



## Appendix 1 - Nord Pool Group Response to Guidelines for Information - 10 May 06

### General comments by Nord Pool Group related to annex 1 through 5:

1. For several of the tasks that ERGEG has listed TSOs as the provider, it is in fact, based on actual implementation in the Nordic region, other parties that is the source and also other parties, predominantly Nord Pool Group, that organises publishing of the information. This fact should be self-explanatory by the detailed comments per item below.
2. When it is stated that Nord Pool publishes the information it should be understood that it refers to Nord Pool ASA or Nord Pool Spot AS, whom in this context both are referred to as Nord Pool.
3. When it is stated that information is published by Nord Pool that always means on the homepage and normally also further distribution to real-time distributors other homepages and a statistical historical database available free for members and based on a subscription to the general public.
4. There is additional relevant information published primarily by Nord Pool, but also by for example TSOs and branch organisations in the Nordic region. Please refer to [www.nordpool.com](http://www.nordpool.com) to view what else in terms of relevant market information that the exchange is publishing.

### Annex: Specification of the Required Transparency of Information

Table 1. Required Transparency of System Load Information

Information	Publication	Timeframe	Key benefits of information	Provider	This is published by Nord Pool on its website on Nord Pool's homepage
<b>Actual load per control area</b>	Just after real time	Per market time unit (e.g. per hour), to be kept for 2 years	<ul style="list-style-type: none"> <li>• To monitor and analyze market prices vs. system load &amp; generation</li> <li>• To validate forecast load &amp; load forecasting models</li> </ul>	TSO	Calculated (i.e. prod-net export) values per country are gathered by Nordic national TSOs and then published by Nord Pool on its homepage about 1 hour after delivery hour
<b>Day-ahead load forecast<sup>2</sup> per control area</b>	Day D-1 <sub>3</sub> for day D and for the day D+7 (next week)	Per market time unit •	<ul style="list-style-type: none"> <li>• To evaluate and adapt requests for interconnection capacities</li> <li>• To ensure the adequacy of generation purchases and energy sales with market needs (which improve network security)</li> <li>• To estimate prices</li> </ul>	TSO	Each TSO in the Nordic region publishes day-ahead national consumption prognoses on their homepages
<b>Week-ahead forecast<sup>4</sup> per control area</b>	one to eight weeks in advance in a rolling mode	Per day, segregating peak and off-peak hours	<ul style="list-style-type: none"> <li>• Idem – in case there is significant new load or some load that was out of operation (e.g. damaged) is repaired, it must be included here too</li> </ul>	TSO	Summarized figure forecasts week-ahead are not published in the Nordic region, but still significant info about planned and incidental outages regarding significant grid lines, production and consumption units with effect immediately and up to 3 years ahead in time is available on Nord Pool's homepage based

					on UMM messages delivered continually by TSOs and market participants based on set market conduct and disclosure rules linked to Nord Pool.
<b>Year-ahead forecast per control area Forecast margin, i.e. the difference between forecast load and scheduled (D-1) or available (M-1, Y-1) generation per control area</b>	Year Y-1 for at least next year (up to a max of 10 years) Y-1, M-1, D-1	Per year, total energy and peak load Per relevant market time unit • Tojudgeproduct	<ul style="list-style-type: none"> <li>• To forecast long-term prices evolution</li> <li>• To have a better visibility on the profitability of investment projects for generation capacities allow market participants to better investment and ion decisions</li> </ul>	TSO or competent authority (for longer than one year forecasts) TSO (or competent authority for longer than D-1)	See comment on <b>week-ahead forecast per control area</b> and in addition note that Nordel (Nordic TSO branch org.) among other things on a yearly basis provides similar, but less detailed, forecast and historical info in their annual report and on their homepage.

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Liquid forward and future markets will provide the market with information on expected market balance, complementing thus to certain extent the forecast information.

<sup>3</sup> Early on D-1 or D-2.



Table 2. Required Transparency of Information on Transmission and Access to Interconnections.

Information	Publication	Timeframe	Key benefits of information	Provider	This is published by Nord Pool Group on the Nord Pool's website
<b>Review of the EHV grid expansion projects (investments) per control area and impact of these projects on the transmission capacities within the control area and at the interconnections</b>	Year Y-1 for the next min. three following years (up to a max of 10 years)	Per year	<ul style="list-style-type: none"> <li>To evaluate future development of transmission grids and interconnection capacities and congestions in the years to come (proposed 3- to 10-years period)</li> <li>To evaluate future generation investment opportunity</li> </ul>	TSO	Nordel publishes <u>among other related things</u> all the major grid line, and also production unit, expansions that are expected or confirmed in the coming few years in their annual report.
<b>Planned works in the EHV grid and on interconnections with dates and their impact on the capacity of the grid and each interconnection</b>	Year Y-1 for year Y (updated with changes)	Per year, ensuring daily update with any new relevant information	<ul style="list-style-type: none"> <li>To guarantee an effective use of transmission networks and interconnection</li> <li>To enable existing players to plan their position and to facilitate the access of new players to markets where competition is still under development</li> </ul>	TSO	See comments made about »Review of the EHV grid expansion...«
<b>Month-ahead forecasts of the interconnection capacity, taking into account all information available at the time of calculation</b>	Month M-1 for next 12 months	Per week segregating Peak and Off-peak hours	<ul style="list-style-type: none"> <li>To guarantee an effective use of interconnection</li> <li>To facilitate the access of new players to markets where competition is still under development</li> </ul>	TSO	See comment on <b>week-ahead forecast per control area</b> , thus all major interruptions and expected effect on Nordic cross-border capacity are given by TSOs as UMM messages that are published on Nord Pool's homepage
<b>Week-ahead forecasts of the interconnection capacity, taking into account all information available (e.g. possible changes in maintenance plans) at the time of calculation</b>	Week W-1 for week W	Per market time unit	<ul style="list-style-type: none"> <li>To guarantee an effective use of interconnection</li> <li>To facilitate the access of new players to markets where competition is still under development</li> </ul>	TSO	See comment on <b>week-ahead forecast per control area</b> . Also note that TSOs each week deliver »prognosis figures« for cross-border capacity that is published on Nord Pool Group's homepage.



This is published by Nord Pool on behalf of the Nordic market

Information	Publication	Timeframe	Key benefits of information	Provider	This is published by Nord Pool on behalf of the Nordic market
<b>Day-ahead values of interconnection capacity</b>	Day D-1 for day D	Per market time unit	<ul style="list-style-type: none"> <li>• To guarantee an effective use of interconnection</li> <li>• To facilitate the access of new players to markets where competition is still under development</li> <li>• To foster introduction and usage of the flow-based capacity calculation methods in order to raise compatibility between the commercial and actual physical flows between the different control areas</li> </ul>	TSO	Nordic TSOs provide Elspot Market cross-border (i.e. between Bid Areas) day-ahead capacities as well as »external Nordel capacities« in the morning before day-ahead spot market closing time.
<b>Details on actual outages (planned and unplanned) at the highest voltage level</b>	Immediately after occurrence To be kept available for a minimum of 2 years, preferably 10 years	Time of occurrence	<ul style="list-style-type: none"> <li>• To guarantee an effective use of interconnection and transmission grids</li> <li>• To evaluate how security criteria are met</li> <li>• To facilitate the access of new players to markets where competition is still under development</li> </ul>	TSO	See comment on <b>week-ahead forecast per control area</b> . In other words, all members at Nord Pool continually report planned and incidental outages of major plants as UMM messages that are published on Nord Pool's homepage and searchable historically for currently about 5 years.
<b>Capacity requested (including priority rights) by market participants and capacity offered and assigned by TSOs</b>	After each capacity allocation session	Per market time unit	<ul style="list-style-type: none"> <li>• To guarantee an effective use of interconnection</li> <li>• To facilitate the access of new players to markets where competition is still under development</li> <li>• To foster introduction and usage of the flow-based capacity calculation methods in order to raise compatibility between the commercial and actual physical flows between the different control areas</li> </ul>	TSO	This is not applicable <u>within</u> the Nordic region since all 3rd party access to interconnectors is solely given by TSOs to the market via the implicit auction carried out in the Elspot Market operated by Nord Pool Spot. Planned usage of capacity day-ahead in Elspot is however published immediately along with prices and volumes per Area. Remaining capacity after Elspot is provided to the Elbas (intra-day market) market in the Areas it exist.

Information	Publication	Timeframe	Key benefits of information	Provider	
<b>Total capacity nominated by market players on interconnections (commercial transactions)</b>	After each session	Per market time unit	<ul style="list-style-type: none"> <li>• To guarantee an effective use of interconnection</li> <li>• To facilitate the access of new players to markets where competition is still under development</li> <li>• To foster introduction and usage of the flow-based capacity calculation methods in order to raise compatibility between the commercial and actual physical flows between the different control areas</li> </ul>	TSO	See comments on <b>capacity requested (including priority rights)</b> , thus this is not applicable <u>within</u> the Nordic region. However, on the border between Jutland and Germany explicitly auctioned capacity by TSOs are published immediately after each session (month, day-ahead...).
<b>Congestion income, volumes and prices in case of auction for regulated assets (hence relevant portion of merchant interconnectors excluded).</b>	After each session	Per market time unit	<ul style="list-style-type: none"> <li>• To guarantee an effective use of interconnection</li> <li>• To facilitate the access of new players to markets where competition is still under development</li> </ul>	PEX/TSO	Not applicable <u>within</u> the Nordic region. However, the »congestion rent« that Nordic TSOs receive as a results from the implicit auction in the Elspot Market can easily each day be calculated from published Elspot Area prices and planned flows in Elspot.
<b>A description of reasons and effects of any actions taken by TSOs that have impact on cross border trade</b>	Flows and effects just after real time, other information D+1	Per market time unit	<ul style="list-style-type: none"> <li>• To guarantee an effective use of interconnection</li> <li>• To facilitate the access of new players to markets where competition is still under development</li> <li>• To foster introduction and usage of the flow-based capacity calculation methods in order to raise compatibility between the commercial and actual physical flows between the different control areas</li> </ul>	TSO	See comment on <b>week-ahead forecast per control area</b> , thus all major interruptions and other reasons that have an effect on Nordic cross-border (between Bid Areas in Elspot) capacity are given by TSOs as UMM messages that are published on Nord Pool's homepage. Furthermore, some descriptions on how capacity is allocated are provided via Nordel's and each TSO's homepage.
<b>Hourly average physical flows vs. thermal ratings of the lines and transformers in the EHV grid</b>	Week W+1 for week W	Per hour	<ul style="list-style-type: none"> <li>• To evaluate existing congestions on the interconnections and within the control areas</li> <li>• To evaluate how security criteria are met</li> <li>• To increase the benefit of this information, it would be useful to visualise it in terms of actual line rating (e.g. red=high, green=low)</li> </ul>	TSO	Hourly physical exchange between Nordic countries and towards Germany, Poland and Russia are provided by TSOs continually one hour after delivery and published on Nord Pool's homepage.



Table 3. Required Transparency of Information on Generation – this could be further related to system load, for example every generation unit larger than 1% of system load

Information	Publication	Timeframe	Key benefits of information	Provider	This is published by Nord Pool and other parties in the Nordic market. We put this information in these information
<b>Total and available installed generation capacity at a minimum in an aggregated form, differentiated per primary energy source (preferably per single generator block (unit)) and its foreseeable evolution in the next three to ten years, including information on the type of generation from new projects</b>	Year Y-1 for the next min 3 following years (up to 10 years)	Per year	<ul style="list-style-type: none"> <li>To explain historic and forecast future prices</li> <li>To have a better understanding of historic price developments and possible outlook on the profitability of investment projects for generation capacities</li> </ul>	TSO or another institution or authority	Nordel publishes the currently installed generation capacity per primary energy source and Nordic country as well as all the major production unit expansions expected or confirmed in the coming few years in their annual report.
<b>Ex ante information on the scheduled unavailabilities of the generation units (start and stop dates of the outages, unavailable capacity)</b>	Year Y-1 for year Y and regular updates	Per year and further updates	<ul style="list-style-type: none"> <li>To be able to forecast future prices better</li> </ul>	TSO / PEX (market place)	See comment on <b>week-ahead forecast per control area</b> . Thus, members at Nord Pool continually (directly) report planned outages of major plants within the Nordic region as UMM messages that are published on Nord Pool's homepage and searchable for currently about 5 years back.
<b>Ex ante aggregated information on the scheduled generation per control area</b>	D-1	Per system time unit	<ul style="list-style-type: none"> <li>To be able to forecast future prices better</li> <li>To be able to consider influence on available transmission capacity</li> </ul>	TSO (based on the day-ahead reported generator schedules)	Not applicable <u>within</u> the Nordic region since there is no central dispatch, but rather between 4 and 7 p.m. Balance responsible Companies report production plans per hour for the next day to the relevant TSO. Plans can be updated close to the delivery hour.
<b>Filling rate of the water reservoirs in an aggregated form, by hydroelectric exploitation zone, per control area and per week in terms of percentage of the 100% filling</b>	Week W+1 for the week W	Per week <sup>4</sup>	<ul style="list-style-type: none"> <li>To be able to forecast future prices better</li> <li>To analyse the impact of past events on prices formation</li> </ul>	Authority, PEX (market place), TSO and Hydro generators	Aggregated reservoir level and weekly inflow per country/region by the end of last week are gathered by branch organisations or statistical institutes and given to Nord Pool to publish on homepage at a set time on Wednesdays.
<b>Forecast and actual non-intermittent generation (e.g. wind)</b>	Forecast for day D on D-1 and actual generation close to real time	Daily	<ul style="list-style-type: none"> <li>To be able to forecast future prices better</li> <li>To be able to consider influence on available transmission capacity</li> </ul>	TSO and Generator	Actual values are shown close to or even in the delivery hour in Denmark by TSO. Forecast values in the Nordic region are not shown, but can be given via meteorological institutes.

<sup>4</sup> It is assumed that availability of information per week is enough and any aggregation is up to the information users. It is expected that the information provider can restore that information for minimum 2 years after publishing.



Information	Publication	Timeframe	Key benefits of information	Provider	This is published by Nord Pool or other parties in the Nordic region
<b>Ex post information on the planned and unplanned unavailability of actually running generation units (start and stop dates of the outages, unavailable capacity and maintenance).</b>	Close to real time	Per market time unit	<ul style="list-style-type: none"> <li>• To analyse the impact of past events on prices formation</li> <li>• To give the possibility to react on longer unplanned outages</li> </ul>	TSO and Generator	See comment on <b>week-ahead forecast per control area</b> . Thus, members at Nord Pool continually (directly) report planned and incidental outages of major plants within the Nordic region as UMM messages that are published on Nord Pool's homepage and searchable for currently about 5 years back.
<b>Ex post data on the actual generation by fuel type within each country, classified by the primary energy source</b>	Close to real time	Per market time unit	Idem	Generators provide, TSO aggregate and publish it short after real-time	In all Nordic countries except Sweden aggregated (real and partly calculated due to inability to instantly gather all production) generation per energy source in or close to the delivery hour is published on TSOs homepage. Weekly summary values are gathered and to varying degree published in reports by national branch organisations. Also, in mainly a Nordic context, but also Norwegian, the weekly figures are published by Nord Pool in reports each Wednesday.



Table 4. Required Transparency of Information on Balancing<sup>6</sup>

Information	Publication	Timeframe	Key benefits of information	Provider	This is published by Nord Pool or other parties in the Nordic market. We publish and store these information.
<b>Volumes of bids and offers used</b>	Just after real time, to be kept at least for one month	Per balancing mechanism time unit	<ul style="list-style-type: none"> <li>• To help market players to formulate their balancing offers</li> <li>• To increase the level of transparency in the management of TSOs</li> </ul>	TSO or responsible for clearing & settlement	Aggregated volumes (i.e. net value per hour & country/area) and marginal price of activated units, which represents the regulating power price and also directly or indirectly is used for settling »passive« users imbalances, is delivered by TSOs and published 2 hours after delivery on Nord Pool's homepage and stored in long-term historical database.
<b>Average and marginal prices of bids/offers with prices corresponding to global imbalance</b>	Just after real time, to be kept at least for one month	Per balancing mechanism time unit	idem	TSO or responsible for clearing & settlement	See comment on <b>volumes of bids and offers used</b>
<b>Imbalance prices</b>	Just after real time	Per balancing mechanism time unit	<ul style="list-style-type: none"> <li>• To help balance responsible to optimise their imbalance's level</li> </ul>	TSO or responsible for clearing & settlement	See comment on <b>volumes of bids and offers used</b>
<b>Control area imbalance volumes and volume of manually activated reserve (balancing power) used</b>	Just after real time	Per balancing mechanism time unit	<ul style="list-style-type: none"> <li>• To help balance responsible to optimise their imbalance's level</li> <li>• To enable monitoring</li> </ul>	TSO	See comment on <b>volumes of bids and offers used</b>
<b>Information on the financial balance of the whole market (expenses on the balancing market / payment of imbalances)</b>	Month M+1 for month M, to be updated until final reconciliation	Per month	<ul style="list-style-type: none"> <li>• To increase the level of transparency in the management of TSOs</li> </ul>	TSO	Some of the Nordic TSOs, for example in Sweden, frequently on a aggregated level and made anonymous per Balance responsible party publish expenses for imbalances in relation to overall consumption/production.
<b>Market information on the type of balancing bids/offers used</b>	Month M+1 for month M	Per day	<ul style="list-style-type: none"> <li>• To help market players to formulate their balancing offers</li> <li>• To increase the level of transparency in the management of TSOs</li> </ul>	TSO	Not available, but since activated Regulating Power Market (RPM) volume per country/Area is published and it essentially is known whom the active parties in the RPM are, the composition in terms of energy source for balancing is fairly easy to approximate.

The planned and actual system margin in terms of generation + import/export balance vs. load can be derived from the respective information on load, generation and interconnections.





Table 5. Required Transparency of Wholesale Market Information (in this context, no mandatory power exchanges role is intended here, i.e. it is referred only to the markets where PEX exists)<sup>6</sup>

Information	Publication	Timeframe	Key benefits of information	Provider	This is published by Nord Pool or other parties in the Nordic market
<b>Aggregated supply and demand curves, prices and volumes of the spot market</b>	Day D+2 for day D	Per market time unit	<ul style="list-style-type: none"> <li>• To analyse market depth</li> <li>• To give a reference for the contracts negotiation</li> <li>• Facilitate risk assessment</li> </ul>	PEX	Aggregated curves showing hourly bids and activated block bid volumes are published by Nord Pool Spot (NPS) in a database each Friday for all hours in the previous week. Prices and volumes per Bid Area and overall (incl. System price) in the day-ahead Elspot Market is published immediately after price-setting every day.
<b>Aggregated supply and demand curves, prices and volumes of the intra-day market</b>	Day D+2 for day D	Per day	<ul style="list-style-type: none"> <li>• To analyse market depth</li> <li>• To give a reference for the contracts negotiation</li> </ul>	PEX	Not applicable in the Nordic region, since the intra-day market Elbas, that is operated by NPS, is a continuous market.
<b>Prices and volumes of the futures market</b>	Period P-1 for period P, per illustrative product	Per day	<ul style="list-style-type: none"> <li>• To analyse market depth</li> <li>• To give a reference for the contracts negotiation</li> </ul>	PEX	Among other things prices and volumes per contract are published continually with a few minutes delay on Nord Pool's homepage and in addition also all the bilateral/OTC volumes cleared by Nord Pool Clearing.
<b>Prices and volumes of the OTC market</b>	Month M+1 for month M, per illustrative product	Per month	<ul style="list-style-type: none"> <li>• To analyse market depth</li> <li>• To give a reference for the contracts negotiation</li> </ul>	Brokers, PEX	See comments on <b>prices and volumes of the futures market</b> , thus all cleared volumes (thus major portion of overall financial market volumes) are published by Nord Pool. It is unknown to us if the not-cleared OTC volumes are published by for example Brokers.

The planned and actual system margin in terms of generation + import/export balance vs. load can be derived from the respective information on load, generation and interconnections.