Nordic CCM SHF – meeting minutes

FINAL Version

December 11 2018, 09.30-16.00 (Arlanda Airport, Stockholm - Radisson Blu Sky City)

Participants		
CCM project	**NRA**	**Market representatives**
• Trond Jensen (Statnett) • Ulrik Møller (Energinet) • Randi Kristiansen (Energinet) • Heini Ruohosenmaa (Fingrid) • Jussi Matilainen (Fingrid) • Camille Hamon (Svk) • Mårten Bergman (Svk) • Pontus de Maré (Svk) • Pieter Schavemaker (E-Bridge Consulting, PM)	• Søren Søndergaard (Energitilsynet) • Toril Naustvoll Gange (NVE) • Jori Säntti (Energiavirasto) • Daniel Frisö (EI) **NEMO** • Hilde Rosenblad (Nordpool) • Rickard Nilsson (Nordpool) • Rose Sargant (Nasdaq)	• Karl Refsnes (TrønderEnergi) • Anders Sivertsgård (Energi Norge) • Mikko Peltonen (UPM) • Morgan Andersson (Bixia) • Isho Shony (Fortum) • Anton Takala (Fortum) • Pekka Vile (Fortum) • Karl Hartwig (E-Co) • Magnus Thorstensson (Energiforetagen) • Petteri Haveri (Energia) • Haakon Korvald (E-Co) • Yogesh Bhamare • Christian Augustsson (Kraftnät Åland) • Birgitte Jourdan Andersen (Energi Norge) • Rickard Bjorstrom (Vattenfall) • Hakon Egeland (Statkraft) • Carsten Chachah (Dansk Energi) • Jens Mortensen (Orsted)

Text in non-italics are statements, questions or claims from the person mentioned.
Text in italics are answers or comments provided by the person mentioned, or the project.

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1. Status update of the CCM project, DA/ID CCM approval and Annex 1 to the approval (10.00-10.45)

Q: why did the Nordics opt for FB?
A: FB brings a benefit for meshed grids, like in the Nordics and the Core region.

Q: Is there a legal definition for what is an internal congestion? Oxymoron: internal congestion is not allowed.
A: This is inherent to the zonal system; an alternative is to go to nodal pricing.

Q: In the CEP, an interconnector is defined as being between countries. This is an anomaly, as there are multiple bidding zones per country in the Nordics.
A: Indeed, as CACM is referring to interconnectors as being cross-zonal, the definition in the CEP is considered a step back.

Petteri Haveri: Core's ACER referral: two main issues. (1) Too little room for cross-border trade and too much room for internal congestions. (2) Too little transparency on internal network elements. Yet the Nordic CCM is a blacker box than the Core one.

Q: Has an RfC (request for change) been issued to the XBID to make it compatible with FB? There is a need to have the FB operate in a continuous trading environment.
A: This is on the list of future work to be done by XBID.

Q: Is there a mismatch introduced by having DA FB and ID CNTC?
A: CNTC being applied on the ID is not the most optimal solution. This is indeed the reason for the Nordic TSOs to propose a FB ID CCM as a target solution. Yet, there is no mismatch: the both (DA FB and ID CNTC) can co-exist.

Q: When will the RfA from NRAs be addressed?
A: We will work on that in the next year, followed by a public consultation and a submission of an updated CCM to the NRAs.

Q: What is the resulting ID capacity? When are you able to assess and release these numbers?
A: When we enter the parallel we should be able (though not for all hours) to assess the impact on the ID capacities. Please note that CWE uses currently a (DA) left-over capacity, whereas they are heading – just like the Nordics – to a dedicated ID CC (with its own CGM, FRM, and so on). This is a fundamental different situation.

Q: What is long-term referring to?
A: Year-ahead and month-ahead. The capacity computed is for information to the stakeholders, and used as the basis for LTTRs as well (currently only on DK1-DK2).

Q: What is the problem with the prototype CGM?
A: The building of the target CGM is part of the RSC implementation; it is in the process of being implemented. The current prototype CGM is not industrial grade, and mainly intended to facilitate the CCM work.

Q: Will you apply a coordination / improvement in the current capacity calculation while waiting for FB?
A: There are always improvements ongoing, e.g. with regard to the transparency.

Q: Will the RfA cause a delay of the CCM implementation?
A: This depends on the details of the RfA.

Jori (EV): It is not the intention of the NRAs to cause a delay on the implementation of the CCM.

Q: What is the interlink between dynamic simulations and FB?
A: Key of FB is bringing PTDFs to the allocation mechanism. There is more to capacity calculation than just FB, such as the assessment of the dynamic constraints.
Anders Sivertsgård (Energy Norway): I consider the assessment figure of dynamic constraints to be part of the tasks of the TSOs and not the RSC.

Q: Will the RfA be published to the market as well?
Jori (EV): It will be a public document. It is not likely to be published on the website; it will be available upon request.

Q: Will the RfA address the non-costly / costly RAs as well?
A: No, the focus is on the operational security limits, dynamic limits.

Q: HL principle #1: … (b) economically more efficient than other available remedies… Economic efficiency?
A: Welfare for the European society.

Q: HL principle #1: … Any deviation from the general principle, by limiting cross-zonal capacity in order to solve congestion inside bidding zones, should only be temporarily applied… Temporarily?
A: Temporary can be interpreted in two directions: intermediate situations (e.g. in an outage situation), or re-occurring situations (a few days per year).

Q: There is no upper limit on the application of RAs (Remedial Actions).
A: By means of the economic efficiency, there is an upper boundary.

Q: The RA assessment: does this happen in the planning phase or the operational phase?
A: This is part of the capacity calculation process and needs to happen in the planning phase.

Q: The RA assessment: will this be done by TSOs or RSC? Are human decisions part of the process?
A: In the beginning this will be work for the TSOs. We strive for an automated solution (reproducible).

Q: Are all Nordic TSOs behind this RA assessment and application?
A: Yes, it is part of our coordinated capacity calculation.

Q: Where do you get the information from to do this RA assessment? Will it be transparent / possible to check your mathematics?
A: We strive for something transparent, that can be reproduced. In terms of transparency on CNEs, we are bound by national legislation though.

Q: On the continent they will get the full transparency on the CNEs?
A: No, they have a disclaimer on national legislation as well. In the Nordics, the Swedish and Norwegian law is prohibiting to publish this information. In the Nordic CCM, it states: "Article 30 Publication of data
1. The TSOs shall, in compliance with national legislation and in accordance with Article 3(f) of the CACM Regulation, and in addition to the data items and definitions of Transparency Regulation, publish the following on a regular basis and as soon as possible:
a) A list of all CNEs that are considered and used in the capacity allocation for each market time unit. Each CNE shall be presented with a unique identifier, and it shall be clear on which bidding zone border or which bidding zone the CNE is located;
…
2. The above mentioned publication requirements are without prejudice to confidentiality requirements pursuant to national legislation."

Q: Who is watching / checking the TSOs?
A: The NRAs are monitoring the capacity calculation process of the TSOs; they have, and will have, all the information to do so.

Carsten: Appreciation to the NRAs and TSOs for the fact that the RA assessment is part of the CCM. There is a concern on the implementation / application though: the assumptions that the TSOs will make are very important in the respect.

Q: The information on the RSC website is useful, but it should be updated more frequently; e.g. a new newsletter should be posted on the website directly.
A: Thanks for this useful feedback, that we will take into account!

Q: What are the go-live criteria referred to on the implementation timeline
A: The go-live criteria need to be developed. It refers to, for example, the expectation that by introducing FB the day-ahead market welfare increases; if that expectation is not met, it may indicate that something is wrong and FB is not ready to go live.

2. Coffee (10.45-11.00)

3. FB MC simulation results (11.00-12.00)

Q: With regard to your statement "With FB, the market is made aware of the impact of cross-border exchanges on all borders." you mean that you inform the market algorithm, not the market
A: Both the market algorithm and the market participants are informed, as the FB constraints will be published.

Q: In the simulation results that you show, you don't do a rerun of the NTC capacity
A: Indeed, we compare the FB capacity calculation with the actual / historical NTC capacities. In the market simulations though, both the FB market coupling and the NTC market coupling are simulated, as a limited geographical scope is opted for (excluding Iberia and Italy) – in this way, the market results are comparable.

Q: How can you have negative welfare figures?
A: This depends on the numbers that we are looking at. In those cases that NTC outperforms FB, the welfare comparison (FB-NTC) may turn out negative. These cases correspond to timestamps where the NTC capacity was too high, and showed overloads in the grid. Usually FB outperforms NTC, showing a socio-economic benefit, but FB may bring about a welfare redistribution. Or in other words, the individual elements that contribute to the overall FB welfare figure (being consumer surplus, producer surplus, and congestion rent) may alter. On average the congestion income under FB reduces.

Q: You show - on average – a socio-economic benefit of 200kEUR per week when going from NTC to FB. Can you express this number as a percentage of the Nordic day-ahead market welfare.
A: The volume of trades in the day-ahead market is high and so is the welfare; as such, the percentage will be small.

Q: How do you consider the effects on the welfare outside the Nordics? There may be a welfare loss in the Baltic market.
A: We optimize the overall day-ahead market welfare (including the Baltics), but only show the Nordic figures.

Q: How can you take the Baltics into account? They have NTCs?
A: We only replace the Nordic NTC constraints with FB ones in the market simulations; on the DC links we apply the so-called advanced hybrid coupling (AHC).

Q: What is now the difference between NTC and FB?
A: With NTC capacity calculation the capacities need to be shared over the various bidding zone borders ex-ante. Under FB this step can be skipped; this ensures that the capacity is used in the most optimal way, driven by the market needs / the order books during the allocation.

Rickard Nilsson: The west-coast cut is considered in the allocation with different factors for the various impacting elements / DC links, indeed, there is no way that NTC can be as optimal as FB.

Q: The Oslo case where you showed overloads under NTC and a welfare loss when going FB; is this a typical case?
A: There are quite some hours where we have overloads, as too much capacity has been provided under NTC. This does not always lead to a welfare loss; even in those cases, FB may result in a welfare gain as well.

Hilde Rosenblad: Counter-intuitive flows cannot happen under NTC – in principle; it may however result from ramping constraints or negative NTC capacity provided by the TSOs.

Q: With all the DA simulations that you performed, what would the ID capacity look like?
A: We did not perform ID capacity calculations yet.

Q: Counter-intuitive results are a concern: how do we explain counter-intuitive results?
A: This is a challenge indeed.

Q: What will happen when a negative welfare gain (compared to today's NTC) will result from the FB implementation?
A: With the same input data, this should not happen. FB cannot go live if the go-live criteria are not met.

Q: What will you do with the overloads resulting on the "non-market-relevant" elements?
A: The non-market relevant CNEs are not part of the capacity allocation. As such they cannot limit the market; the potential overloads resulting on those CNEs need to be dealt with in real-time operations.

Q: If the FB domain is not larger than the NTC domain, then a welfare gain is not observed, correct?
A: Yes, on average this statement holds true.

Q: Interesting simulation results; is there a description of the different weeks and what happened there?
A: Please look into the detailed weekly reports that are available on the RSC website: https://nordic-rsc.net/related-projects/simulation-results/

Q: Can you look back to interesting hours for the market, and simulate those under FB?
A: We can't go back too far, as it is difficult for the operators to validate the results.

Q: How many FB constraints do you have per hour?
A: Around 50-70 FB constraints that may limit the market and are provided to the allocation mechanism

Q: Can you make a summary of the 2017 results?
A: Indeed, the slides as they were presented in the Dec 2018 SHF are specifically intended to do so.

Q: 2017 winter was a weird winter. Summer 2018 was odd as well. Please look into other winter and summer periods as well.
A: Thanks, we plan to do so.

Q: Can you give simulation results when counter-intuitive flows are not allowed?
A: We did so, roughly 1,5 year ego.

Q: Can you do this exercise again on the 2017 weeks you simulated?
A: The project will take note of this request

Q: In stressed situations, with large price differentials, where the market has issues to understand the market outcome – counter-intuitive flows may be an issue. Trust issue: the customers in SE3 will ask why they have a higher price. We need to be prepared for that.
A: Although,
- *Rather than the flows, the import/export potential of each bidding zone is the more relevant number. The net import / export positions is expected to be enlarged by the FB domain.*
- *The introduction of the intuitivity constraint is at the expense of welfare and transparency*
we do see your point, and take note of the concerns expressed.

Toril (NVE): NRAs are concerned with welfare optimization. Surprised that nobody seems to be interested in the most efficient solution. Today we have negative NTC capacity on a Norwegian border. In the FB system, this may be the result of the market optimization. Please note that in a nodal system, counter-intuitive flows do occur as well.
Søren (Energitilsynet):
- *NRAs looked at the ramping restrictions. This causes non-intuitive flows several times a week, yet we never heard complaints on this.*
- *As we don't have LTTRs, the main concern should be on the system price and the bidding zone price. Rather than non-intuitive flows, the more important is that the import/export capability of the bidding zone is enlarged.*
In case a BZ is always impacted in a negative way, we should look into that of course.

Q: Lot of uncertainty, and only 12 weeks of test material. Can you give comfort by providing more test data, e.g. on the intuitive / non-intuitive cases?
A: The industrial tooling is being built. We are limited in what we can do at this moment in time. Until the external parallel run, we need to operate in the way that we do now.

Q: Can we do a forecast for the pricing of our hydro plants? We need to be able to explain and to be able to analyse the power system. We need to gain trust.
A: Take away from the porject side: we need a dedicated Stakeholder Group meeting, where we address the question "What are the concerns and how can TSOs cope with that".

4.	**Lunch (12.00-13.00)**
5.	**Long-term capacity calculation: public consultation ongoing (13.00-14.00)**

Q: When do you think the LTCC will be implemented?
A: Not clear at the moment, but not before 2021

Q: For what interconnectors are you computing the LT capacity? For the Storebealt it should be constant irrespective of the scenarios, no?
A: Yes, that is the expectation. The LT capacity calculation applies to all Nordic bidding zone borders.

Q: What is the added value of the LT CNTC, given that you run the DA in FB?
A: It is the best guess of the capacity, estimated a year or month ahead.

Q: We need to do price forecast, and it is important to have those kind of LT values, as required by the transparency regulation
A: Yes indeed. The LT capacity calculation covers YA and MA. In the context of UMMs and NUCs, we touched upon WA.

Q: The values computed are mainly for information for market participants; does it have any economic implication in DK?
A: The numbers are expected to arrive around 600 MW on Storebealt; but we did not perform analyses yet.

6.	**Coffee (14.00-14.15)**
7.	**Status update on implementation at the RSC (14.15-14.45)**

Skipped.

8.	**Open discussion (14.45-16.00)**

Slides have been distributed on Dec 12, and will be published on the RSC website as well.