Survey on Nordic CCM IPR Market reports

Introduction

The CCM project launched a survey to collect the comments from the stakeholders on the published market reports to better prepare the Nordic CCM implementation readiness both at the TSOs and at the stakeholders.

The survey was open for response during 2022-01-17 – 2022-02-03 and consisted of five questions. At the time of the survey, two IPR Market reports had been published.

Four stakeholders provided feedback, which has been evaluated with utmost care at the TSOs and is regarded as guidance for the improvement of the market reports.

All comments are of great value for the future market reports. The TSOs would like to express the gratitude to the stakeholders who spent time and effort to provide feedback and facilitate the Nordic CCM implementation process in general.

On the feedback received from stakeholders

Four stakeholders provided feedback. All responses have been anonymised.

Content

Summary of feedback on feedback received

Do you think that the published Internal Parallel Run Market Reports are understandable and that the current level of complexity is suitable?

Two respondents find the reports to be on the right level and two respondents would like additional information, for example to get a better view on impacts. One respondent comments that the information should be presented in a more neutral way and that this should be subject to evaluations in the FB parallel runs. The respondent also comments that the reports puts too much focus on the SEW difference between NTC and FB. The respondent states that the two draft reports doesn't really highlight or cover several of the issues and challenges with FB.

Response from Nordic CCM

The IPR Market Reports have been continually updated since the first two reports were published to provide additional information. If there are needs or perceived issues or challenges with flow-based not yet covered in the later reports, we need a continuous dialogue to further clarify that. For more details please check the response to individual comments in the presentation of feedback in full text later in this document.

As to the reports focusing on SEW comparisons, that is as expected by the NRAs. The TSOs are responsible for providing capacities to ensure/facilitate the social welfare maximization.

What do you like about the published Internal Parallel Run Market Reports?

The respondents' responses indicate that the reports provide valuable information and the more in-depth analysis of some specific hours and flow situations are appreciated. A respondent comments that a lot of great knowledge can be gained from following these examples in detail.

In general the respondents also liked the graphs and tables describing the differences between NTC and FB, the information about the input data and in the appendix.

One respondent would like further explanations on some of the cases presented, for example what happened in real life with real production outcome (what type of CNEC did it concern, what was the issue in the particular case and what measures did the TSO take?).

Response from Nordic CCM

For more details please check the response to individual comments in the presentation of feedback in full text later in this document.

What needs to be improved or added, for example in terms of further clarifications, additional topics, more graphs or so on?

General improvements

- Better naming of cuts/CNECs
- Better resolution on pictures
- Better presentation of missing data in situations where values are connected via a linear line segment

General information

- Information for stakeholders to model the power markets
- Information on the trustworthiness of the preliminary results on a more overall level including comments on the uncertainty
- Transparency on any changes or adjustments the Nordic TSOs apply to the FB model or other relevant inputs to the simulations from the start of EPR
- Information on progress of meeting the NRAs KPIs
- Information on impacts to the intraday market and other markets
- A list of typical cases (not just non-intuitive flows) and examples of more typical changes when moving from NTC to FB
- Comments and elaboration on an overall level regarding emerging patterns

Requests for specific information or clarifications

- Description of substitutions of FB domains and detailed information on their impact on the simulations results
- Comparability between the domains SE1-FI and DK1-NO2
- Information on what area configuration is used in both the FB case and the NTC case including VBZs and Line Sets etc.
- More information and statistics on the limiting CNECs per BZ over time, and, for Sweden, aggregated information and statistics on the limiting CNECs per BZ over time
- Non-intuitive flows per BZ border (what percentage of the hours there is a non-intuitive flow)
- Relevant configurations for the Nordics and outside the Nordics
- Clarification on NTC values used
- Starting values for NTC based intraday capacities and comparable values for starting capacities for intraday with FB applied
- Handling of ramping limitations and group ramping
- Handling of LHFs
- Results on hourly level in addition to the aggregated results, e.g. SEW changes per bidding zone FB vs. NTC.

- Regarding price reporting statistics
  - clearly present max, min, average etc. to show if the FB model as such increases the price fluctuations and volatility given same market conditions
  - statistics when neighbouring BZs have equal prices
  - statistics for BZs not sharing equal price with none of its neighbours
  - comparison of real area prices and simulated NTC prices
  - buy-and-sell-volumes per bidding zone in addition to net positions
- Information on the TSO process
  - how any adjustments of NTC values made to make them comparable will be handled in later external parallel runs and if this would happen in production.
  - any outliers or strange cases found based upon the substitutions but not picked up in the analysis – added as a continuous part of reporting.

Response from Nordic CCM
Please check the response to individual comments later in this document.

Do you have any other comments about the published Internal Parallel Run Market Reports?

- Questions and comments on corrections needed
  - That SAWG is taking the role as NEMOS during IPRs (page 7 chapter 1.2).
  - On the purpose of IPR (page 5).
  - Make distinction between physical flows for congestion income calculation (calculated based on border PTDF's and the net positions and prices are calculated by Euphemia) and commercial flows (calculated by Euphemia as scheduled exchanges) (page 6). Need updates to congestion income calculations.
  - Euphemia does not make a difference between real and virtual BZs (page 7). Net positions should be available.
  - Regarding LHF (page 9): could result of the previous day's run in SF be used (only the last hour flow for the first day was missing).
  - On fairness of comparison FB vs. NTC (page 10).
  - Please explain how the numbers in the last row of table 9 are calculated based on the numbers in the 1st and 2nd rows.
- Request for the official definition of the marginal value of a bilateral trade.
- Request for more information/data that stakeholders could make use of KPIs other than SEW.

Response from Nordic CCM
Please check the response to individual comments later in this document.

Stakeholder feedback: Respondent 1

Do you think that the published Internal Parallel Run Market Reports are understandable and that the current level of complexity is suitable?

Yes, in general we find the reports understandable

What do you like about the published Internal Parallel Run Market Reports?

The case studies that you focus on are good ways to grasp specific details of the not-intuitive FB.

What needs to be improved or added, for example in terms of further clarifications, additional topics, more graphs or so on?

We in [Name] have two ways of model the power markets:

1. machine learning > for this kind of model the info/ explanations that we get from you are more than enough as long as you provide us with the matrix of the PTDF.
2. EMPS > we still need to clarify how in a fundamental model one can tackle for mid-long term horizon the dynamics of the Flow Based

Response from Nordic CCM

Providing basis for modelling mid-long term horizon of the dynamics of flow-based is not in the scope of these reports. The topic/request is indeed interesting, but cannot be addressed at this stage, due to limited results and time.

Do you have any other comments about the published Internal Parallel Run Market Reports?

-

What category/categories of market player do you represent in regards to you answer to this consultation? Several options can be selected.

Other/not specified

Stakeholder feedback: Respondent 2

Do you think that the published Internal Parallel Run Market Reports are understandable and that the current level of complexity is suitable?

Reports are understandable, some additional information would be needed in order to get a better overview on the impacts (e.g. impacts on the ID market, non-intuitive flows etc).

What do you like about the published Internal Parallel Run Market Reports?

Nice graphs, information about the input data (e.g. missing / replaced CMGs).

What needs to be improved or added, for example in terms of further clarifications, additional topics, more graphs or so on?

- Impacts to the intraday market and other markets
  - ID capacities
  - Evaluation of the SEW impact including impacts on other markets

Response from Nordic CCM
We can show the SEW gain of non-Nordic countries for the simulated periods. However, we cannot make statements about the welfare of the intraday market. However, TSOs will publish the opening cross-zonal capacities for intraday market applying day ahead FB parameters and ATCE extraction method.

- Results on hourly level in addition to the aggregated results (e.g. SEW changes per bidding zone FB vs. NTC)

Response from Nordic CCM
It would possible to add this kind of data in the appendix. It would, however, be a bit messy to read. We are looking in to whether it instead is possible to publish hourly data in excel (CSV) format.

- Non-intuitive flows per BZ border - how many percentage of the hours there is a non-intuitive flow

Response from Nordic CCM
We are looking into the possibility to provide that information/data in the reports.

- Buy and sell volumes per bidding zone in addition to net positions

Response from Nordic CCM
We are looking into the possibility to provide that information/data in the reports.

Do you have any other comments about the published Internal Parallel Run Market Reports?

Missing HVDC links should be added as soon as possible - might have a big impact on the results, would be good to have market resuls published for every week as soon as possible

Response from Nordic CCM

They were included from week 49 on. Regarding the published weeks for NTC/FB comparison purposes, please note that the HVDC links were removed in the NTC market simulations as well.

What category/categories of market player do you represent in regards to you answer to this consultation? Several options can be selected.

Producer+Consumer+Electricity Trader

Stakeholder feedback: Respondent 3

Do you think that the published Internal Parallel Run Market Reports are understandable and that the current level of complexity is suitable?

Yes, the reports are understandable and the level of complexity is suitable.

What do you like about the published Internal Parallel Run Market Reports?

- These reports provide valuable information. Especially the chapters describing specific hours and flow situations.
- We appreciate all the graphs and tables describing the differences between NTC and FB.
- The information in the appendix is very useful.
- Report 2 is improved and include more useful information and general comments than report 1.

What needs to be improved or added, for example in terms of further clarifications, additional topics, more graphs or so on?

- In general, all the detailed information would be much easier to understand if we could have reasonable names for all the cuts in the PTDF description.

Response from Nordic CCM
That is not possible for all bidding zones due to national legislation.

- We would like analysis of even more specific hours, preferably grouped into typical cases with different characteristics. It would be very valuable to group different situations together to get examples of more ″typical″ changes when moving from NTC to FB.

Response from Nordic CCM
This is not foreseen to be addressed in the market reports. Note that there are a few aspects to address this comment. First, to make a general statement as stated in the comment, more market results are necessary. Second, neither TSOs nor stakeholders have a clear definition of these 'groups' and how to make the clustering accordingly. Third, the TSOs aim at establishing the foundation of data and knowledge to facilitate the stakeholders to perform in-house/tailor-made analysis. Via webinars, data publication, market reports, technical documents, surveys, etc., the TSOs and the stakeholders are expected to drive the learning-by-doing process together.

- It is not necessary to focus entirely on non-intuitive flows - a list of ″typical cases″ would be more useful.

Response from Nordic CCM
Please refer to response above.

- A few of the pictures have poor resolution, especially the maps under case studies. We would like to study the details, and it is important with pictures with good quality.

Response from Nordic CCM
We are looking into amending this.

- It is a bit difficult to compare NTC and FB when the domains are not comparable (SE1-FI and DK1-NO2). We are looking forward to this being fixed.

Response from Nordic CCM
We are aware of this issue and the DK1-NO2 was fixed in mid-January 2022. In addition, data quality will be addressed in CC modelling accordingly.

- We would also have liked some more general comments on the weeks covered by the reports. We see some very clear patterns across both reports; the net position in Southern Norway decreases while it increases in SE1/SE2 (and NO3 in report 2). The flow pattern is also quite systematic across the weeks: increased flow from NO3 to NO1/NO5 and increased flow from SE2 to SE3, combined with more flow from SE3 to NO1. Could you give a general comment and elaborate a bit more on these changes on an overall level? Is this a general pattern we would expect to see with FB?

Response from Nordic CCM
We cannot generalise the observations for IPR phase. The report focuses on the weekly trends, and if possible, we can comment about the weekly trends. This request could be included in the future overview reports, which are not yet being planned.

- To which degree can these preliminary results be trusted - not for specific hours but at a more overall level? Can you comment on the uncertainty?

Response from Nordic CCM
The focus of the internal parallel run (IPR) has been to establish the business process and the understanding of FB in the parallel run setup. The IPR market reports reflect the factual observations based on the given inputs to the FB capacity calculation and market coupling. As the parallel run moves towards EPR (external parallel run) with improved input data quality, the results will also be more accurate during EPR towards the real operational sense. Please also refer to the disclaimers.

Do you have any other comments about the published Internal Parallel Run Market Reports?

- There is still a question about effect on the system price. Do you calculate the system price? Could you publish it in the reports?

- Earlier it has been said from the project that the system price is a reference price with no grid limitations and therefore it would remain unaffected moving from NTC to FB. Since FB changes the flow towards external areas compared to NTC, we do not understand why the system price would remain unchanged. Could this topic be studied a bit closer?

Response from Nordic CCM

In the parallel run setup, the market simulations are performed using the simulation facility (SF). The SF does not produce the system price as output. Thus, it is not possible to report it. In the market reports, the change of the overall Nordic net positions (NPs) (i.e. NP_FB – NP_NTC) is captured, which may also be useful for the stakeholders to get a grip on the potential impact of the Nordic-level NP change on the system price.

What category/categories of market player do you represent in regards to you answer to this consultation? Several options can be selected.

Producer

Stakeholder feedback: Respondent 4

Do you think that the published Internal Parallel Run Market Reports are understandable and that the current level of complexity is suitable?

1 Thanks for having the opportunity to give inputs on the future reporting format. Most of the content is understandable and clear, in the following text you will find needs for improvements and other suggestions to make the reports even better. If something is unclear feel free to make contact and we are happy to try to elaborate a bit further. We have marked our feedback with numbers to hopefully make I more clear and possible to divide and handle the point in an efficient way

2 General observation. The overall text is positive in favour of FB, this can put objectivity of the report in question. Therefore, the focus should be on presenting this in a more neutral way, and subject to evaluations in FB parallel runs, including effects on subsequent provision of SIDC NTC (ATC) based Cross Zonal capacities. The aim of these reports is multi folded but now a very high focus is given to show the SEW difference between NTC and FB, and extremely few market participants or stakeholders have any daily connection or understanding of SEW gains (and actually SEW values aren't even published today) nor are the values compared with total numbers. Several of the issues and challenges with FB are not really highlighted and not sufficiently covered in these two draft reports. See more detailed feedback under following sections.

Response from Nordic CCM

The ID ATC capacity for the ID gate opening will be published and some weeks are already available at Nordic RSC website.

There is indeed a focus on SEW comparison in the reports, as it is expected by the NRAs and requested by CACM Regulation when CC methodology is changed. TSOs are responsible for providing capacities to ensure/facilitate the social welfare maximization.

The IPR Market Reports have been continually updated to provide additional information. If there are needs or perceived issues or challenges with flow-based not yet covered in the later reports, we need a continuous dialogue to further clarify that.

What do you like about the published Internal Parallel Run Market Reports?

3 We appreciated the time and efforts made to make the more in-depth analysis of some specific hours. A lot of great knowledge can be gained from following these examples in detail, thanks for this!

4 We found a very interesting case in one of the simulated MTU there is one CNEC with a simulated overload of 423% of an un-named CNEC in Sweden. What happened in real life with real production outcome, was there an issue and what measures did the Swedish TSO take in real life to handle the situation, what type of CNEC is this? Similar explanations could be added for any observed overloads over a given threshold of 10X% in future to connected

this to reality from the NTC world and really connect this to the real-life power system to show if FB model really improve the operational security as part of the more in-depth case explanations in the report. This would certainly improve the understanding if calculated overloads had any real-life impact in the NTC model and need for TSOs to take real remedial actions or this is somehow a simulation effect.

Response from Nordic CCM
The TSO operators are aware of this CNEC and the TSO concerned is evaluating the internal treatment of this CNEC. From a market report perspective, the IPR market report captures the factual observation about FB and NTC comparison, and it is not foreseen to cover the TSO operational practice or evaluation of operational security during operational hours. Such detailed operational practice could perhaps be addressed in a specific follow-up report or during stakeholder events as follow-up discussions.

What needs to be improved or added, for example in terms of further clarifications, additional topics, more graphs or so on?

5 We are totally missing any information in relation to starting values for NTC based intraday capacities and comparable values for starting capacities for intraday with FB applied. Once this is included in the report, we would like to be given a possibility to come back with any relevant feedback on these parts.

Response from Nordic CCM
The ID ATC capacity for the ID gate opening will be published and some weeks are already available at Nordic RSC website.

6 We would like to see more information and statistics on the limiting CNECs per BZ, over the time. We acknowledge that this will have a limited value in the Swedish case with non-transparent and changing coding of CNECs names, but very relevant for the three other Nordic countries.

Response from Nordic CCM
We will consider different ways to assist stakeholders in their price forecasting in the future and related to CNEC selection.

7 However, we would like to see this also aggregated for the Swedish case as the TSO is the only entity that can provide this aggregated info on CNEC basis, and this information should be given on a kind of pre-agreed form, CNEC 1 in BZ SE3, CNEC 2 in SE4 etc is the limiting in X % of the time. Without this information a lot of the TSO claimed transparency gains are lost. This should also be possible to aggregate even the Swedish TSO is not able to provide the name of the individual CNEC.

Response from Nordic CCM
We will consider different ways to assist stakeholders in their price forecasting in the future and related to CNEC selection. On Swedish case, it is up to Svenska kraftnät to evaluate what can be done without violating national legislation.

8 Can you describe substitutions of FB domains (as part of the TSO process) and how in detail they are having impact on the simulations results? Also, if you are making any adjustments in the NTC values as part of this to make them comparable? How will this be handled in later external parallel runs and if this would happen in production? Are there any outliers or strange cases found based upon the substitutions but not picked up in the analysis? Can this be made as part of the ongoing and future reporting that any substitutions are clearly market throughout the entire process more clearly as it not clear for example in price graphs if observed outliers are dependent on this lack of correct FB domain input? This is also to learn the stakeholder on the actual process if there ever should be a need to adhere to substitution in real life.

Response from Nordic CCM
Today, when we are not able to build a CGM, a FB domain backup is applied in the form of a FB domain of a previous hour or reference day (usually previous day taking into account weekends and back holidays). This kind of FB domain substitutions is applied while waiting for a new release of the software at the Nordic RSC. With the new release, all fallbacks are in place for the IGM and CGM. In case of missing files, input to the capacity calculation process can then be provided by replacements from an earlier hour or day. We will clarify these substitution rules and their application.

If the capacity calculation process fails, the fallback measures will be applied as described in Article 22 of the CCM methodology. In case of fallbacks being applied, the NTC capacity remains unchanged. NTC backups are not used to match the FB substitution.

TSO operators perform Domain Validation (DV) and ensure the validated FB domain is suitable for the market coupling. In case a TSO do not agree the FB domain during the validation, it can adjust RAM values by IVA, with the IVA being transparent to the stakeholders. The outcome of the DV is a secure FB domain suitable for the EU market coupling.

9 Many of the price graphs lack information from missing data, instead of values left blank in this situation values are connected via a linear line segment, this gives a wrong impression of the price development. There should be better ways than drawing a line in these cases to make it clear that data is missing.

Response from Nordic CCM
This have been amended in the reports from week 49 onwards.

10 Can it be confirmed that exactly same NTC values on all borders as in real production are used for the simulations on all borders and all MTUs?

Response from Nordic CCM
From week 49 onwards the topology has been up-to-date and the NTC capacities available in Simulation Facility (the tool used for market simulations) is taken as is. In the weekly IPR reports before that, some HVDC links were missing and those NTC capacities were removed from the NTC simulation as well, to make the FB and NTC comparison ”fair”.

11 Ramping limitations (and group ramping) handling and values is not mentioned anywhere in the report. Shall we assume they are as in production today

Response from Nordic CCM
From week 1 onwards, both ind. ramping and lineset ramping are applied in the simulations. if not stated otherwise in disclaimers A disclaimer have been added to elaborate the previous reports. In the future this information will be made available to SHs.

12 It could be made clearer in the report what area configuration is used both in the FB case and NTC case including VBZs and Line Sets etc. Also names are appearing to be partly different compared to what is normally used. For added clarity also when looking at results it can be good to include the relevant configurations also outside Nordics, as these will change during the 12 months of E//Rs. Should something be observed in combination with this it can be good to be able to go back in previous reports and see what relevant area settings applied during previous simulations.

Response from Nordic CCM
As we understand it, you question is related to the topology file which is provided by NordPool. The TSOs do not intend to publish the topology file as such, but to ensure a comparable topologies between FB and NTC simulations. As to the comment on use of partly different names than normal, it is not clearly specified what names this refers to.

As for relevant configurations outside the Nordics, it is what it is as daily operations. In parallel run the only difference is that the Nordics are in FB. We will of course have to ensure that topologies are correct, and agree with other CCRs how connections to Baltic and Hansa CCRs are modelled in SF. We'll discuss this issue first with the NEMOs.

13 We would like to see in the report what changes or adjustments Nordic TSOs applies to the FB model or other relevant inputs to the simulations (if any) from the start of the external parallel run or if some issues are found during the way especially as this is currently described as a continued learning process by TSOs. This is needed to be put transparently to stakeholders as in case issues are found there needs to be a transparent and clear understanding how this is impacting the previous simulated results. Proposal is to introduce a change and issue log with clear dates of any potential finding or needed adjustments to the input model to be kept accurate and transparent info up to date during the process. Already known issues (listed in the report draft) can be added to this list and a date can be added in the log when these are solved. This will hopefully help when any new issues are found as there is at least a possibility to go back and look if any simulated results should be deemed invalid due to the severity of issues found until changes are applied.

Response from Nordic CCM
Currently, the TSOs use disclaimers to capture/communicate adjusted simulation settings. Disclaimers are generally considered more efficient to read and have direct link to the content of the market report. However, to see the whole change history from one glance is a good idea and we will consider this proposition for EPR.

14 Handling of LHFs are a bit unclear in the text, what is really the desired input of these values in the simulations, and are these the same as used in the simulations, if not how much is this impacting the overall results of the simulations if zeros are used in all simulations?

Response from Nordic CCM
We will look into amending the relevant information.

15 Ramping limitations (and group ramping) handling and values is not mentioned anywhere in the report. Shall we assume they are as in production today

Response from Nordic CCM
Yes. All is in line with production, unless stated otherwise in the disclaimer.

16 To be able to increase the understanding and perhaps calibrate the simulated NTC value of the simulations, is there a possibility to also add a comparison with real area prices the simulated NTC prices to be sure that there are no unknowns having impact on the simulated NTC runs. (Naturally this is a bit early as there are known issues in the current reported model but great for later to be able to see that the NTC simulations converge with real data). We did a quick comparison from one of the reports with real prices and there is difference now and it would be good to see that this is not the case when all known issues are removed.

Response from Nordic CCM
This information not in the scope of the IPR market reports. We will address this kind of issues during EPR.

17 It should be clear in the report on the progress of meeting the NRAs KPIs clearly for the reporting period in question to avoid any unclarity on this topic. Perhaps a clear dashboard to be added in the summary.

Response from Nordic CCM
The TSOs are currently evaluating this request and will get back to the stakeholders on this.

18 Missing any clear frequency of non-intuitive flows on a per border basis. This is to understand what areas and what borders are most prone to this over time. This would also make it clear to all stakeholders that this is something that will be frequent in the Nordic market after FB introduction, should this prove to be the case.

Response from Nordic CCM
The TSOs are currently evaluating this request and will get back to the stakeholders on this.

19 It would be great to have a better price reporting statistics in this kind of report, a lot of potentially strange and potentially outlier situations can be hidden in average figures. Clearly present, max, min, average etc. It is important to show if the FB model as such increases the price fluctuations and volatility given same market conditions. This is not really covered in the reports very small price-graphs. Also it could be considered to add statistics when neighbouring BZs have equal prices as this is sometimes used both to understand some potential development on hedging possibilities but also provide some value for understanding how market concentration is potentially developing due to introduction of FB. Ideally FB model should increase price convergence in comparison with NTC model. Also add statistics for BZs not sharing equal price with none of its neighbours as this is generally perceived as unwanted development and it is important to understand if there is clear change between NTC or FB in this regard. Also similar statistics could be used in a positive way in case it could be shown that a future FB introduction could increase a price convergence between bordering BZs. This is also important as this will be interesting information and background in the ongoing review of bidding zones in the Nordics.

Response from Nordic CCM
The TSOs are currently evaluating this request and will get back to the stakeholders on this.

Do you have any other comments about the published Internal Parallel Run Market Reports?

20 It is said (on page 7 chapter 1.2) that SAWG is taking the role as NEMOS during IPRs, this is not a really correct statement. In our understating they only run the simulation using the SF.

Response from Nordic CCM: This shall be corrected for the EPR.

21 Page 5: Purpose of IPR: Isn't the purpose of IPR to evaluate impact of FB on CC and market coupling KPIs (apart from testing quality of tools and processes)?

Response from Nordic CCM
The main purpose of IPR is, indeed, to test the CC tools and processes. However, KPI related to the socio-economic welfare has been included already in IPR report. Monitoring all KPIs as given by NRAs will come more relevant during EPR.

22 KPIs other than SEW are of interest for stakeholders, e.g. price spreads, limiting CNEs, PRBs, …

Response from Nordic CCM
Limiting CNE will be included in the market reports. Other requested KPIs in addition to those from NRAs are being evaluated by the TSOs.

23 Page 6: Good to make distinction between physical flows for congestion income calculation (calculated based on border PTDF's and the net positions and prices are calculated by Euphemia) and commercial flows (calculated by Euphemia as scheduled exchanges). Need updates to congestion income calculations

Response from Nordic CCM
The congestion income (CI) is implemented to use the physical flows, being the PTDFs and NPs. CI = sum(physical flow * price difference). This CI has to be split between CCRs and then within a CCR distributed for each border.

The methodology used for CI distribution (CID) for each border is described in the CID methodology in accordance with CACM regulation – we are following this methodology. We'll discuss with NEMOs and come back with further clarification.

24 Page 7: Euphemia does not make a difference between real and virtual BZs. Net positions should be available.

Response from Nordic CCM
The NP information of the virtual BZ is available as part of the market coupling results, but in the flow section/file of the results.

25 Page 9: Regarding LHF, couldn't result of the previous day's run in SF be used? Then only the last hour flow for the first day was missing.

Response from Nordic CCM
We are currently looking at this and will get back to the stakeholders on this.

26 Question about fairness of comparison (FB vs. NTC): as stated in page 10, "Fair comparison between FB- and NTC-market results requires same level of operational security". Later in the case study it is revealed that "in the NTC scenario the TSOs allowed for an overload of certain CNECs, especially NO4-SE1 and NO2-DK1. Flow based does not allow these overloads." Does it mean that the operational security levels of the two models are different in TSOs capacity calculations? If yes, doesn't it make the comparison misleading? Can we conclude that similar issue exists in other days/hours, but maybe not as severe as the case of 8th of October 2021, 08:00 – 09:00? Is there any plan to improve it (comparable security level/overload avoidance/…) in the future simulations?

Response from Nordic CCM
No, it might not be a fair comparison. The TSOs are working on this issue to get more clarity on this topic. Please also see the disclaimers.

27 Can you provide the official definition of the marginal value of a bilateral trade? Is the right hand side of this equation correct?

$$\left(\frac{(P^j - P^i)}{\sum_n \alpha_n \left(PTDF_n^i - PTDF_n^j\right)}\right) = \sum_k \rho_k$$

Response from Nordic CCM
The equation is correct. As for the official definition, we refer to Darryl R. Biggar & Mohammad Reza Hesamzadeh (2014): "The Economics of Electricity Markets", IEEE Press and John Wiley & Sons Ltd, ISBN 978 11 18775752.

28 Also please explain how the numbers in the last row of table 9 are calculated based on the numbers in the 1st and 2nd rows.

Response from Nordic CCM
Due to the rounding, the division of first two rows does not end up with the last row. However, without the rounding, the TSOs confirm that the values in the third row are accurate.

What category/categories of market player do you represent in regards to you answer to this consultation? Several options can be selected.

Power Exchange (PX)

Appendix A: Survey questions

1 Do you think that the published Internal Parallel Run Market Reports are understandable and that the current level of complexity is suitable?

2 What do you like about the published Internal Parallel Run Market Reports?

3 What needs to be improved or added, for example in terms of further clarifications, additional topics, more graphs or so on?

4 Do you have any other comments about the published Internal Parallel Run Market Reports?

5 What category/categories of market player do you represent in regards to you answer to this consultation? Several options can be selected.

- Industry organisation/Interest group
- Producer
- Consumer
- NRA
- Power Exchange (PX)
- Electricity Trader
- DSO
- Energy Retailer
- Media
- Other/not specified