

# Nordic CCM SG – meeting minutes

## FINAL Version

December 1 2016, 09.00-15.30 (Copenhagen airport, Hilton Hotel)

Participants		
<b>CCM project</b> <ul style="list-style-type: none"> <li>Trond Arnljot Jensen (Statnett)</li> <li>Nils Flaten Ræder (Statnett)</li> <li>Gerard Doorman (Statnett)</li> <li>Ulrik Møller (Edk)</li> <li>Heini Ruohosenmaa (Fingrid)</li> <li>Mårten Bergman (Svk)</li> <li>Pieter Schavemaker (E-Bridge Consulting)</li> </ul> <b>Excused</b> <ul style="list-style-type: none"> <li>Martin Julander (Svk)</li> </ul>	<b>NRA</b> <ul style="list-style-type: none"> <li>Lars Ekern (NVE)</li> <li>Björn Klasman (EI)</li> <li>Johan Roupe (EI)</li> <li>Søren Søndergaard (Energitilsynet)</li> </ul> <b>PX</b> <ul style="list-style-type: none"> <li>Hilde Rosenblad (NordPool)</li> </ul>	<b>Market representatives</b> <ul style="list-style-type: none"> <li>Per-Vidar Hansen (E-CO)</li> <li>Petteri Haveri (Finnish Energy)</li> <li>Raimo Peltola (Fortum)</li> <li>Jørgen Gunnestad (SKS)</li> <li>Set Persson (Vattenfall)</li> <li>Carsten Chachah (Dansk Energi)</li> <li>Johan Schönström (BillerudKorsnäs)</li> <li>Mats Nilsson (Svensk Energi)</li> <li>Jens Mortensen (Dong Energy)</li> <li>Thor Kalstrup (Danske Commodities)</li> </ul>

<b>1. Welcome, tour de table, objective and agenda (9.00-9.20)</b>
<i>Welcome to the meeting of the CCM Stakeholder Group meeting, and introduction of the participants.</i>
<b>2. Status update of the Nordic CCM project and timeline (9.20-9.50)</b>
<i>Trond provides a status update of the Nordic CCM project.</i>
<b>3. CCM proposal process (9.50-10.20)</b>
<i>Ulrik presents the CCM proposal process.</i>
<b>4. Coffee break (10.20-10.40)</b>
<b>5. Cap. Calc. methodology and preliminary FB results (10.40-11.20)</b>
<i>Presentation by Nils on the FB CCM and preliminary FB results.</i>
<b>6. Preliminary FB simulation results: market simulations (11.20-11.40)</b>
<i>Presentation by Mårten on the preliminary FB market simulation results.</i>
<b>7. Discussion (11:40-12:00)</b>
<i>Share your thoughts, ideas, concerns.</i>
<b>8. Lunch (12.00-13.00)</b>
<b>9. Method for the CNTC CCM (13.00-13.30)</b>
<i>Presentation by Heini on the CNTC CCM.</i>
<b>10. Common Grid Model (CGM) used in the capacity calculation (13.30-14.00)</b>
<i>Presentation by Gerard on the Common Grid Model (CGM) used in the capacity calculation</i>
<b>11. Market information platform and market information tool (14.00-14.30)</b>
<i>Presentation by Mårten on the market information platform and market information tool.</i>
<b>12. Coffee break (14.30-14.50)</b>
<b>13. Open discussion (14.50-15.30)</b>
<i>Share your thoughts, ideas, concerns.</i>

## Topics suggested for a next SG meeting

1. Different GSK strategies, and a potential sensitivity analysis (Per Vidar)
2. Power flowing from a high-price to a low-price area, and the link with ID (Set)

## Topics suggested for the impact assessment

1. Is capacity in ID worth more than at the DA: could capacity be reserved on the DA for the ID, or can we put a value on flexibility?

All are invited to bring in their elements, by email or by using the market information platform, for the impact assessment. This does not mean though, that all questions will be taken onboard.

## Action items for the project

1. Please explain the abbreviations used
2. Please provide data / information upfront, so that we can prepare for the meeting.
3. The slides will be shared by email, and will be stored on the market information platform

Text in non-italics are statements, questions or claims from the Stakeholders.

*Text in italics are comments provided by the CCM project in the meeting*

## Main discussion points / concerns expressed

1. ID (especially in relation to FB DA)
  - o Mats – ID has crashed after the introduction of FB in CWE. This should not happen in the Nordics. Why do we do the same as CWE: DA followed by ID. It didn't work out there.
  - o Set – It is difficult to know which NTC domain is the best one. Is it possible to give a value to the flexibility?  
*A market prediction is important when applying a NTC methodology*
  - o Mats – CNTC can give you more flexibility when things happen in the system, e.g. more ID capacity when DA is CNTC  
*If the objective is to limit the DA, and to reserve capacity for the ID, there may be better ways to do this than implementing CNTC on the DA stage.*
  - o Set – flexibility may reduce under FB  
*When FB is introduced on the DA, a recomputation of ID capacity – based on the updated CGMs - is key*
  - o Set – as long as you consider spot to be the end of the story, the CNTC / FB domain graphs are correct  
*The FRM, assessed and taken into account for the DA, can partly be released in the ID*
  - o Set – Do you need the perfect model 24 hours before real-time? A long period with parallel runs is required to demonstrate the usefulness and added value of doing so.
2. CCM proposal
  - o Johan Roupe – It is FB unless proven otherwise.  
*Indeed. The TSOs do consider the activities that they need to perform though, to remain the same: the TSOs need to explain and demonstrate the functioning by means of simulation results.*
  - o Carsten – when is the deadline for the CCM (capacity calculation methodology) proposal? How to deal with simulation results / parallel runs?  
*Sept is the deadline for the proposal on the CCM; a meaningful parallel run can only be performed when the new CGM is operationally available (end of 2017).*
  - o Carsten – when is the NRA decision moment?  
*March/April 2018.*
  - o Mats – can the CCM proposal and consultation be postponed until we have seen parallel runs? How can we take a decision like this without having proper data to base it on.  
*The new and operational CGMs are required before having parallel runs. CACM requires to propose a methodology before these CGMs become available.*
  - o Mats – Not having proper market simulations is problematic. For example: when you don't know how the FB will impact the prices, the risk of hedging is impacted as well.  
*More capacity is expected under FB: more capacity and more price convergence. Yes, indeed, more price differences in Sweden may be expected: but the spread is smaller. When the price spread around the system price decreases, more hedging against the system price may occur.*
  - o Mats – Not happy and comfortable with what the TSOs are asking us: "please do trust us, we can't show you numbers, but it is good what we are doing"  
*Please do raise your concerns, we are happy to hear them and learn from them.*
  - o Carsten – what is the relation between the CCM project and the new ACER recommendation?  
*The ACER recommendation may have an impact on the CNEs that may be used in the capacity calculation*
  - o Set – What happens if you are not allowed to move internal congestions to the border (ACER recommendation)  
*Most often the limiting CNEs are not located on the border, but often inside the area. Two options: huge amount of redispatch to facilitate the (virtual) cross-border capacity, or a nodal market system. In essence, the recommendation provides an incentive not to build cross-border capacity, but to enhance the internal grid.*
  - o Per Vidar – welfare economic results should be taken with some caution as historical NTC order books have been used, and the actual water dispatch is not taken into account  
*Indeed, the historical NTC order books are used in the SF simulations; this will be mentioned in the disclaimer.*
  - o Per Vidar – will temperature-dependency be taken into account in the CGMs  
*Yes, it is; this will introduce temperature-dependent thermal limits of the lines and is a significant improvement compared to today.*
  - o Jens – does it matter if you end up with FB or CNTC?  
*CGMs will change from one hour to the next. In that respect the NTC values observed today will change with introducing CNTC as well. For the TSOs investments are required irrespective of the choice made.*

- Johan Roupe – With regard to the bidding zone review; the CCM impact will probably look quite different with alternative bidding zones implemented (e.g. ones that cover several national areas).  
*Not by definition, but it is hard to estimate the impact.*
  - Mats – With the proposed CNTC, the CNTC cannot outperform FB.  
*True, but the main focus in the comparison is on NTC: NTC – CNTC – FB.*
3. CGM
- The project makes use of a temporary common grid model (CGM). It is created by the project for the sole purpose to develop the capacity calculation. The CGM is built up from individual grid models (IGMs), that are created by the TSOs' SCADA systems. The quality of this CGM is not optimal. In Europe a new CGM standard and procedure is being developed, that is expected to solve most of the shortcomings and quality issues that the project is facing today.
- Jens – D-2 data is entering into the capacity calculation  
*Both FB and CNTC cap calc are based on a CGM and forecasting that is created at D-2.*
  - Mats – The closer the capacity calculation is performed to real time, the better it is.  
*The CGM is built the evening at D-2. In the Nordics a discussion has been started if a new version can be built the morning after. This will be checked upon. There are existing deadlines though, like the data publication, that need to be respected.*
  - Johan Roupe – is the basecase the same for CNTC and FB  
*Yes, it is the same CGM that is used for both capacity calculation methodologies.*
4. CBA – cost estimate requested from the market participants
- Petteri – question on the cost questionnaire. Long-term impact is extremely hard to evaluate. How will the inputs be used? Can't you get the information from CWE (to have some founded estimates). I fear that the market participants do not know enough about the FB?  
*Nordic system is quite a different one compared to the continent. Hydro has a large impact. You, as a market participant, are better suited than we are as TSOs to estimate these costs. If you cannot provide numbers, feel free to provide some qualitative indications.*
  - Per Vidar – for estimating the water values, input from the TSOs are needed to run the market models.  
*For long-term analysis, (C)NTC values could be provided given the requirements in the FCA network code. Both BID model and SAMLAST (being SAMNETT) have been adjusted to deal with FB parameters. Indeed, only the large entities have access to those kind of tools. Small companies buy their forecasts, large companies buy those tools, but the medium-sized companies may face an issue.*
  - Set - will check with its Dutch and German colleagues what they invested to get adjusted to the FB system.
  - Jens – Will you use the welfare gain, that was shown on the slides, as the benefit side of the CBA?  
*No, the weeks will be redone as some errors have been identified. Please note however, that 'do-nothing' is not an option for the TSOs, given the CACM requirements: we need to leave NTC behind and either adopt FB or CNTC. So the question in the CBA, is the difference in cost between adopting FB or CNTC.*
5. FB
- Johan Roupe – will FRMs be included when go-live?  
*Yes. Computations have been started, but they are not yet based on the proper grid models and forecasting. Indeed, the CGM is under development in Europe and should be operationally available by the end of 2017.*
  - Mats – loop flows: why not introduce a 'polluter pays' principle or put phase-shifting transformers on the border?  
*The loop flows are taken into account in both the FB and CNTC cap calc.*
  - Petteri – What does the weekly calculation include?  
*Hourly FB parameters are computed by the TSO and provided to the PX's Simulation Facility (SF); all historical bids are embedded in the SF, and the market clearing is computed. Indeed, those are currently ex-post computations (lagging by three weeks).*
  - Petteri - Predictability (of changes) is important. What happens if something changes in the system. In the current (NTC) system it is more straightforward to anticipate its impact than under a FB system.
  - Jens – Will, under FB, the capacity on the DC cables deviate from the nominal capacity (e.g. due to the west-coast cut)?  
*No, the DC capacity will be the nominal capacity. By applying the advanced hybrid coupling, the DC links compete with all other exchanges to make use of the scarce capacity in the AC grid. A restriction on the west-coast cut may in this way have an impact on the resulting flow on the DC cable.*
  - Petteri – do you set a flow limit on a DC interconnector (other than the nominal value)  
*No, it is the market clearing algorithm that determines the optimal flow on the DC cable.*
  - Carsten – German DK border: is there any gain there when going FB  
*Not if the restrictions are coming from the German TSO. Indeed, the Nordic project is not responsible for what happens in Germany. Having a FBMC does provide more transparency though. The shadow prices of the grid constraints do indicate, and make it transparent, how much welfare is 'lost' on a certain grid constraint. There is a logical sequence, introduce FB, review bidding zones, and so on.*
  - Petteri – What is the reason for the bad quality of data; can this be dealt with / be solved. Can the flawed data be shared?  
*Bad quality is mainly linked to missing grid components in the IGMs (DC terminals being turned off e.g.). This can be solved though. The IGMs originate from the SCADA systems; this is new and has not been done before in the Nordics. This issue is solved when the new CGMs are available (end of 2017). It will be checked within the TSOs if the current data can be shared.*
  - Per Vidar – overloaded CNEs in the model. Is it possible to calculate the redispatch costs?  
*Issue in terms of manpower: it requires major efforts to dive into this. Key question is: what is the actual cause of the redispatch?*
  - Mats – Sweden gets less under FB while building transmission capacity: not the proclaimed 'one price, one country'. No large gains, whereas this black box make huge changes for the market.  
*The project refers to the large numbers of overloads, and the fact that the FB gains are concentrated in a few hours. This is when the Nordic power system is most stressed, and the gain materializes. It will change from week to week, and season to season. Not correct to call it a black box, as it is highly transparent in terms of PTDFs and RAMs. The assumptions underneath may be challenged though.*
  - Johan Roupe – loopflows under FB and NTC: how can you be in the secure domain if you do not take them into account?  
*Loopflow originates from an internal BZ trade, and is taken into account in both FB and CNTC, as they are part of the CGM. Transit flows originate from exchanges between BZs. Their impact is taken into account in FB only.*