

Nordic FB SG – meeting minutes

DRAFT Version

November 26 2015, 09.00-15.30 (Copenhagen airport, Hilton Hotel)

Participants		
FB project <ul style="list-style-type: none"> • Trond Arnliot Jensen (Statnett) • Ulrik Møller (Edk) • Lasse Kontinen (Fingrid) • Lennart Rosengren (Svk) • Mattias Ehn (Svk) • Pieter Schavemaker (E-Bridge Consulting) 	NRA <ul style="list-style-type: none"> • Toril Naustvoll Gange (NVE) • Björn Klasman (EI) • Jarno Lamponen (Energiavirasto) • Peter Christian Olsen (Energitiilsynet) PX <ul style="list-style-type: none"> • Hilde Rosenblad (NPS) 	Market representatives <ul style="list-style-type: none"> • Per-Vidar Hansen (E-CO) • Set Persson (Vattenfall) • Mats Nilsson (Svensk Energi) • Raimo Peltola (Fortum) • Pasi Kuokkanen (Elfi) – by Lync • Petteri Haveri (Energia) • Jens Mortensen (Dong Energy) • Marie Holst (Dansk Industri) Excused <ul style="list-style-type: none"> • Jørgen Gunnestad (SKS) • Thor Kalstrup (Danske Commodities)

1. Welcome and tour de table (9.00-9.20)

Objective: Welcome to the kick-off meeting of the Stakeholder Group meeting, and introduction of the participants.

All are welcomed to the kick-off meeting of the Nordic FB Stakeholder Group, and thanked in advance for their participation and contribution. All participants shortly introduced themselves.

Trond gave an overview of the Nordic FB project that started in 2012 with a pre-feasibility study, followed by a feasibility study. The project started the 'preparation for implementation' stage in Oct 2015.

The focus of the Stakeholder Group meetings, with the relatively low amount of participants, is on intense interaction between the FB project and the stakeholders. A joint NordREG / Nordic TSO FB Forum will be organized on December 14, where all interested stakeholders are invited. During this year's forum, several speakers from CWE will present the experience with the FB system, being live as of May 2015, from their perspectives.

2. Objective and agenda (9.20-9.30)

Objective: Recap of the ToR of the FB SG; kick-off meeting; manage the expectations.

The focus of the Stakeholder Group is to provide the project with stakeholder views on the FB approach.

The objectives of the Stakeholder group are:

- To ensure knowledge transfer and information exchange between the Nordic FB project and stakeholders
- To discuss market results and get detailed input from stakeholders on specific issues
- To ensure that the stakeholders receive the market information they need and that the stakeholders requirements are fulfilled

The Stakeholder group will only give its opinion on certain issues and will not have any mandate to make decisions. Please note that the Nordic FB project will continue to organize Stakeholder Forums with a broader audience than the Stakeholder group.

3. Presentation on the overall status and Nordic FB project (9.30-10.00)

Objective: Presentation by Trond (project) and Mattias (industrial IT tool).

The following questions were raised, comments were made, during the presentations:

- Mats – FB to be compared to the current system. For Mats this is of key importance, as he is not convinced that there are huge benefits linked to the introduction of FB in the Nordics. From Mats' perspective, it seems that TSOs have already decided upon FB. The legislation requires TSOs to make certain steps, but he cannot observe that those steps are actually made, as 'the market has been in the dark for almost one year now'. Mats invites the TSOs to prepare a CBA (NTC vs FB) as required by the CACM, and to involve the market representatives when doing so.
In this respect, the project indicates that NTC is the current reference and the basis for the whole FB exercise so far. Indeed, the NTC capacity calculation is an operational process being performed in an efficient way at the Nordic TSOs, on a day-by-day basis. All NTC expertise and experience needs to be transferred into the FB capacity calculation. All welfare and prices are, and will be, compared to the NTC reference.
- Set – Referred to wind in the context where Trond explained the 'buzz words' PTDFs and RAM. *As today in the NTC world, wind infeed will impact the available cross-border capacity under FB as well. As such, PTDFs and more specifically RAMs will be impacted.*
- Mats – Triggered by the GSK topic, Mats asked whether all this could lead to a change of bidding zones. *This is not likely to be a crucial factor as the current zone delimitation, as far as the project have found, is likely to provide the expected benefits from the FB system. On the other hand, FB provides more level of detail compared to NTC, and consequently, more extensive results as well. For example, shadow prices will be calculated for all FB constraints / CNEs by the optimization performed by the PXs. This may prove useful information to assess current / new bidding zones and / or new lines or other grid elements.*

- Pasi – Can you have negative capacity under FB? Yes, *in fact you can have that. In the case that a negative RAM would arise, it would result from the capacity calculation process though, it is not imposed by a TSO.*
- Per-Vidar – Difference between TRM and FRM? *The Transmission Reliability Margin TRM is a security margin that copes with uncertainties on the computed TTC values arising from a) Unintended deviations of physical flows during operation due to the physical functioning of load-frequency regulation, b) Emergency exchanges between TSOs to cope with unexpected unbalanced situations in real time, and c) Inaccuracies, e. g. in data collection and measurements. FRM stands for Flow Reliability Margin, which is the margin reserved on the permissible loading of a Critical Network Element in the FB approach to cover against uncertainties between a capacity calculation timeframe and real time, taking into account the availability of Remedial Actions.*
- Mats – Reflect on GSK strategies; what are the choices to be made by the TSOs? *In essence, there is no difference between the NTC and FB world in this respect: assumptions with regard to generation need to be made by the TSO when performing the capacity calculation, this is linked to the zonal system that we have today. In FB capacity calculation, all uncertainties in the capacity calculation process add up in the FRM, including the uncertainties linked to the GSK. As such, the different GSK options can be assessed by computing the corresponding FRM values, reflecting the uncertainty that is linked to the use of the different GSK strategies, and to opt for the one that brings the lowest uncertainty.*
- Petteri – What are the problems with the CGM? *The CGM process is a new process for the Nordic TSOs, and it is currently under development. Each TSO makes a photo of its grid in its SCADA/EMS system, being a loadflow model which contains the loads, generation, lines, voltages, power flows and so on. There are issues linked to the translation from the SCADA/EMS (very detailed so-called 'breaker' model) to a loadflow model ('branch-node' model). The grid models of each TSO are called the IGMs (Individual Grid Models), and the process where the IGMs are put together into a CGM (Common Grid Model) is referred to as the merging process. When the IGMs are not created at exactly the same time, deviations may occur among the models that need to be evened in the merging process; the bigger the deviations, the harder it can be to merge the models. In addition, some TSOs are in the process of replacing / upgrading their SCADA/EMS systems, making this task a bit more difficult. Within the framework of ENTSO-E, a new standard has been developed for IGMs/CGMs, the so-called CGM-ES. The format will remove most obstacles that TSOs bump into today. This new format will be part of the new SCADA/EMS systems as well.*
- Set – The optimal solution (in terms of welfare), referred to, holds only for the spot market. *Indeed, the welfare assessed is 'day-ahead welfare' only. Welfare considerations of subsequent market timeframes, ID and balancing, are not considered. The focus is on DA only, at this moment in time, although there is a drive to go for FB ID capacity calculation as well.*
- Per-Vidar – Will during the external daily parallel operation, where the FB capacities and simulated market results will be public on a daily basis, the operational expertise and experience be part of the FB capacity calculation process? *Yes, it is of utmost important to have this in place at that time.*
- Mats - Is input expected from the generators to build the D2CF? *No, it is a TSO-only forecast, for the moment.*

A more general discussion developed on gaming, market manipulation, and rumors that are out there. It is important to provide a level playing field of information, to prevent advantages for large actors compared to smaller ones.

4. Presentation on FB capacity calculation and the first results (10.00-11.00)

Objective: Presentation by Ulrik on the FB cap calc and the first results.

The following questions were raised, comments were made, during the presentations:

- Set – In Sweden, North-South flows are quite certain, and allow for NTC values that are close to the physical limitations.
- Mats – Can you break up the surplus numbers in both consumer and producer surplus? *Yes, we can, and we do so. At this moment in time, the welfare numbers cannot be shared though, as the results are not verified to be sufficiently mature.*
- Set – With more wind in the system, hydro will become less stable and less predictable (as they need to act more on the regulating power market).
- Jens - Question on the Jan 1 example that Trond touched upon. *The example will be elaborated upon in the next meeting.*
- Mats – Mats perceives it as a disadvantage that under FB internal constraints can be taken into account, as this is not transparent. Mats would rather prefer countertrade or redispatch and have cross-border constraints only. *The project argues that the NTC is a kind of black box where scenarios and internal constraints are captured, but in one single value on each bidding-zone border. However, everyone has experience and expertise with these numbers. The level of detail under FB is higher, and thus there will be more transparency when these details are translated into usable information. What is needed is the same level of insight and confidence in a FB system as in the current NTC system. Anyhow, the use of redispatch and countertrading is not transparent at all.*
- Jens – Link between DA FB and ID NTC. *After the FBMC, the left-over capacity to be used on the ID stage can be assessed (just like today in the NTC world). The ID NTCs can be computed / extracted from the FB domain. We will get back to this in a later SHG meeting.*
- Per-Vidar – FAV use should be monitored closely as this is a degree of freedom for operators to alter the margins on the CNEs (in both directions: increase and decrease).

5. Coffee break (11.00-11.20)

6. Presentation by NRAs: what is their view on FB, and what are the expectations from the Stakeholder Group (11.20-11.30)

Objective: Presentation by NRAs.

The presentation of the NRAs, presented by Toril, does not provide a view on FB as such, but focuses on the selection of the Common Capacity Calculation Methodology.

The following questions were raised, comments were made, during the presentations:

- Mats – How does this work in the decision process between (C)NTC and FB: does welfare need to go up in all Nordic countries or is this not required? *Toril indicates that it is the Nordic welfare that matters. The project underlines that the congestion rent distribution has an impact on the welfare distribution among the countries as well. Mats emphasizes that it is important then to agree upon the principles first. The project indicates that this work is taken up at ENTSO-E level, and that the Nordic TSOs will follow these principles.*
- Mats - Why not measure the trade between the Nordic countries in order to quantify the difference between FB and (C)NTC? *Indeed, this could prove a useful indicator.*

The project indicates that they foresee an impact assessment to evaluate a choice between FB and NTC/CNTC.

NRAs are interested in the views of the market participants, amongst others on FB, and are happy to hear them during the Stakeholder Group meeting.

7. Discussion with market representatives: what is their view on FB, and what are the expectations from the Stakeholder Group (11.30-12.30)

Objective: Views from the market representatives.

The project invites the market participants to present their views during the Stakeholder Forum on December 14 (10 minutes presentation each).

- Mats is willing to do so; to be confirmed though. As Mats represents the producer side, it would be good to have the consumer side as well.
- The project will check whether Pasi would be willing to (re)present the consumers. If consumers cannot be found to speak, retailers may be an interesting entity to speak out as well.
- Per-Vidar will take another timeslot of 10 minutes.

Three persons of NPS will attend; Hilde cannot attend.

The following questions were raised, comments were made, during the presentations:

- Mats – Currently there is quite often one single price in the Swedish price areas; FB may change this. Will TSOs provide hedging instruments for the retailers? *The project indicates that whenever there is a price difference under FB, most area prices will differ, but the differences between the area prices will be smaller. At the other hand, there will be more hours with a single Nordic price (more price converge). As such, the system price forward as hedging tool may prove even more useful in the FB world. The link to the FCA implementation is made in this respect, where the introduction of transmission rights is currently under discussion.*
- Petteri – CGM; what is in there, what is the purpose? *The CGM is only intended for operational planning purposes: capacity calculation and grid security assessment.*
- Petteri – CGM and FB: why different projects? *It is a choice made by the Nordic TSOs on how to manage the multiplicity of todos. In this respect a link is made to the RSCI (Regional Security Coordination Initiative). The Nordic TSOs are currently in a process to set up such entity, who is likely to be responsible for the CGM merging process, as well as the operation of the FB capacity calculation software.*
- Set – Will the CGM be used for dynamic analysis as well? *Not for now. The new CGM-ES model can handle, next to the static grid information, dynamic and transient information as well. The use and application will be a stepwise process though.*

8. Lunch (12.30-13.30)

9. Discussion on a market information tool and set out actions (13.30-14.30)

Objective: Presentation by Pieter on the market information tool

- *Presentation is intended to kick-off the joint work on the market information tool*
- *Objective of the tool is not to provide data only, but to translate it into information as well*
- *Example of CWE; example only, please feel free and be invited to think out of the box here!*
- *Next meeting: input to be received from the market participants.*

The following questions were raised, comments were made, during the presentations:

- A discussion developed around the question why the names of the CNEs cannot be published. *Indeed, this is linked to national legislation where this level of transparency on critical infrastructure is not allowed.*
- Set - Information to be able to plan the hydro system well in advance is very important.
- Petteri – Will the FAVs be made public? *The RAM (Remaining Available Margin) will be made public, but it is not foreseen that its ingredients ($RAM = F_{max} - FRM - FAV - Fref$) are revealed.*

All are requested to think (out of the box) and to specify their needs / ideas in terms of market information to be provided under a FB system. The project will share a template ('wishlist') to be filled in; not only the idea / need itself is of interest, but also the reason why it is important for you to have access to certain information. The CWE market information tool ('utility tool') can serve as an example (more information can be found in the slidedeck).

10. Open discussion (14.30-15.30)

Objective: Share your thoughts, ideas, concerns.

The following questions were raised, comments were made:

- Set – It would be good to compare the welfare indication for the timeframes after the DA (ID and balancing) under both FB and NTC. *The project indicates that this is a difficult exercise, as there is currently no pricing on the ID timeframe.*
- Petteri – Will there still be countertrade / redispatch under FB? *Yes, as not all grid elements will be considered in the FB mechanism; only those grid elements that are significantly impacted by cross-border trade will be considered.*
- Per-Vidar – Can the project assess what would be the impact on welfare if too much (risk to overload grid elements) capacity is provided on the DA market and the impact is mitigated by means of redispatch? *In essence, yes. Although the cost of*

redispatch is an uncertain factor in this storyline, as a structural practice will have a price impact.

- Petteri – Is there a discussion on capacity calculation ongoing in the Hansa region as well? *Yes, this is being worked upon.*
- Petteri - Request to go through the FB process (from IGM to NPS) in a step-by-step way during the next meeting.

The proposal is to have a Stakeholder Group meeting frequency of 3-4 times / year. The next meeting will be scheduled around March / April 2016. All slides of the Stakeholder Group meeting will be shared, along with the minutes. The minutes will be shared as an attachment to the upcoming Nordic FB newsletter as well.

For CWE experience, one may have a look to the meeting materials of the CWE Consultative Group (CCG):
<http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/CWE-Consultative-Group>

Action items		
Description	Responsible	Due date
1. Approach and/or confirm the speakers, on behalf of the stakeholders, during the Dec 14 Market Forum	Project members	Dec 7
2. Schedule a next Stakeholder Group meeting in March/April 2016	Project members	Dec 7
3. Initiate a template for a 'wish list' with regard to the market information tool	Project members	Dec 7
4. Present the Jan 1 example, that was shortly touched upon, during the next meeting	Project members	Next meeting
5. Present the FB process (from IGM to NPS) in a step-by-step way during the next meeting	Project members	Next meeting
6. Review the example of the market information tool that is in use in CWE, and complement the 'wish list' (including a motivation why certain information is useful)	All stakeholders	Next meeting