftp.cwe-sf2.com/2014/PTDF/ (i.e. they are both what’s available for the market-coupling algorithm, after the LTN). Yet this does not seem to be the case, sometimes the “corners” of the SA ATC domain are outside of the FB domain. For example, the attached file highlights the hours in which the FR->BE+DE SA ATC FB exceeds the “FR global export constraint”, and in which the DE->FR+NL SA ATC FB exceeds the “DE global export constraint”. More complex checks are of course possible, and would show similar results.
=> Could you please explain where the flaw in my argument lies?

Thank you in advance.
Regards,

Filippo

7/23/2014 3:22:25 PM

A technical issue leading to potential errors in the publication of SA ATCs has been identified. In order to guarantee the integrity of data made available to market participants, CWE partners decided to stop the publication of SA ATCs until the issue is completely addressed, which is expected in the coming days. We apologize for the inconvenience and commit to restore the situation and provide dedicated explanations in the best possible timings.

With regard to the other elements touched upon in your question, the following:
Indeed, just like in the ID ATC algorithm, the formulation:
margin(i+1) = margin(0) – pPTDF_z2z * MaxBilExchange
is the correct one.

Please see explanations in a previous post:
http://cascforum.my-ems.net/yaf_poststt88_Formal-questions-on-the--CWE-Flow-Based-MC-solution--report.aspx

The iterative procedure to determine the SA ATC starts from the LTA domain shifted to the long term nominations because they are already reflected in the RAMs of the final FB matrix.As such, the variable “MaxBilExchange” of the above mentioned formula becomes LTA-LTN for the first iteration.
In the iterative procedure that follows, the bilateral exchanges in all market directions start from the LTA-LTN values that are gradually increased. Consequently, the SA NTC domain resulting (SA ATC + LTN), is larger than or equal to the LTA domain. There is, at the end of the algorithm, no need to adjust the resulting values.

CWE Flow-Based Market Coupling Project partners

SWE coupling

5/13/2014 5:54:03 PM

Good morning,
I see that with the start of the SWE coupling you've started publishing ES and PT prices as well in the report file.

* Could you please publish the flows (or ES and PT nex) as well?
Having hybrid FR->ES+GB flows makes it difficult to analyze the resulkts; similar to what we pointed out for NL->GB+NO2 and DE->DK1+DK2+SE4 when NWE was coupled.

* Do "Rest" and "Global" welfare indicators now inclued Spain and Portugal as well?

Kind regards,
Filippo

7/15/2014 4:11:24 PM

The project will consider the request and assess the impact of extending the publication to include these additional items. If the request is honoured the publication can be done retroactively (starting from SWE go-live of 14 May).
As you suspected, indeed the rest and global welfare figures include ES and PT too.

Bid/Ask curves FB vs ATC

5/19/2014 9:18:09 AM

Hi,
I try to analyse the aggregated curves under ATC vs FB (in the parallel run results) and I found that both Bid/Ask curves are shifted for each hour by a fix volume (price independent?).
Is there a direct relation between this shift and the variation of NEX (ATC vs FB) per country (CWE)? If so, how this delta NEX could be derived from the aggregated curves ?
Many thanks in advance.
Ovidiu Maerean

7/15/2014 4:15:47 PM

The aggregated curves are composed of the hourly orders that exist in the markets. The final curves are the original ones plus an offset:
Supply curve: offset by the total accepted supply block volume (in the corresponding hour) + the import position;
Demand curve: offset by the total accepted demand block volume (in the corresponding hour) + the export position;
Both the accepted block order volumes and the import, respectively export positions may change between the ATC and FB results.

8/4/2014 3:33:22 PM

If we consider the name of the files in the folder “CurvesBid/Ask” and your explanations above, you publish the aggregated curves (without the offset) and not the final curves. Please confirm.

8/26/2014 5:11:44 PM

Please note that the final curves are the curves with the offset. However the offset varies for the different scenarios (ATC/FB/FBI/INF). Hence the difference in curves. Both components of the offset (accepted block volume and import / export) may vary under the different scenarios.

Block bids in Netherlands

5/26/2014 2:33:58 PM

Hello,

Today there are often paradoxally rejected block bids in The Netherlands. Do we expect the amount of paradoxally rejected block bids to decrease with Flow Based Market Coupling?

Thanks,

7/15/2014 4:20:31 PM

Paradoxically rejected block orders are caused by the fill-or-kill nature of block orders: they either have to be fully filled, or they cannot be filled at all. Not filling the block will result in some clearing price, fully filling the block will change the price in a direction unfavourable to the block's limiting price. If this limit price is between the two price levels the block will be paradoxically rejected.

Example:

One hour, and a single block: sell500MWh@48

The clearing price settles at € 50 when the block is not activated;

The clearing price settles at € 45 when the block is activated;

The solution is not to accept the block and publish the €50 price. I.e. the block is paradoxically rejected;

Obviously the effect is more apparent:

The larger the block order (a 500MW block is more likely to swing the price than a 5MW block);

The resilience of the market;

Potentially FB can limit the impact of PRBs by creating some additional resilience. Some statistics from NWE go-live (5 Feb) to 31 May:

Under ATC NL experienced 1763 PRBs, vs 1550 under FB. For 10 days the number of PRBs was identical between FB and ATC, for 65 days FB resulted in less PRBs, for 36 days ATC resulted in less PRBs.

So for NL the general tendency is that the PRB issue is partly mitigated by FB. Of course the typical caveats apply to the results: the FB simulations were done using ATC orderbooks.

Intuitive/Nonintuitive flag in the report files

6/5/2014 8:59:17 AM

Good morning,
I was looking at the intuitive/nonintuitive issue, but sometimes I am a bit mystified by the flag in column C of the MCP sheet of the report files.
For example for delivery date 05/06/2014, all hours are intuitive according to the flag, but there seems to be a rather large difference between FB and FBI prices and welfare.
Could you please provide details as to how non-intuitive hours are defined?
Thanks and regards,
Filippo

7/15/2014 4:21:55 PM

Non-intuitive hours are defined as follows:
Considering the CWE net positions, look for a decomposition into bilateral exchanges, such that:
1. Bilateral exchanges on the lines BE-FR, BE-NL, DE-FR and DE-NL only;
2. Bilateral exchanges from low price to high price;
If such a decomposition exists, the hour is deemed intuitive, if no such decomposition exists, the hour is deemed non-intuitive.

7/15/2014 4:35:44 PM

Yes, but if an hour (or indeed an entire day) is "intuituive", then why do FB and FBI prices differ?
E.g.:

Date Hour Intuitive FB BE FB DE FB FR FB NL FB GB2 FB ES FB PT
2014-06-05 12 TRUE 39.40 35.67 37.96 42.44 56.65 57.00 57.00
FBI BE FBI DE FBI FR FBI NL FBI GB2 FBI ES FBI PT
2014-06-05 12 TRUE 41.35 35.42 39.05 46.20 56.65 57.00 57.00

Regards,
Filippo Pirovano

9/2/2014 11:54:09 AM

If a solution cannot be solved to optimality the algorithm was stopped after 10 minutes of calculation time. In the answer to a previous question (LINK http://cascforum.my-ems.net/yaf_postst127_-Plain--vs--Intuitive--Welfare.aspx) it is explained that this could result in slightly different solutions, with slightly different prices.

"Plain" vs "Intuitive" Welfare

6/6/2014 9:49:50 AM

Good morning,
I'd have another question on the intuitive vs. plain issue.
I think the welfare calculated with "plain" FB should be higher than or equal to the welfare calculated with "intuitive" Flow-Based.
But on a limited number of days that does not seem the case (e.g. 05/06) – see attached file. Most of them are probably rounding discrepancies but on a couple of instances the difference is in the thousand euros.
Could you please explain why that happens?
Best regards,
Filippo

6/25/2014 7:52:33 AM

Good morning,
As a follow-up to the previous question, we'd like to have some clarifications the Intuitive/Plain results for delivery 25/06/2014.
For delivery 25/06/2014, FB and FBI prices are very similar, the only difference seems to be HE24 where BE, DE, FR and NL are all equal both under FB and FBI, but at levels differing by 0.06€/MWh.
First, for some reason this is not flagged as a "non-intuitive hour", although it might simply be due to the magnitude of the difference – this is an issue we've asked explanations abut in a separate post on 05/06/2014.
But what we'd like to know about 25/06/2014 is the following: this tiny difference generates a ~130k€ difference in Congestion Rent in the non-CWE area (not to mention the ~250k€ change in buyer surplus). How can that be explained? unless I am mistaken that would require a flow of more than 2,000,000MWh!

Regards,
Filippo

7/30/2014 8:45:01 AM

In principle you are correct: under FB “intuitive” in case situations with non-intuitive results are detected, the Euphemia algorithm with generate additional constraints to enforce intuitiveness. I.e. the problem is more constraining, hence under FB “intuitive” an equal or lesser amount of welfare should be expected than under FB “plain”.

Apart from respecting all network constraints, Euphemia also needs to find an optimal allocation of all the block orders (present in all NWE markets) and complex orders (available in ES and PT at OMIE). Both block orders and complex orders have fill-or-kill aspects associated to them, requiring Euphemia to set up a branch-and-bound tree (cf. http://en.wikipedia.org/wiki/Branch_and_bound) to solve the problem to optimality.

However it does happen that Euphemia needs to terminate prior to having identified the welfare optimal solution (after a pre-configured time window Euphemia stops, and the best identified solution available will be allocated, in order to maintain a manageable operational process).
Since the FB “plain” and FB “intuitive” runs, potentially explore the branch-and-bound trees in a slightly different sequence, it can happen the FB “intuitive” results outperforms the FB “plain” result, as evidenced by your findings.

GB prices and flows for delivery date 27/06/2014

6/26/2014 4:46:01 PM

Good morning,
I would like to have an exlpanation of GB prices and flows for delivery date 27/06/2014: prices CWE increase, flows into GB decrease, but prices in GB decrease (all down to a single hour). See attached file.
I aknowledge the impact is minimal, and I might have got mixed up with the losses or something else - still I cannot find a simple explanation based on published data.
Thank you in advance,
Filippo

9/2/2014 11:59:34 AM

The extension of the daily publication to also include individual flows to regions adjacent to CWE is still being assessed. For now the implication is that you cannot properly evaluate the change in GB net positions. For the 27th, the values did change (slightly: please see attached graph.

In the graph on the primary axis (and the blue bars) indicate the change in GB net position from ATC to FBI: slightly less was imported during hours 7 and 8 under FBI. Consequently there is a minor spike in price (indicated by the red line, using the secondary axis).
Looking at the block orders that have been accepted in GB, there are some differences. This could further explain the difference in results.
A final explanation is that this solution could not be solved to optimality (neither under ATC nor under FB/FBI) and hence the algorithm was stopped after 10 minutes of calculation time. In the answer to a previous question (LINK http://cascforum.my-ems.net/yaf_poststt127_-Plain--vs--Intuitive--Welfare.aspx) it is explained that this could result in slightly different solutions, with slightly different prices.

Going Live

7/9/2014 9:45:03 AM

Regarding the data now provided via the utility tool, how can market participents circumvent having to type in the captcha to access the data? We need to automatize the download of all relevant data (i.e. PTDFs, RAMs,...).
Formats shouldn't change after Go-Live.

9/17/2014 3:36:13 PM

Unfortunatly, the « captcha » can indeed not be circumvented. However, please bear in mind that the « xml mode » allows you to retrieve at once the data over large period of time, which facilitates the processing.

In parallel, project partners are currently working on the final data publication framework for CWE FB MC go-live and will again exchange with MPs on this matter during the next FB User Group. We will take market parties' remarks and proposals into account to enhance the way data will be published for FB MC implementation.

9/18/2014 7:28:16 AM

Unfortunately, Market Coupling is a daily process. Therefore we need to download current data *each* day. To keep the process viable, we need to download the data in an automated fashion. Sorry, the captcha is a showstopper.

9/19/2014 9:37:47 AM

We took well note of your concern. Unfortunately, as indicated, the « captcha » cannot be circumvented in the short term. The project is however discussing with the FBUG Market Parties' expectations regarding the data publication framework for go-live. Based on MPs' concrete proposals, the project will do its best to facilitate the data retrieval in line with MPs' needs.

Critical Branch ID question

7/10/2014 2:38:40 PM

I am not sure I understand the reporting structure of the critical branch in the parallel runs.
Are the ID consistent over time ? i.e. is CB1489 representing the same critical branch over time?
During the recent forum in Dusseldorf, I thought that someone had said that the ID were now "permanent", is it correct and was it backfilled, ie if I look at the results historically, are the CB ID now fixed.
Thanks
Olivier

9/17/2014 3:39:54 PM

From the beginning of the parallel run, the CBCOs have been published in a random and anonymous manner meaning the IDs were not permanent and did not represent the same constraint over time.
For the FB MC go-live, it is planned to publish the PTDFs matrix including the random anonymized CBCOs at D-1: first the initial parameters (without long term nominations) will be published at 8:00 and then the final parameters will be available at 10:30.

During the Market Forum, it was communicated that the Project indeed intends to publish the fixed anonymized CBCOs but at D+2 from this summer on and the same data at D+2 with the location (hub/border) from go-live on.

Please note that the historical files with fixed labeling of CBCOs since the beginning of the parallel run are now available in a new folder “PTDF(Fixed CBCO ID)” on the FTP server on the CASC website:
http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results
The CBCOs will continue being published on a daily basis with random labeling as it is the case today on D-1 but they will also be regularly published with fixed ID on the dedicated folder of the FTP server mentioned above as well as on the CASC website (Utility tool). From Flow based Go Live on, the CBCOs with fixed ID will be published in D+2.

You can see in the chapter 10. of the CWE FB MC approval document the comprehensive description of the data publication framework foreseen for FB MC go-live:
http://www.casc.eu/media/pdf/FB/140530%20CWE%20FB%20MC%20Approval%20document.pdf

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Impact of Flow-Based on GB2 prices

7/15/2014 2:54:56 PM

Good morning,
I’d like to share with you a puzzling observation for some days of the Flow-Based parallel-run.
The issue is that Flow-Based seems to change GB2 prices even when the UK is well decoupled from the continent.

For each hour since the beginning of NWE coupling, I have:
• Filtered the hours in which GB spreads with the continent should warrant full flows into GB (taking losses into account to the best of our knowledge).
• Filtered only the days in which all 6 spreads (GB-NL & GB-FR, FB, FBI and ATC) are positive all 24 hours, to avoid the issue of blocks.
• Shown the difference between FB(I) and ATC prices.
Unless I am mistaken or I’ve made errors, this difference should be always equal to zero, but this is not the case, for example: on 03/05/2014 or 09/07/2014 (see charts).

• Can you also see the same thing?
• Have I forgotten any “flowing costs”?
• If the analysis is correct, why is that?

Remaining at your disposal for additional details.
Regards
Filippo Pirovano

9/2/2014 12:06:08 PM

Your analysis is correct: for the day in May we checked and indeed for all hours of the day IFA and

BritNed combined exported 300.4MWh to GB (where only 292.3MWh arrived). So you are correct to anticipate that GB prices should be equal between the different scenarios.

What you are observing is the effect of a time-out by calculation time: Euphemia creates a branch-and-bound to find block and MIC selections for the entire MRC region. This includes GB. The branching of the tree explores different paths for the ATC/FB/FBI/INF runs, because of the different price levels in CWE. But this in turn has consequences for GB block selection: due to the different paths choses, different GB block selections result. In fact all calculations resulted in different block selections, which in turn resulted in different GB prices. The effect you are observing therefore is a block effect, and the block effect is localized in GB and related to the limited calculation time, rather than the interaction with different network constraints.

Belgium import constraint in FB

7/22/2014 3:32:13 PM

Hello,

We have a question regarding Max import in BE ATC compared to FB

We have observed a constraint reducing BE max import in NTC since the outage of Doel and Tihange (green line). The explanation we got from Elia is that the imports are limited for stability reasons.
In the parallel runs, we observed some days (for example 14/5) where the total imports in FB (blue line) are higher than the total imports in ATC world (red line). Would it been feasible in reality? Why was the NTC constraint on that day not higer?

Could you answer with the example of 14/5 hour 6?

Thanks

9/9/2014 2:52:01 PM

The NTC constraints are determined in the calculation process of the ATC methodology taking into account the uncertainties of this capacity calculation process including both static and dynamic limitations.
The external constraint “import limit BE” which is related to dynamic stability only exists in FB calculations, not in ATC calculations.
In the specific case you mention the FB methodology allows indeed more import than the ATC methodology. The ability to give, sometimes, more capacity, has always been mentioned as an advantage of flow based.

Discrepancy between ATC Price and price published by PXs

7/29/2014 2:43:00 PM

Good afternoon,

I have noticed a discrepancy between "ATC Prices" published as part of the parallel run results and prices actually published by power exchanges.
For instance, French ATC prices for today (29-07-2014) differ from prices published by EPX for hours

19, 20, 23 and 24. The difference is even bigger on Belgian and Dutch prices for delivery on 28-07-2014 hour 12 (6.77 €/MWh difference).

Could you please explain me where this difference stems from?

Thanks in advance,

Julian Bouchard
EDF

8/26/2014 4:59:53 PM

Euphemia standalone hardware is not production like. This can lead to different level of optimization and slightly different solution than in operation where the machines are faster.
Please note that the set of 4 calculation results (ATC, infinite ATC, FBI, FB plain) provided on a daily basis are consistent, since the same calculation time is used on the same machine.
For prices comparison purpose, we advise you to take into account the newly calculated ATC-based price rather than published prices .

Fixed-Intuitive PTDF "jumps"

8/18/2014 10:04:38 AM

Good morning,
Could you please explain why the PDTFs of fixed-anonymous CBCOs sometimes "jump" from one day to the other?
Is that related to a change in the reference node? If yes, could you please remind how the reference node is defined?
The attached charts show the timeseries of the PTDFs of CBCO 16206380000, where the jumps are clearly visible, and the timeseries of the difference between the FR and the DE PTDF, which is more stable.

Thank you in advance,
Filippo

8/27/2014 8:49:46 AM

Dear Filippo,

Please see the explanation to your questions on the message published by project partners on this link (Message regarding hub-PTDFs): http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Parallel-Run-Results

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Fbvs FBI: July market coupling results

8/26/2014 9:37:17 AM

Hello,

I seems to me that price coupling led to a huge different result between FB and FBI in July //runs(see attachment)

Could you confirm, and if yes do you have an explanation for this difference between FB and FBI?

Regards,
Guillaume

9/17/2014 3:33:22 PM

The frequency of non-intuitive situations indeed increased in July (in fact this started already in May). The project is currently looking into possible explanations for this phenomenon, and will share its findings once available.

Parallel runs results for the 14th of October 14 Hour 9

10/14/2014 11:05:03 AM

Could you please shed some light on the parallel run results for the 14th of October 14 Hour 9. In the ATC solution the hour is coupled in the CWE region at 57.34 €/MWh. In both FMBC solutions there is full divergence in that hour and NL becomes the cheapest country. At the same time all other countries become more expensive in FBMC compared to ATC. In FB all countries get more expensive compared to ATC. This seems to be one of the welfare reducing cases of FBMC. In FBI NL switches from imports to net-exports and still has a lower price than in FB and ATC.

We would appreciate very much if you could explain the dynamics of that hour.

Thank you very much and kind regards,

Kilian Leykam

2/19/2015 10:43:59 AM

Due to high work-load within the CWE FB MC project as the targeted go-live readiness is approaching, it is not possible to guarantee a normal response time. The project cannot commit to respond all questions (especially linked to analysis of parallel run results) before go-live. Therefore, we kindly apologize in advance for the delay in answering your question.

4/17/2015 10:08:01 AM

The ATC net positions for hour 9 do not respect the FB constraints, i.e. price convergence would not be possible. Under FB/FBI prices change also for the adjacent hours and consequently this causes a change in block selection. For hour 9 this aggravates the situation: to maintain full price convergence more energy needs to be exchanged compared to ATC.

Looking at the INF results, we find more CBs to be violated and the violations are larger. The consequence for the FB and FBI results for this individual hour is that NL price decreases and other prices increase.

Finally we note that the flows towards Nordic and Spain do not change, but the flows to GB do. In the INF scenario the CWE prices converge to 57.93€, whereas GB clears at 58.69€. This results in zero GB flows, since the spread is too small to cover the losses.

For the ATC/FB/FBI scenarios this means that small changes in the prices for NL and FR the flows towards GB flip.

FB vs FBI 24th of Oct14 Hour 24

10/23/2014 3:20:19 PM

Hi,

For delivery 24th Oct14 all hours are intuitive. How is it possible that for hour 24 FB NL=46.23 and FBI NL=49.94?

Best,

Vincent

11/28/2014 2:40:28 PM

Please see http://cascforum.my-ems.net/yaf_poststt127_-Plain--vs--Intuitive--Welfare.aspx

As a reponse to this previous post, it has been explained that it cannot be guaranteed that where FB “plain” results in intuitive results these necessarily will be found under FB “intuitive”.

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delivery 31OCT14 hour19

10/30/2014 5:59:59 PM

Hi,

For delivery 31OCT14 hour19 I see:

1. The total absolute flow under ATC is higher than FB.
2. Expensive countries (NL and BE) go up and cheapest (DE) goes down.
3. Furthermore welfare un FB is lower than ATC.

Could you elaborate why this happened?

Thanks in advance for your reply,
Best
Vincent

11/28/2014 2:42:17 PM

For this hour the ATC net positions could not be supported by the FB constraints, resulting in lower exchanges. Consequently the welfare under FB was inferior to the welfare under ATC.

See parallel run performance report for more details why these cases exist:
http://www.casc.eu/media/20141117%20Parallel%20Run%20performance%20report.pdf

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Congestion income associated to one hub

11/12/2014 5:20:15 PM

In the document "Congestion income allocation under FB" you explain how you calculate the CI_Hub(i) (=congestion income associated to hub i).
The equation i contains the term AAF_Hub(i->j). I would like to know how to calculate this term AAF_Hub(i->j).

I can understand how the term AAFi is calculated (eq 4), but AAFi is related to the Critical Branch number i.

[list][*][/list]How are the flows on the CB i (AAFi) aggregated on a hub border level to obtain AAF_Hub(i->j) ? (where i is now the number of the hub, and not the number of a critical branch)
[list][*][/list]Is it possible to calculate AAF_UB(i->j) for each hub using the datas that are available ? (NEX, PTDF, LTN...)

Thank you in advance,

Arnaud Pitard

11/28/2014 3:52:20 PM

Dear Pitard,
The AAF_Hub(i->j) can be computed by considering all the tielines between the two hubs i and j.
It is not possible to compute the AAF_Hub(i->j) from the data publicly available. Indeed, not all the tielines (under non-outage conditions) are monitored in the FB parameter computation and labelled as critical branches. A separate computation, only taking into account all tielines between the CWE bidding zones, is run by the TSOs to calculate the FB parameters needed for the congestion income sharing.

ENTSOE ATC values don't match ATC values CASC (Germany)

12/12/2014 10:38:52 AM

Hi,

The Day Ahead Cross-Border Commercial Schedule ATC values published on ENTSOE seem not to match the ATC values for the Parralel runs from CASC (for Germany).
If I add the ENTSOE data from FR-GER and NL-GER I thought I should obtain the same numbers as the CASC ones for GER ATC. Adding the LT nominations for FR-GER and NL-GER to the CASC numbers helps, as in the numbers are now very close to the ENTSOE numbers, however on an hourly basis there is still a discrepancy around 0-10 MW. How can this be?

Many thanks,
Maurits

1/9/2015 11:40:10 AM

I compared the scheduled ATC cross border flow from the entsoe.net transparency platform with the dry run results where we take into account the long term nominations and the day ahead spot market. As an example we have a look at 26.08.2014 hour 12:
from http://www.entsoe.net/transmission-domain/commercialSchedule/show?name=&defaultValue=false&viewType=TABLE&dateTime.dateTime=26.08.2014+00:00|UTC|DAY
we see the following day ahead cross border schedules:
FR>BE= 2200
NL>BE= 89
FR>DE= 318
DE>NL= 2023

This means a scheduled cross border cwe NEX of:
NEX BE = -2289
NEX DE = +1705
NEX FR = +2518
NEX NL = -1934

From http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Publication-CWE-Flow-based-External-parallel-run
we see the following long term nominations:
BE>FR= 0
BE>NL= 175
DE>FR= 25
DE>NL= 509
FR>BE= 833
FR>DE= 180
NL>BE= 275
NL>DE= 0

This means a NEX for LT nominations of:
NEX LT BE = -933
NEX LT DE = +354
NEX LT FR = +988
NEX LT NL = -409

From the dry run results FTP server we get the NEX directly:
from ftp://user_name:password@ftp.cwe-sf2.com/2014/Report/report_20140826.xlsx

ATC NEX BE = -1462
ATC NEX DE = +1349
ATC NEX FR = +2852
ATC NEX NL = -1539

And now we can observe that: entsoe.net scheduled NEX <> dry_run NEX LT + day_run ATC NEX
We would have expected that those are the same. Where does the data collection or calculation go wrong?

Other days with problems are:
26.10.2014: daylight saving time
02.10.2014: Entsoe cross border commercial schedule between NL and BE is zero 0 in both directions, probably missing data.
26.08.2014 hours 6 to 24: in the example
18.09.2014 hour 20
19.09.2014 hour 19,20
16.12.2014 hour 8
03.09.2014 hour 18

and many more.

2/19/2015 10:42:25 AM

Due to high work-load within the CWE FB MC project as the targeted go-live readiness is approaching, it is not possible to guarantee a normal response time. The project cannot commit to respond all questions (especially linked to analysis of parallel run results) before go-live. Therefore, we kindly apologize in advance for the delay in answering your question.

5/5/2015 12:03:21 PM

Please see http://cascforum.my-ems.net/yaf_poststt137_Discrepancy-between-ATC-Price-and-price-published-by-PXs.aspx. The explanation applies to net positions too.

FB vs. FBI

1/23/2015 3:14:04 PM

Dear,

For delivery 2014 I observe that the number of non intuitive hours more than doubled in last 6 months of 2014 compared to first 6 months (175 hrs vs 495 hrs).

Do you have any explanation what the reason is of this big increase?

Best,
Vincent

2/19/2015 10:42:12 AM

Due to high work-load within the CWE FB MC project as the targeted go-live readiness is approaching, it is not possible to guarantee a normal response time. The project cannot commit to respond all questions (especially linked to analysis of parallel run results) before go-live. Therefore, we kindly apologize in advance for the delay in answering your question.

6/9/2015 3:07:34 PM

At this point in time we can confirm the observation that the number of non-intuitive periods varies over time (e.g. Jul + Aug 2014 higher frequency than other months.
)
For a non-intuitive situation (under FB “plain”) to occur, it requires:
• at least one congested CB;
• one bilateral exchange against the market direction to relieve the congestion (i.e. the non-intuitive situation);
• a second bilateral exchange in the market direction consuming the margin of the congested CB, generating more welfare than is lost by the non-intuitive exchange;

This recipe for non-intuitive situations requires a combination of market direction and specific

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properties of congested branches. These precise conditions remain subject of future investigation. The project maintains monitoring the non-intuitive situations had we been in a FB “plain” setting. NRAs already requested a follow up analysis on the FB / FBI choice, planned for mid 2016. This study should provide a better understanding of the conditions leading up to non-intuitive situations too.

Publication of data for delivery 25/01/2015

1/27/2015 12:48:30 PM

Good morning,
I've seen the parallel-run results for delivery 25/01/2015, which I assume are based on "fallback parameters".
Could you please confirm that?
Could you please publish the LTN and SA ATCs, which are missing for this day?
As a one-off, could you please also disclose what LTA values you've used for this day?
Thank you in advance,
Filippo

2/19/2015 10:41:58 AM

Due to high work-load within the CWE FB MC project as the targeted go-live readiness is approaching, it is not possible to guarantee a normal response time. The project cannot commit to respond all questions (especially linked to analysis of parallel run results) before go-live. Therefore, we kindly apologize in advance for the delay in answering your question.

3/19/2015 1:36:12 PM

Indeed the 25th of January was based on fallback parameters. More details can be found in the minutes of the last FBUG meeting, please see: [url=Indeed the 25th of January was based on fallback parameters. More details can be found in the minutes of the last FBuG see: http://www.casc.eu/media/CWE%20Flow%20based%20project_FBUG%20meeting%20minutes_02022015.pdf]http://www.casc.eu/media/CWE%20Flow%20based%20project_FBUG%20meeting%20minutes_02022015.pdf[/url]

The LT nominations and SA ATCs have been published ex-post and can be found on the CASC website. LTA values are already published on the CASC website as part of ATC publications.

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redundant and non-redundant fixed-id publication

2/3/2015 6:00:05 PM

Good afternoon,
I see that you have updated the redundant and non-redundant fixed-id publication till end-January, but unless I am mistaken November and December 2014 are still missing.
Regards,
Filippo

2/5/2015 5:31:46 PM

Dear Filippo,

Please be informed that the mentioned data has been published on the Ftp server and is available until end January.

Best regards,

CWE FB Project

Day-to-day changes in the Flow-Based domain (with attachment)

3/18/2015 7:20:43 PM

Good evening.
In the last month or so we've observed a phenomenon we'd like to understand better in order to forecast the Flow-Based domain.
We focus on the two periods Monday 02/03 to Wednesday 04/03 and Monday 16/03 to Wednesday 18/03.
In both cases the Mondays had high wind generation in Germany and produced a huge welfare increase (>1M€) because German exports were only limited by the global export constraint, whereas NTCs were curtailed.
And in both cases on the Tuesdays, with similar (first period) or easier (second period) German exports were much more constrained, see the two charts below.
Finally, the situation reverts more or less to normal on Wednesdays.
Could you please explain why the Flow-Based domain changes so much from the Monday to the Tuesday? Is there some kind of correlation with the reference day,?

Thank you in advance for your explanations.

6/10/2015 1:23:14 PM

Dear Filippo,

Indeed, this is an interesting phenomenon that you are describing. Since the base case improvement in February 2015 the difference to the reference day can, however, be excluded, as the impact of the reference day was reduced.

In addition to the amount of wind infeed the flow-based domain is also affected by where the wind energy is generated in Germany. Depending on the region of infeed we can observe that the flow-based domain is either highly reduced or almost not altered compared to a day with lower wind infeed. The regional wind infeed forecasts are included in the datasets.

Parallel-run results for delivery 2015/04/08

4/15/2015 8:59:37 AM

Good morning,
Could you please explain the Parallel-run results for delivery 2015/04/08?
They show a >6M€ welfare increase (the highest ever recorded by far), almost all from BE buyer+seller

surplus. Yet Belgian baseload prices change only by ~4€/MWh, and flows by <200MW, which seem hard to reconcile with such a high welfare increase.
Thank you in advance,
Filippo

6/9/2015 3:10:09 PM

A 3000€/MWh PRB was prevented under FB explaining the welfare difference. It was rejected under ATC due to a too aggressive heuristic in Euphemia. Please contact your account manager with either APX or EPEX if you would like further information.

PTDF_Fixed_CBCO_ID

4/21/2015 5:25:48 PM

Good morning,
The timeseries of PTDF_Fixed_CBCO_ID on the ftp ends late January 2015, nor is it possible to get more recent data with the new utility tool (unless I am mistaken). Could you please fill the gap before go-live?

Thank you in advance,
Filippo

5/12/2015 4:56:00 PM

Ex-post publication of historical CBCOs with fixed labeling (until 11/04/2015)

Please note that the following files were recently updated on the Ftp server where parallel run results can be retrieved: PTDF_Fixed_CBCO_ID_all and PTDF_Fixed_CBCO_ID_Presolved_only (folder 2015).
The data is now available until 11/04/2015. Please note that the data for the period until Go-live on 20 May will be published as soon as possible before Go-live or right after Go-live while respecting the D+2 publication principle.

Please also note that in the Utility Tool the final “PTDFs” are updated with the fixed ID ex-post since 11 April; this will be done also from Go-live on in D+2 as well as for the “All CBCO fixed Label”.

6/19/2015 7:48:05 AM

I use the FBMC utility tool with lots of interest and have growing interest on the all CBCO fixed label data. (I find the utility tool here: http://utilitytool.casc.eu/Util). In the excel table is a tab: All_CBCO_Fixed Label and we want to invesitgate that in more detail.
Unfortunately you can only download one day at the time in excel mode. Is there a posibility to publish the All_CBCO_Fixed Label data on a ftp server or xml download for a longer time range?
Alterntive it would be useful to download all excel tables via ftp. So that we dont have to download one file at a time, but get all at once via ftp download. Is there an access to that?
