Nordic CCM SH Meeting – meeting minutes

September 9, 2024, 9.30-15.30 CET
Copenhagen airport Clarion and MS Teams

Participants	
Total physical participation: 50	**Total online participation: 172**

The presentation has been uploaded on the Nordic RCC website:
https://nordic-rcc.net/flow-based/stakeholder-meeting-material/

Text in non-italics are comments, statements, questions or claims from the stakeholder(s).
Text in italics are answers or comments provided by the Nordic CCM project & NBM project.

1. Welcome and opening words (09:30 – 09:45)

SH question: Will there be default flow-based parameters, or will we use this rollback process, meaning NTC capacities?
CCM project: *There are fallback solutions for potential hiccups. This rollback to NTC will occur if the fallback solutions do not work.*

2. Flow-based impact on balancing (09:45 - 10:10)

SH comment: It's great that the balancing perspective is being presented, in essence this means that you know how to protect the grid in the end. However, the system requires higher reserves in some small areas which means that we need to build more resources. As we all know there is quite a lot of balancing needed between the areas today which will not be possible. Also, on the point regarding that you increase the DA capacities of course this is possible, but this would lead to another result in the SEW calculations and this is a critical thing that is not addressed in the SEW addition in FB. Therefore, it is hard to then say that the SEW is well calculated.
NBM project: *We are doing a reliability check for each hour to see what the flow is and how it can be utilised most efficiently in order to ensure that each area is sufficed.*
We see an impact of flow-based but it is not significant.

SH question: When referring to potentially allow for balancing use of max 20% instead of 10% what does it mean, e.g. potentially 20% of total CZC? Based on what methodology is that permitted?
NBM project: *This is part of the approved methodology for the Nordic aFRR and mFRR Capacity Markets. It is a sum of the aFRR & mFRR.*
SH comment: But CZ capacity reservations via EB GL Art 41 Method chosen by Nordic TSOs are limited to max 10% of CZC.
NBM project: *In normal operation yes, no more than 10%. Article 5.1.b regulates the special conditions where reservations above 10% are allowed. If an area can't get enough resources, we have the permission to increase it to 20%. That being said, we don't do it often.*

SH question: You stated you are feeling comfortable with being able to balance the grid and it is up to how you dimension the procurement; how do you expect these procurements to differ from NTC?
NBM project: *Most recent calculations suggest that there will be a minor uplift meaning more procurement of balancing reserves, on Nordic level it's a 300-400 MW increase. Keep in mind that we are dimensioning for N-1 and that each area needs to be capable of handling N-1. We are thus comfortable with flow-based because there are local resources.*
NBM project: *The increase in procurement of balancing reserves is not only due to the implementation of flow-based but also due to a new dimensioning methodology stating that each TSO must be able to handle both imbalances and reference incidents.*

SH question: Reserving cross-border capacities. Today the amount of capacity reserved is calculated based on the value that is allocated through the forecast of the prices. How does the input to the balancing market change when we go into flow-based?
NBM project: *The short answer is that it does not change. The algorithm takes the DA prices into account and the DA price reflects the ATCs, so per default nothing is changed. That being said, if flow-based yields more even DA-prices and assuming reserve prices aren't affected, then it might utilize exchange of reserves more often. Again, it does not change the normal cap on 10% for the sum of aFRR and mFRR, nor the 20% cap in case of insufficiency. Although the rules will not change in the capacity market, there might be additional internal reservations. If and by how much has not yet been decided and will be a result of how the capacities are when flow-based DA goes live.*

CCM project: *The idea of having this presentation for stakeholders is to provide a more complete view of what will happen after go-live of flow-based.*
If we look at how we operate the system today we are seeing the failures that we have in the current process. We have volumes to cover the reference incident for instance the biggest production unit in the area. This comes as an obligation and is the right way to go to ensure safe operation. What are the typical imbalances in each area and in the total? How do you secure that you can cover the imbalances in the area it occurs and as well as in total? If Sweden would optimize and always dimension our system to be in the secure phase this would be very costly. The whole idea is to connect this to the region where it occurs instead. We feel confident we will maximize more capacity from the grid and ensure N-1 and with NBM we

will also take the next step and not only cover N-1. The TSOs are not taking over the responsibility regarding imbalances but it is still the balancing parties that will need to work harder on balancing a more weather dependent systems. Energy prices and balancing prices will increase due to having a more used grid.

SH comment: If you expect higher costs than it should be included in the calculation of SEW. You are interested in the balancing of the system and we stakeholders need to know the costs that come from this.
CCM project: *It is unfortunate that these two projects are being implemented at the same time. There are connections between flow-based and NBM. Looking at the methodology one can see that it is an optimization between the energy and the capacity market. What this means for the different participants needs to be more analysed.*
CCM project: *If somebody has an extra cost due to an imbalance then somebody else will have an extra gain in being activated so the overall impact on the SEW is based on both the cost and gain of different market participants.*
SH comment: But if the procurement of balancing reserves increases then there will be a need to build more resources and thus that is a cost someone will have to take.

SH question: Will it become costlier for smaller BRPs participants to participate in the market?
NBM CCM project: *The cost for the capacities is covered by the TSOs, from a BRP perspective it means that there is more market to bid in to.*

SH comment**:** But it is also passed on to other market participants such as BSP for instance, if a smaller IBP wants to become a BRP or BSP it can be costly for them. A solution could be to use co-optimization in the future. Clearing the DA market and all the capacity markets in a single optimisation so you distribute resources.
NBM project: *When talking about future developments that can mitigate these cost increasing effects, is to implement Flow-based in the other markets as well. Once we have done so the problem of having reduced capacity for ID and balancing will be solved.*

SH question: Is there actually a need of more resources for capacity reservations in DA due to flow-based or is it due to what we see in the ID capacities because of ATCE?
NBM project: *The way we calculate the need is by looking at what is available in the balancing time frame. When there is low ATC, then there is a need for additional local resources. Whatever is available after ID and what is available immediately before the balancing time frame is what we look at.*
SH question: Are you looking at the distribution of ID capacity from ATCE to see where extra reserves are needed?
NBM project: *Yes, that is the foundation of our calculation, and the distribution is not even so there are local differences.*

3. Executive summary of EPR (10:10 – 11:30)

SH comment: I assume you mean 10 TWh, it was not NTC limiting the possibility, but NTC based the solution on SEW optimum and net position per BZ without using all NTC and without on average pushing more MW/MWh from north to southwest. Also, 10 TWh surplus in hydro vs production results is hard to find in the North.
CCM project: *We emphasize that there is more grid capacity to be used and that flow-based provides more grid capacity to the market. The price difference show that the NTC capacity was fully utilized. 10 TWh that couldn't be utilized in NTC could be offered by the FB.*
There are prices differences in all hours of the day with NTC and it will probably be the same with flow-based so yes, the grid was constraining the solution with NTC, there might be some MTU where it wasn't but there was a price difference meaning that the flow couldn't be there in NTC.

SH comment: Just want to highlight that the SEW is only calculated for DA and not ID.
CCM project: *Comment noted.*

SH question: In the graph it says zero spread, does this mean absolute 0 or do you have any tolerance in that?
CCM project: *The rounding happens on BZ price level at 0.1. e.g. if the price is 0.01, then after rounding it becomes 0. if the price is 0.26, the final price published is 0.3. it's implemented by the SQL rounding function.*

SH question: When the flows are going in the wrong direction the reliability to the market will deface, is it worthwhile to taking this risk, or should we eliminate non intuitive flows before going live?
Are we willing to take that risk with non-intuitive flows and what are the consequences?
CCM project: *Yes, we will go live with flow-based with non-intuitive flows. Non-intuitive flows are what contribute to the benefits with flow-based.*

SH question: How much will the TSOs reduce the DA capacities to allocate capacity for mFRR?
CCM project: *There are several ways to account for lower intraday capacities. One way is by reserving capacity in day-ahead another. It is not easy to say if and by how much each TSO will reserve additional internal reservations for balancing. This is an ongoing discussion for some TSOs and will depend on the results after flow-based go-live.*
NBM project: *It is not easy to say if and by how much each TSO will reserve additional internal reservations for balancing. This is an ongoing discussion for some TSOs and will depend on the results after flow-based go-live.*
SH comment: There are scarce mFRR resources to activate in SE3 and SE4.
CCM project: *We do not yet know how much resources we need and the NBM project is currently working on analysing this and after go-live it will be easier to know how much resources are in fact needed.*
SH question: Will you do any calculations on these numbers?

CCM project: *The CCM project will not do calculations on this, but the NBM project is already working on analysing these needs. We will get back to you later with a more elaborate answer.*

SH question: Are there plans to adjust the relaxation on RAM and PTDF to decrease arbitrage possibilities?
CCM project: *One effort already made was lowering the PTDF relaxation from 5% to 2% which decreases arbitrage possibilities. Besides this there will be no further efforts made to limit arbitrage possibilities.*

SH question: There is currently a trade-off between relaxations and overload risks. If these constraints for PTDF and RAM that are present in DA that relax for ID, if their impact is negligible can't they be dropped in DA? If not, has fine tuning the method for relaxation per border been investigated?
CCM project*: The reason for introducing relaxations in the first place is because of the fact that we optimize the grid more in day-ahead and thus see less capacity in intraday at the gate opening, being the remaining capacity of the DA timeframe. We allow for some potential overloads as a consequence of relaxation because we want to provide maximal ID trading possibilities for the market. In other words, applying relaxation in the DA timeframe will only provide more DA trading possibilities. Considering the limited ID trading possibilities, the relaxation is applied to the ID timeframe, considering a manageable level of operational risks.*

Additionally, we are constantly looking at new ways to improve how we use the ATCE tool, for instance some borders have realistic net positions and by constraining some borders in the ATCE optimisation it's possible to increase capacity on other borders instead of having a lot of capacity on just certain borders.

SH comment: Comparing sum CZC BZ-to-BZ (or rather Hub-to-Hub via all possible BZ to BZ paths) over time with limits when CZC was actually needed and used in SIDC is not a solid analysis of (negative) effects on ability for the market to adjust balance based on new fundamentals after SDAC via SIDC before real-time.

SH question: The external (CORE-Nordic) limits are set daily now and expected also going forward will be known by Nordic TSOs about 13:30 CET each day, thus will you by Nordic SDAC FB go-live apply that when running ID ATCE to give CZ ATC for 15:00 SIDC IDA and Continuous Cross Border opening normally around 15:20 CET?
SH comment: Isn't it supposed to be that ID capacities are allocated on the best utmost possible security constraint for the whole grid? Since we have a European ID auction and a European continuous market, why would we not reflect the border restrictions between Core and the Nordics in the Nordic setup of the ID capacities? It affects our need to reallocate our capacities and needs to be taken into account.
CCM project*: For go-live, the Nordic RCC will only produce one ATCE calculation, which will be without any external TSO limitations. This calculation is performed when the TSOs only know their own limitations. Updating the ATCE calculations to consider the external capacities is not currently planned in a future release. The reason of not considering the external limitations comes from the cross-CCR capacity calculation process. It is a consequence of having multiple CCRs in Europe. The external limitations are provided after the Nordic TSOs calculate the ATCE results. In other words, the Nordic TSOs compute the ID ATCs (of the external borders, i.e. HVDCs in SE4, NO4, DK1, etc) based on the Nordic grid constraints. The external TSOs compute the external border capacities based on their grid constraints. Both ID ATC results are provided to the ID trading platform. The smaller external border capacity prevails. The current process does not facilitate the Nordic TSOs to wait for the external TSOs' inputs on the external b*
It is an unfortunate consequence of having multiple CCR-regions, which imply less effectiveness to the market design.

SH comment: If you cannot (or don't want to) value ID-market impact, here is a suggestion on what to do instead: Compare DA-results from EPR, Actual Production & Consumption, and compare to Available mFRR-resources in each area for every PH throughout EPR. Then assuming that any local net-shortage (Prod + import - Export - Cons +/- mFRR-capacity) has to be solved through extra DA-limitations. And N.B. then these DA-limitations has to be done for more less every hour to secure system security.

4. Process towards go-live (11:30 – 12:00)

SH question: With only 6 weeks to go-live, shouldn't all the tests already be finalized?
CCM project: *The testing is planned to align with the testing timeline of other projects as well, and thus it is no issue for the involved parties that the testing is still continuing.*

5. Overview of settings at flow-based go-live (13:00 – 13:30)

SH question: In the OLP document it is stated that countertrade is only included in NTC and won't be available by go-live, was this captured in the RA slide?
CCM project: *What is stated in the OLP document is still valid; countertrade will not be included in the FB domain at go-live. For Svenska kraftnät, RA-values will be added on certain CNECs to account for SIPS (System Protection Schemes) and other predifined RAs, such as bypassing of series capacitors. The production resources procured by Svenska Kraftnät will continue to be available to manage potential contingencies that might arise in the operating hours.*

SH comment: How can we have 4 different methods to apply RAs? There were several other cases where every TSO does and define parameters differently, this is inefficient.
CCM project: *The methodology allows for the consideration of RA in the CC process, but how is not strictly described. Thus, the TSOs have the flexibility to select different methods for the RA application that matches their operational practices.*

6. Vattenfall presentation: Challenges of FBMC implementation from hydro-scheduling perspective (13:30 – 14:00)

SH comment: We are seeing the same problems as Vattenfall. We want to know how we can actually use the UMMs. Getting more information from the UMMs is important.

SH comment: We see the same challenges and support the key takeaways.

SH question: Will you have any change in trading strategy, for instance shifting volumes from DA-market if more value is foreseen in ID? Also, how do you see the complexity of 15 MTU together with Flow-based?
Vattenfall: Reduced capacities in ID will affect us. Most of the ID trading is because of balancing needs from unexpected changes in renewables for instance, and forecasts will not drastically improve. Furthermore, we have limited possibilities to discuss trading strategies.

CCM project: *Thank you for the presentation. The issues raised here are mostly due to inefficiency. We are not able to implement everything at the same time for instance we still have ID in NTC and the UMMs in NTC format which is not perfect. We are aware of this. However, for the LTCC it will move to flow-based and be implemented 12 months after go-live, so the LTCC will be implemented the end of October 2025. Linked to this the publication of flow-based outage information, NUCS, will also start.*
Given the challenges stakeholders face we could consider facilitating a workshop where we invite different actors and stakeholders like Vattenfall to bring everyone together to share ideas and discuss how to forecast the flow-based domain. This workshop would be held after go-live.

SH comment: We would appreciate if the CCM project and TSOs analyse the possibility of sharing more information based on the list of challenges that we (Vattenfall) have provided. If it's not possible for them to share more than we would want to know why that data can't be shared. Additionally, we support the idea of a workshop.

SH question: Will the market be notified of changes in CNECs in advance?
CCM project: *No, this is not the current plan for go-live. Due to operational needs the CNECs will change from day to day.*

SH comment: We fully agree that more open data and significant effort are required for FBMC modelling. I'd like to share our work on the challenges of FBMC modelling and invite everyone to collaborate. "Modelling and Predicting Constraints in Nordic Flow-Based Market Using Open Data" at https://ieeexplore.ieee.org/abstract/document/10608916. Please reach out to aleksei.seleznev@skmenergy.com if you don't have access to the IEEE database.

SH question: This question is aimed at the NRA. Are you concerned after hearing the worries of Vattenfall and other stakeholders?
NRA answer: It has been good to hear everyone's comments. A letter has been sent to the TSOs and the CCM project regarding the intraday concerns. In that letter we have also clarified that is it is the expectation of the NRAs that the TSOs meet these concerns and make further analysis, our main concern is the methodology. It is the TSOs responsibility to take the input from stakeholders into account and to follow the methodology approved by NRAs. The NRAs expect the TSOs to keep the operational security and listen to SH comments, as already communicated by the NRAs.

SH question: Regarding this NRA letter that the TSOs need to answer, how and when will the stakeholders get information about the report? When is it done?
CCM project: *The report is under review and the deadline is 1st of October and it will be shared with the stakeholders later on.*

7. Publication of data before and after FB go-live (14:00 - 14:30)

SH question: When will the JAO API go into production? We would want to have time to test it. Do you know when it will be available?
CCM project: *The URL for production will be https://publicationtool.jao.eu/nordic/.*
Also note that the parallel run environment will be available under https://parallelrun-publicationtool.jao.eu/ after the go-live. Updating the URL link in the API is the only change that should be necessary at go-live.

SH question: Why will ID ATCE publication not continue after go-live of Nordic FB? How will market parties know what the initial SIDC capacities for IDA1 and subsequent continuous will be?
CCM project: *During the EPR period, the ATCE results are published on the NRCC website. After go-live, XBID will send the results to the transparency platform like it is with the ID gate-opening capacities today.*

8. Future arrangement after FB go-live (14:50- 15:20)

SH question: Will the bi-weekly or monthly sessions on the EPR results continue after go-live?
CCM project: *After go-live, there will be no bi-weekly/monthly EPR result elaboration SH events. The CCM project recommends the stakeholders to focus on the production data after go-live. The foreseen last stakeholder event on the EPR result elaboration is 24/10, 09:00 – 11:00.*

9. AOB and closing words (15:20 - 15:30)

All participants are thanked for their inputs!