Nordic CCM SH Meeting – meeting minutes

March 13, 2024, 8.30-12.30 CET

MS Teams

Participants	
Total participation: 230	

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. Part 1: New capacity calculation – an introduction to Flow-based (08:30 – 09:45)

SH question: about the current NTC method, what does the NRCC and the TSOs do in the process?
CCM project: *Each TSO performs its own capacity calculation based on its own information. The cross-border capacity computed by two neighbouring TSOs will be sent to the Nordic RCC. The Nordic RCC selects the smaller capacity value and sends it to the single day-ahead coupling algorithm for the market coupling.*

SH question: Do you have any calculation during the day, e.g. to compute the last 12 timestamps of the day?
CCM project: *No. The ID capacity for the ID gate opening is the 'leftover' capacity from the DA timeframe. In the long run, it is foreseen in day D-1 afternoon/evening to perform ID recomputation using the latest grid and forecast information before the energy delivery hour in day D.*

SH question: How is the risk of outages quantified at RCC? And how is the security of supply quantified that is directly connected to risk of outages, in the flow-based approach? This will affect the RCC's overall responsibility.
CCM project: *The TSOs interpreted the outage in the question as unplanned outages. The TSOs determine which contingency to be considered. Thus, it is not a RCC responsibility to determine the outages. Regarding security of supply, the TSOs decide what loading it is allowed on the network elements and which elements to monitor. In terms of the system operation, it is the TSOs to allow a temporary overload on a line (because of a contingency) and later reduce the flow after the contingency, not the NRCC.*

SH question: Could you elaborate a little bit on how the small price areas in the Nordic region are affected by flow based? Are the non-intuitive flows a good indicator regarding the bidding zone configuration?
CCM project: *smaller bidding zones should have fewer internal limiting CNECs. The non-intuitive flow is a property of the FB parameters being optimized by the SDAC algorithm. It should not be regarded as the bidding zone reconfiguration indicator. Regarding the bidding zone configuration, the answer should come from the bidding zone review study.*

2. Part 2: Flow-based market coupling for beginners and EPR (10:00 - 12:30)

SH question: Assuming there are methods that can do non-linear calculations of the load, that gives you the load within minutes. Would you be interested to use it or at least test it?
CCM project: *No. Given the consideration that the complexity of the current IT system from the TSOs, and the limited time available for the SDAC algorithm to find an optimal solution, it is not foreseen to include a non-linear load computation.*

SH question: To which extent does the PTDF matrix vary from day to day? I.e., if we take two PTDF matrices from two different days, how different would they be?
CCM project: *We don't know. To list a few factors that determine the PTDFs that may change every day, every hour, e.g. planned and unplanned outages, wind forecast.*

SH question: Will the socio-economic surplus be calculated over the whole Nordic area, and if so, would any of the price zones get higher weight in the calculation logic (e.g. big zones, industrialized zones) vs other price zones?
CCM project: *No. There are no weighing factors being applied. The SDAC algorithm maximizes the welfare of the whole SDAC area without weighting factors. Within the SDAC level results, the Nordic TSOs compute the Nordic welfare by adding Nordic producer surplus, Nordic consumer surplus and the Nordic share of the congestion rent from the total congestion rent from the Nordic CCR to the neighbouring CCRs without weighting factors.*

SH question: what are NTC flows?
CCM project: *NTC flows are computed by the NTC market outcome multiplies the FB PTDFs. It means to plug the NTC market results in the FB security domain, so that the TSOs can check how secure / good the NTC results if the FB domain is the security reference.*

SH question: When comparing the flows, are you using F_AAC for FB and ScheduledExchanges for NTC? Or are you using F_AAC for both?
CCM project: *F_AAC are used for both. F_AAC_FB is computed by FBMC * PTDF and F_AAC_NTC is computed by NTC MC * PTDF*

SH question: What might be the causes of the social welfare being higher for the NTC method sometimes? If the reference flows are estimated with high accuracy and the PTDFs are calculated correctly, shouldn't FB always result in higher social welfare?
CCM project: *Comparing to the FB, NTC results are not always secure from the operational security perspective, i.e. the NTC market coupling outcome is outside the Flow-based domain. The overloads caused by this will require ID or balancing timeframe to mitigate, at the welfare expense that is not covered by the SDAC.*

SH question: Assuming that the areas with the largest populations are NO1, SE3, SE4, DK2 and FI, which all of them would experience higher prices according to the map, how does this translate into a better welfare situation? So you mean the social

economic welfare improves in Germany and decreases in NO1, SE3, SE4, DK2 and FI? Being based in SE3 how does my social economic welfare increase when my power cost increases by 10%?
CCM project: *The SDAC algorithm optimizes the entire SDAC region. The overall SDAC welfare increase does not necessarily mean the welfare gain of the Nordic populated bidding zones.*

SH question: how is North Sea link accounted for in FB?
CCM project: *The NSL is modelled outside the SDAC market and the flow on the NLS is determined through a separate auction before the market coupling auction. The NSL is modelled as independent load/production in the grid model and is represented as part of the F0-flow in the FB-domain. Therefore, a virtual bidding zone will ~~therefore~~ not represent the NSL in the FB domain.*

SH question: Can you provide annual aggregated SEW?
CCM project: *No. Due to water value discussion, i.e. using the NTC orderbook for the FB EPR, an aggregated number is not conclusive to be used as a yearly / monthly total. Also, the TSOs publish the weekly aggregated SEW values in the market report.*

SH question: How to understand the arrows and numbers in the maps of your EPR result part of the presentation?
CCM project: *the maps refer to either the FB or NTC situations or the (FB - NTC) situations. The arrows point to the direction of the flows. For the maps illustrating the difference between FB and NTC (i.e. FB - NTC) a positive value being displayed means the (weekly) average value of more flows realized in FB than in NTC.*

SH question: How is the generation cost (fuel cost, water value) treated in the SEW calculation?
CCM project: *They are not explicitly modelled. Instead, they are implicitly considered in the NTC orderbooks.*

All participants are thanked for their inputs!