Nordic CCM SH Meeting – meeting minutes

February 7, 2024, 9.30-15.45 CET

Stockholm Arlanda aiport Radisson Blu and MS Teams

Participants	
Total physical participation: 32	**Total online participation: 84**

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

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.

1. Welcome and opening words (09:30 – 09:40)

2. CCM and FB IMP status update (09:40 - 10:10)

SH question: what are PTDF relaxation and RAM relaxation?
CCM project: *the DA FB domain is an input to the ATCE engine. The DA FB domain is in the format of the PTDF and RAM.*
The PTDF relaxation refers to setting any z2zPTDF less than X% to 0. Practically, it means that the loading effect of all cross-border trades with less than X% are neglected by the ATCE engine.
The RAM relaxation refers to adding an extra X MW on the CNEC RAMs of the DA FB domain. Practically, each relaxed CNEC can have a maximum of X MW of overload.

SH question: Is it possible to publish shadow prices for binding constraints for EPRs?
CCM project: *Yes, they are published in the GC Matrix on the RCC website.*

SH comment: IDA will be in a 15-min resolution. Your slide indicates 60-minute resolution.
CCM project: *The information captured in the slides are correct from the cross-zonal capacity perspective.*

SH question: Will CZC be given in 15 min resolution in 12/2024 to MFRR EAM?
CCM project: *This question was not picked up during the SH meeting. We will get back to you later.*

SH question: If there will be no change to systems - what is the plan if the intraday ATC extraction is not satisfactory from stakeholder and NRA perspective?
CCM project: *the IT updates of the industrial tool to accommodate the RAM relaxation are implemented in a flexible manner according to the ATCE methodology to ensure the CCM go-live.*
NRA: we should have seen the (go-live ready) ID capacities before summer 2023, but we understand its complexity. We will review the updated ID ATC results first before making further statement.

SH question: during the outage season, the set of CNECs may change. Will you publish these CNECs? To plan the hydro tomorrow, we need to know the new CNECs in advance.
CCM project: *yes. They are published on the JAO platform on D-1 currently. After go-live, we will get back to you the exact publication platform.*

SH question: About the published EPR data on JAO, some CNECs do not have information about BZfrom and BZto.
CCM project: *most of them have the BZfrom and BZto information. The TSOs have been working on improving the publication. Regarding the historical data with missing information, we will not update them by adding the missing information. For those that are still missing the information, we will investigate them and get back to you later.*

3. Swedenergy & Finnish Energy: Perspectives on Flow-based (10:10 - 10:40)

NRA comment/ question: about the decision of going to FB in 2018, All NRAs agreed at that time. What is it that the Swedenergy and Finnish Energy are after at this stage?
Presenter: we are after the alternatives of the FB methodology implementation.
NRA: we passed that stage. We should focus on fixing the implementation issues of the FB. FB will go live and is the future. Indeed, we need to review the ID capacities.

SH comment: there are 9 GSK strategies that you didn't analyse sufficiently. Also, you haven't investigated the FB simulations by using remedial actions to keep the possible outcome as good as the current NTC. You can also have a look at the loop flow issue that we have been discussing since 2013 between Sweden and Norway.
CCM project: *GSK: we are working on it by using one during the EPR, and we will further work on it when the tools are more capable of doing so.*
The current NTC is not efficient or legally allowed any longer. The regulation requires that we need to start the capacity calculation process using common grid models, and the current NTC does not use the common grid models. In this respect, the focus should not be a comparison between the current NTC with FB (or to even make the FB comparable to the current NTC). The selection of the FB vs CNTC has been decided already in 2018.
Regarding the loop flows to be considered in the capacity calculation, NTC must be more conservative on the border capacities because the TSO operators need to make choices implicitly to account for loop flows. FB is more transparent by capturing the loop flows on the CNEC level explicitly, in F0 to be specific.

SH question: What if the decision was based on the wrong assumptions or conclusions? Should a bad decision be eternal?
A question to the regulator - doesn't the regulation allow the TSOs to suggest revoking the decision and implement CNTC?

NRA: it is possible to contest the NRA decision. Considering the current stage of the FB implementation, it is not a desirable approach. Again, the focus should be fixing the current FB implementation. The CNTC methodology was not an alternative in the Nordic CCR because the Nordic grid is quite meshed. This decision of adopting FB was confirmed by ACER decision for long-term CCM. Discussion on going back to CNTC is a no issue.

SH comment: It sounds like we have a bit different interpretation of the decision from 2018 because my understanding is that decision the project got an approval to move forward, but also since that point we hadn't made the sufficient analysis of the sort of consequences and impacts. That decision was also pending a quite significant analysis and evaluation of the model during the EPR.
NRA: we introduced a checkpoint to review the ID capacities using the 3-month EPR report. We will review the ID ATC when the new ATC ID results are available. In 2018, FB was the decision. However, it doesn't mean that a bad version of FB should be implemented. If the NRAs observe large issues that are not compliant with the CACM regulation, the NRAs will act and rectify them. We still have time for the implementation.

SH comment: you should look at the ID and Future market.
NRA: ID capacities will be reviewed. Implementing FB is a progress, the NRAs are also reviewing the impact of implementing FB on other timeframes.

4. Hafslund: Hafslund's view on FB Market Coupling (10:40 - 11:10)

SH question: "extra electricity produced in the Northern Nordics" - does Hafslund you foresee that FB can introduce more electricity production from hydro assets?
Presenter: no, because the extra electricity production depends on other factors as well.

SH question: You, as one of the largest hydro producers, need a department to analyse the models and results. This implies that the smaller market participants that cannot invest such heavy resource will have disadvantages in terms of market competition. In the long run, we expect a decreasing number of market participants. What's your view?
Presenter: there are other possibilities besides the in-house analysis, e.g. getting professional support or services from 3rd parties.

SH question: please elaborate more on RAM relaxation on borders.
CCM project: *the RAM relaxation is added to the CNECs, not on the borders. The actual ID ATC results are the optimization outcome, given the DA FB domain with the RAM relaxation.*

5. TSO reflections (11:20 - 11:50)

SH question: talking about CNECs and information: will Svk use a stable identifier as an interim solution before go-live? Is it possible to have CNEC names encrypted, but stable over the time?
CCM project: no, due to Swedish laws.

SH question: But the Congestions (eg BZ prices diverging) in FB EPR happens frequently based on CZ flows below what was allowed in production in NTC, thus is it really guaranteed that FB automatically expands overall CZC vs NTC?
CCM project: *could you be more concrete? We know that FB is better, so what exactly do you ask? It's well known that e.g. overloads and counter trade at the surface may in some hours provide higher SEW by NTC. But this is not due to "failure" of FB, but due to actual operational decisions.*

SH question: the SEW during EPR is not conclusive, because you do not have the 'FB orderbooks', i.e. cannot estimate the water values.
CCM project: *The philosophy here is to start forming a hypothesis and then to start building on evidence. The hypothesis is that flow based, theoretically speaking, gives more space for trade and gives more trading opportunities. The evidence is the current EPR results, which point in the direction of the hypothesis being correct.*
We cannot prove 100% that positive SEW exits. However, based on the best available information, it points to positive SEW. Our approach is in line with standard cost-benefit analysis.

SH question: How about Finland's reservoirs' behaviour when the FI NP changes?
CCM project: *we haven't done it yet. We don't know if the FI NP change comes from hydro or other generation types. The other presented BZs are dominated by hydro.*

SH comment: Tronds number for more/less water used, do they include growing export to the continent?
CCM project: *yes.*

SH comment: hydro producers in SE1's bidding strategy may not follow the NO2's hydro producers' bidding strategy.
CCM project: *indeed, the emphasis is to show the effect that some overestimated water value in the north also triggers some underestimated water value in the south. There are two takeaways from the presentation: 1. The water value estimation should cover both the northern and southern bidding zones, where both over- and under-estimation occur at the same time. 2. The TSOs do not have the 'FB orderbooks' to properly evaluate the volume of overestimation and underestimation.*

SH comment: having the order of magnitude of the water value affecting the SEW would be great.
CCM project: *We do not have the FB order books to provide the number.*

SH question: You say you don't have all the new order books, and that there is no way of knowing them. But Statnett and the other TSO's have access to the best grid models and the same market analysis models run by the largest market participants. Wouldn't it be very useful for everyone if the TSO's analysis departments could provide calculations of the long-term effects of FBMC on prices and water values?
CCM project: *We have tools in general but for various other analyses. We have a model called Samnett and we have done investment assessment using the model related to FB. In BZR, we also analyse the BZ configuration under FB.*

SH comment: Of course, but it is sort of telling as FB seems to be most beneficial for Norway.
CCM project: *Considering the operational side, SN has challenges to manage five BZs using NTC. The FB methodology manages physical flows on the network element level and is even more capable of managing more bidding zones.*

SH comment: We have issues with the implementation of FB. Can this model be improved, considering the welfare distributional effect?
CCM project*: we do not aim to have a perfect FB model to go-live and we are continuously improving the FB models, e.g. GSKs, FRMs.*

6. Open discussion (11:50 - 12:30)

SH question: will there be ID-capacities in the "wrong" direction in the case of non-intuitive flows? How is that in agreement with the 70% rule?
CCM project: *let us have a look into the ID results when these results are available. In theory, it is possible to observe such ID ATCs due to the RAM relaxation.*

SH question: There will be capacity in the wrong direction, but it will be limited to 10 megawatts. i.e. ID trade will be restricted. How is that in agreement with the 70% rule?
CCM project: *The RAM relaxation is applied on CNECs, not on the borders. About the 70% rule, the TSOs aim to make sure that there is 70% capacity available on CNECs of the DA FB domain and the extracted NTCs from the ATCE engine is in accordance with the FB domain. Note that applying the RAM relaxation in the ATCE increases the DA RAM. The resulting RAM is expected more than the required 70% rule.*

SH question: Why is the RAM relaxation 10 MW?
CCM project: *for numerical reason to guarantee an optimal solution of the ATCE optimization problem. We tested different options, e.g. 3 MW and 10 MW, and experienced some numerical issues with 3MW. 10MW seems more stable to find optimal solutions, with manageable operational risks (i.e. overloads).*

SH question: to study ID impact, there has been a big shift in the export import flows from day-ahead to intraday in real time stage, e.g. Nov 23 black Friday. How will the ATCE perform under this situation? The other thing: water value: One is that we can see from some of the areas being discussed as in theory having overused water that doesn't exist or day by day because of using the NTC production order books. It's then that the effect of overrunning there, basically depleting the storage levels there.
CCM project: *About understanding the ATCE behaviour under extraordinary situations, e.g. Nov 23, it will be covered within the ATCE rerun period.*
When we discussed water values earlier today, it was purely a conceptual discussion. In real time the observation will change from moment to moment, day-to-day. We don't have the FB orderbook. We expect that there will be supply side changes following demand side changes when you change orderbooks.
It is observed that you get more flow from the north to the south and west of the Nordic, and then it goes to the continent. Nothing problematic with that because the SDAC social welfare also covers the EU continent. It's not necessarily right or wrong that the water depleted here (in the north of the Nordics) is being stored there (in the south of the Nordics) and if it's stored elsewhere in continental Europe.

SH comment: Energyforsk published a report indicating ATCE methodology having negative impact using the 10-week data at the beginning of the EPR. We now need to analyse the new data to analyse the impact of that. Also, according to an internal study, the arbitrary value for the ID is bigger than the total economical welfare value for the DA. This implies that ID has significant values with the arbitrage possibilities. We may replan our DA schedule, which may result a different DA flow.
CCM project: *we don't expect the negative impact in ID outperforms the DA gain. Arbitrage may happen during the transitional period. FB will roll out to all timeframes eventually. When FB ID goes live, it will be solved automatically. Please consider the implementation process being a stepwise approach.*

SH question: how is FB dependent on correct BZ formation? In a longer perspective, will the FB reduce the needs of having a smaller BZs?
CCM project: *the BZ configuration evaluation is under the ACER BZR methodology. The current BZ configuration is based on the structural network bottlenecks. In the BZR study where the Nordic is modelled FB, the GSK is affected by the location of generation and load in a bidding zone. In other words, if the generations are on one side of the bidding zone and the loads are on the other side of the bidding zone and the GSK being modelled to evenly distribute to all nodes in the bidding zone, the result may lead to inaccurate GSK and inaccurate structural bottlenecks.*

SH comment: I understood that the connections Nordics-CORE are all DC cables, for DK1 I think this is not the case.
CCM project: *yes, the interconnector between DK1 and Germany is an AC border. DK1 is a radial area and we only have one interconnector out of DK1 being AC. If we raise the net position of DK1 with 1MW and don't change any of the interconnectors on the HVDC borders, that flow will go to Germany via the AC border. That means that we can represent the DK1 German border in the same way as we do on HVDC borders with advanced hybrid coupling. The DK1-Germany border is part of the CCM HANSA and is represented with advanced hybrid coupling in the Nordic FB methodology.*

SH comment: Fully agree with the previous comments - 1) intraday impact is difficult to assess as TSOs are yet to produce a method and data and 2) no one has requested non-existent capacity to be given to the market. But that capacity in opposite direction should always be given regardless of non-intuitive flow. 3) TSOs have for some reason never shown any interest to look into intraday social welfare regardless of the fact that it is becoming more and more important. To Tronds statement on that there will be less capacity for intraday because of more allocation in spot (with fb). The opposite is true for capacity in the other direction, the more you allocate in one direction in spot, the more should be available in the other direction.

7. Summary of the morning session (13:30 - 13:45)

8. Svenska kraftnät: Information on upcoming national study using approach similar to FB (13:45 - 14:15)

SH question: Does those lines in the presentation have an impact in your planning in terms of investments?
CCM project: *those specific lines on the west coast corridor are already planned to be upgraded in 2026. We've planned to fix issues considering these lines and we see from the national study that it makes a difference already.*

9. Open discussion (14:15 - 14:45)

SH comment: only a thought (don't need to state it: it's just a market design consideration) about the consumers loss in SE3/SE4. In Italy we copied back then the zonal market design of the Nordics with the exception of the price paid by consumers: the consumers all pay the same price, in each bidding zone, a weighted average of zonal prices, weighted for the volumes settled on the spot (very high liquidity, as in the Nordics, I understood. Not saying that one is better than the other... there are pros and cons.) In this way, the consumers in SWE would all pay for the increase in the south of the market but also benefit from lower prices in the North, getting the overall effect of FB on SWE in total and not being exposed only to the effect of one single bidding zone. and only a question/ note about the connections between Nordics and CORE: I heard that they are all DC cables, but... isn't DK1 part of the synchronous area on the continent? (if this question was already answered in another call/ meeting, sorry)
CCM project: *thanks, we are aware of the Italian PUN system. I will not recommend this for mainly two reasons. 1. it put a higher pressure on Euphemia simulations as the PUN price is not an weighted average (strictly speaking), but an iteration with the aim at identifying prices different from consumers and producers, yet the amount of money "should fit". 2. moving into flexible demand, due to*

more RES-e, we need the price to reflect the actual physics in order to provide incentives to demand side. If distributional effects are important, I advise to do this via e.g. the national (income) taxes.

SH discussion: Just a side note of the PUN: PUNs are to be removed from Euphemia from go-live of 15-min MTU on DA market. So will Italian consumers then face BZ prices instead?
I do not know details, but there has been a discussion to implement local post-coupling process. But this is handled locally outside of the common European fora.
My understanding is that the PUN will be removed from Euphemia (... was never much beloved from the algorithm indeed...) but will be calculated anyway externally: consumers should keep on paying a national price (the only one that can be traded in the futures).

10. EPR of FB ID: What could it be? If possible, how could it be done? (15:00 - 15:30)

SH comment: we need to have some more descriptions of the scope of the FB ID EPR. I mean what are we aiming for? First of all, I guess we should distinguish between ID auctions and ID continuous. The parallel runs of these two options are probably quite different from each other. We also expect that XBID offers a technical solution for implementing flow based. We may not be able to do parallel run just for the Nordics, as the XBID platform is a pan-EU platform.
CCM project: *we will get back to you later via newsletter.*

SH question: is the FB ID EPR done anywhere else?
CCM project: *no. it's the first time.*

11. AOB and closing words (15:30 - 15:45)

All participants are thanked for their inputs!