



NordREG
Nordic Energy Regulators

Congestion Management Guidelines

Implementation within the Nordic market

Report 4/2008

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Preface

Congestion management has a great impact on the efficient functioning of the Nordic electricity market. A common coordinated congestion management method is important in order to achieve a further integration of the Nordic electricity market, as well as the interaction with other European markets. Furthermore, coordination of congestion management is also one of the key requirements of the legally binding European legislation on congestion management – the Congestion Management Guidelines adopted under the Regulation (EC) 1228/2003 on electricity cross-border trade.

NordREG has undertaken to monitor the compliance of the Congestion Management Guidelines in a coordinated way. This report is the second one assessing the compliance within the Nordic context and it complements the work undertaken by European Regulators' Group for Electricity and Gas (ERGEG) at the European level. The report continues the work initiated by the NordREG Work Programme 2007, which included a task "Implementation of Congestion Management Guidelines".

The aim of this work has been to establish a common Nordic regulatory opinion on congestion management and to find a harmonised way of applying congestion management guidelines within the Nordic electricity market. The work has taken as a starting point compliance reporting of Congestion Management Guidelines under Regulation 1228/2003. The Guidelines were amended at the beginning of December 2006. As foreseen in the Work Programme 2007 the work has continued in order to establish a common understanding on how to monitor the implementation of the Congestion Management Guidelines and other relevant issues for co-operation among Nordic regulators in the context of the Congestion Management Guidelines.

The report has been prepared by NordREG Congestion Management Working Group, which at the beginning of 2008 became part of the Wholesale and Transmission Working Group. The participants in the group have been:

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Executive summary

Congestion Management Guidelines under Regulation 1228/2003 were amended at the beginning of December 2006. The aim of NordREG's work has been to establish a common Nordic regulatory opinion on congestion management and to find a harmonised way of applying Congestion Management Guidelines within the Nordic electricity markets. The work started by compliance reporting of Congestion Management Guidelines under Regulation 1228/2003. The first NordREG compliance report was published in autumn 2007

As foreseen in the NordREG Work Programme, the work has continued in 2008 in order to establish a common understanding how to monitor the implementation of the Congestion Management Guidelines and other relevant issues for co-operation among Nordic regulators in the context of the Congestion Management Guidelines.

In the report it has been identified the issues requiring Nordic approach in the implementation of the Congestion Management Guidelines. Furthermore, some clarifications from Nordic perspective in implementation have been discussed and also issues irrelevant for the Nordic interconnections have been identified and reasons omitting these issues in Nordic interconnections have been given.

This report presents the process for supervision and monitoring of the Congestion Management Guidelines to be executed in the Nordic interconnections. This process includes regulators' reviews as well as national and Nordic consultations on procedures applied by the TSOs according to the Congestion Management Guidelines. Furthermore, the process includes also the monitoring of effects of applied procedures on the Nordic market and revision of procedures where appropriate.

The Congestion Management Guidelines require that some issues shall be subject to regulators' approval. In this context the regulators' powers in the national legislation and European legislation are addressed in the report. Common evaluation criteria for reviews of rules and procedures have been developed according to the framework given in the Regulation and the annexed Congestion Management Guidelines.

Monitoring the efficiency of the Congestion Management methods and the effect of the Congestion Management methods to the market integration and competition falls for the competence of the regulators in the development of the Congestion Management methods. To address these issues for further development of the Congestion Management methods NordREG has proposed indicators to be followed.

1 Introduction

1.1 Background

The NordREG Work Programme includes the Task “Implementation of Congestion Management Guidelines” under the strategic priority “Regulation of the TSOs”. Among the objectives of the strategic priority are to promote adequate transmission capacity and efficient market-based congestion management methods.

Congestion management has a great impact on the efficient functioning of the Nordic electricity market. A common coordinated congestion management method is important in order to achieve a further integration of the Nordic electricity market, as well as the interaction with other European markets.

Congestion Management Guidelines (CM Guidelines) under Regulation (EC) 1228/2003 were amended at the beginning of December 2006. The aim of the Task under NordREG Work Programme is to establish a common Nordic regulatory opinion on congestion management and to find a harmonised way of applying the CM Guidelines within the Nordic electricity market. The project will utilise the work made during the years 2006 and 2007 within NordREG on the present congestion management principles¹.

During the years 2007 and 2008 the NordREG Congestion Management Working Group has worked on following issues:

- Compliance reporting of the CM Guidelines
- Establish a common understanding on how to monitor the implementation of the CM Guidelines
- Procedures how CM methods are published
- Co-operation among the Nordic energy regulators in the context of the CM Guidelines
- Regulators’ role in the development of CM methods

The first report during 2007 has concentrated on reporting compliance with the CM Guidelines. Compliance report was published in autumn 2007 basically elaborating the report from the same questionnaire that was used by ERGEG for first compliance reporting². In the Nordic compliance report only interconnectors between the Nordic countries, i.e. the interconnectors between Finland-Sweden, Finland-Norway, Sweden-Denmark, Sweden-Norway and Denmark-Norway were considered. Interconnectors ending in non-Nordic countries, i.e. Sweden-Poland, Sweden-Germany, Denmark-Germany, Finland-Estonia, Finland-Russia, were not considered in the compliance report and will not be considered in this report with regard to the implementation of CM Guidelines. Only short description of presently applied methods is introduced in Chapter 1.2.

¹ NordREG, Congestion Management in the Nordic Region - A common regulatory opinion on congestion management, Report 2/2007, available at website www.nordicenergyregulators.org

² ERGEG First Compliance report, 2007, available at website: www.energy-regulators.eu

This somewhat limited approach should be seen as a first step. To concentrate first on how to interpret and implement the CM Guidelines in the Nordic electricity market will make the problem easier to handle and also allow a consistent way of interpreting the guidelines in a market having for short time frame day-ahead implicit auctions and for the longer time frame applying forward financial markets. The lessons learnt from this exercise can be used later as a starting point for the next step to take a broader view with more variations in methods and procedures for congestion management, i.e. including the whole Northern Europe region as requested in CM Guidelines.

For the integration and co-ordination between the Nordic market as a part of Northern Europe (including also Germany and Poland) defined in the guidelines, the interconnectors to central Europe are vital and they have to be taken into account when implementation within Northern Europe region is considered. This requires co-operation between all regulators within the region, i.e. Denmark, Norway, Sweden, Finland, Germany and Poland. Furthermore, there are also interconnectors between Finland and Estonia and Norway and the Netherlands that need to be taken into consideration in this wider context. Some of the work will be done within the ERGEG regional initiative for the Northern Region.

In parallel to the implementation on the Nordic level, ERGEG produced the first compliance evaluation of the Regulation at the European level (ref. footnote 1). This evaluation addressed tariffication, inter-TSO compensations and exemptions on interconnectors in addition to congestion management. ERGEG required further development for implementation and thus concluded that it will continue the work on the CM Guidelines to provide recommendations on interpretations and, where necessary, recommendations on amendments to the CM Guidelines. ERGEG has prepared and published the second compliance report in year 2008³. For this compliance report ERGEG has worked on more detailed interpretation of Guidelines and criteria for compliance monitoring (Criteria Paper).⁴ To ensure the coherence in the European context these criteria will be basis also for the Nordic regulators' work on the issue. However, there are some issues where some clarification might be needed from the Nordic point of view. Furthermore, some issues may not be relevant to the Nordic market. In this report these issues have been identified and clarified.

The Regulation 1228/2003 and CM Guidelines apply to issues relating to cross-border transactions. According to the definitions of the Regulation 1228/2003 congestion means a situation in which an interconnection linking national transmission networks, cannot accommodate all physical flows resulting from international trade requested by market participants, because of a lack of capacity of the interconnectors and/or the national transmission systems concerned. It is also stated in the CM Guidelines that TSOs may not limit interconnection capacity in order to solve congestion inside their own control area and that TSO shall take into account the effect on neighbouring country when balancing the network inside the control area through operational measures (CM Guidelines 1.7 and 1.8). Taking into account these provisions and transparency requirements set in Chapter 5 it's clear that the regulators cannot limit their monitoring only to capacities on the certain

³ ERGEG, Regulation (EC) 1228/2003 Compliance Monitoring - Second Report, September 2008.

⁴ ERGEG, Compliance with Regulation 1228/2003 and Congestion Management Guidelines – Criteria for Compliance, Ref: E07-EFG-25-03, 10 December 2007

interconnections between the national systems, but they have to have wider perspective on electricity system to be able to ensure the compliance with the guidelines. So it is important that the regulators, when monitoring the compliance with the CM Guidelines, take into account also the TSO's actions which primarily affect on its own control area, but which might have an effect on neighbouring country.

1.2 CM methods applied from the Nordic countries to other countries

Interconnection between Norway and Netherlands

The NorNed-cable between Norway and Netherlands is a 700 MW HVDC interconnection. It has been in commercial operation since May 2008. The Norwegian TSO, Statnett, and the Dutch TSO, TenneT, are the owners of the cable. In Statnett's Licence for NorNed trade issued by the Norwegian Ministry, it is stated clearly the day ahead trade is to be based on efficient implicit auctions. This is the primary objective and the primary range of application of the cable. This requirement has not yet been fulfilled due to different gate closure times. As a temporary solution the capacity is allocated through explicit auctions. However, the temporary exemption from the implicit auctions obligations in Statnett's licence is only valid until 01 January 2009.

More specifically, the temporary solution of today involves day-ahead auctioning of physical transmission rights. The transmission capacity made available to the market is jointly determined by Statnett and TenneT and informed to the market the day before execution. This capacity is firm or binding to the TSOs. The "use-it-or-lose-it" principle is applied to transmission rights obtained on the NorNed auction. This means that capacity not nominated by the market players will not be utilised.

Interconnections between Denmark and Germany

Denmark is linked to the continental Europe by AC interconnectors from bidding area DK 1 in Jylland and by a DC link from bidding area DK 2 Kontek. The AC interconnectors in Jylland consist of a double 380 kV tie line and two 220 kV tie lines. Capacity available to the market is set to 1500 MW northbound and 950 MW southbound. The lines are unmeshed, capacity is netted and set firmly by the TSOs.

Congestions are handled by yearly and monthly auctions and work is underway to introduce day-ahead volume market coupling. Presently, market coupling is suspended until first quarter of 2009.

The capacity of the Kontek interconnector is 600 MW and 550 MW is available to the market in both directions. The line is unmeshed and netted. Since October 2005 congestions in the Kontek interconnector have been handled by implicit auctions by Nord Pool Spot.

Volume market coupling between Germany and Denmark will also embrace the Kontek line. However, yearly and monthly capacity rights are not available in the Kontek interconnector.

“Merchant lines”

SwePol Link and Baltic cable are operated as “merchant lines”, i.e. the owners have priority rights to the capacity. The costs for the cables are covered by the users and no part of the costs is included in the calculation of the respective national grid tariffs.

Within the ERGEG Northern Europe Regional Initiative an Implementation Group: “IG Optimizing the use of interconnectors – SwePol Link and Baltic Cable has been working with the aim of proposing capacity allocation and congestion management mechanisms for Baltic Cable and SwePol Link which aligns them as much as possible with other interconnectors between Nordel area and continental Europe .

The Implementation Group has not reached a common view regarding the interpretation of the legal situation for SwePol Link and Baltic Cable. The cables do not have and could not have an exemption according to Article 7 on the regulation No 1228/2003 since they are not new interconnectors but have been built before the entry into force of the Regulation.

Despite diverging views regarding the legal situation, the group has proposed that the cables should move towards day ahead market coupling as soon as the necessary conditions are met.

a) Interconnection between Sweden and Poland

Swe Pol Link is a HVDC line between Karlshamn, Sweden and Slupsk, Poland with a nominal capacity of 600 MW. The project was decided in 1995 and has been operational since the year 2000. The HVDC cable and the converter stations are owned and operated by Swe Pol Link AB. The company is owned by Svenska Kraftnät (51%), PGE SA (33%) and Vattenfall AB (16%). The utilisation right of the transmission capacity on the Swe Pol Link is allocated to Vattenfall AB and jointly used by Vattenfall AB and PGE. The utilisation is based on expected hourly market prices with power flow in direction towards the higher market price on an hourly basis for the following day. There are options to sell utilisation rights to third parties, but these options have never been used. A conditional plan has been presented for the introduction of market coupling.

b) Interconnection between Sweden and Germany

Baltic Cable is a HVDC line between Arrie, Sweden and Lübeck, Germany with a nominal capacity of 600 MW. The cable has been operational since 1994. The HVDC cable as well as the converter stations are owned and operated by Baltic Cable AB. The company is owned by Statkraft Energy AS by 2/3 and E.ON Sverige by 1/3. The shareholders have priority rights to the cable capacity according to the respective shareholdings of each shareholder. The link’s capacity is exclusively used for spot-to-spot exchange on a day-by-day basis between the Swedish and German markets, as well as intraday trading. There is a possibility to sell unused capacity to third parties, but this option has not been utilized.

The intention of Baltic Cable AB is to join the planned market coupling between EEX and Nord Pool Spot when the market coupling between Germany and Denmark is operational, i.e. during the first quarter of 2009.

Interconnection between Finland and Estonia (Estlink)

Between Finland and Estonia is a 350 MW direct current interconnection, which has exemption under Article 7 of the Regulation. According to the exemption transmission capacity of this interconnection is reserved for long, medium and short time frames, i.e. until day-ahead market in Nordic countries are closed, to the owners of the interconnection. Transmission capacity left unused after day-ahead market by the owners (i.e. in the intra-day time frame) has to be given to the market. For this purpose, web-based platform has been established, where the unused capacity is sold using explicit auctions.

Nord Pool together with the owners of the interconnection and the Finnish and Estonian TSOs have studied during the year 2008 the possibility to release all transmission capacity or part of it to the market by forming a bidding area 'Estlink'.

Interconnection between Finland and Russia (400 kV lines)

Transmission capacity between Finland and Russia is about 1400 MW on three 400 kV interconnections. Presently power can only be transferred from Russia to Finland. Transmission capacity is allocated annually by auctions arranged by the Finnish TSO. Here only the amount of transmission capacity can be auctioned. Previously some part of the capacity has been allocated for three years but nowadays allocations are annual.

2 Compliance monitoring – identification of issues requiring Nordic approach

2.1 Introduction

ERGEG has published its first interpretation of the CM Guidelines and criteria for compliance monitoring.⁵ To ensure the coherence in the European context these criteria should be the basis also for the Nordic regulators' work on the issue. However, there exist some issues which might require more details in interpretations and further clarifications to ensure consistent interpretation within the Nordic market context. This Nordic work may also introduce some adjustments to the criteria on the European level.

The compliance with the CM Guidelines is mainly considered for interconnections between countries. However, these interconnections may include several cross-border lines across the border between the countries in question. In compliance reporting only transparency (Chapter 5) and use of congestion income (Chapter 6) address compliance by the TSO (or on country level with several TSOs within a country) as a whole as opposed to assessing compliance per each interconnector. This approach is also applied in this report which enables compliance evaluation separately for Nordic interconnections having implicit auctions and later on for interconnections from Nordic countries to other European countries.

2.2 Implementation – clarifications from Nordic perspective

The Nordic implementation relies on previous work by ERGEG on interpretation of the CM Guidelines and criteria for compliance monitoring⁶. This chapter deals with issues where some clarification and more detailed interpretation might be needed from the Nordic point of view.

2.2.1 Article 2.8 and Article 3.3

According to the CM Guidelines (2.8 and 3.3) all interconnection capacity may be allocated through implicit auctioning and through day-ahead allocation in regions where forward financial electricity markets are well developed and have shown their efficiency. According to the ERGEG's criteria for compliance relevant authorities should analyse that markets are well developed. Report on this should be published and it should explain the applied criteria, analysis and the evaluation based on these criteria.

⁵ See note 4 above.

⁶ See note 4 above.

The NordREG's preliminary view is that the Nordic forward financial market meets the above mentioned criteria and so it is possible to allocate all interconnection capacity between the Nordic countries through implicit auctioning and through day-ahead allocation. However, this has to be analysed and the results of the analysis have to be published to meet the ERGEG's criteria. Some analysis exists already from Nordic financial markets, but analyses from different sources have to be collected, applied criteria to be developed and evaluation and analysis based on these has to be published. Here the co-operation between regulators and other authorities is foreseen to assess and prove that Nordic forward financial markets are well developed and have shown their efficiency. Meeting the requirements set in Article 2.8 is vital for Nordic implementation, because this provides for many issues to be regarded as irrelevant in Chapter 2.3 for the Nordic interconnections.

2.2.2 Article 1.7

According to Article 1.7 "When defining appropriate network areas in and between which congestion management is to apply, TSOs shall be guided by the principles of cost-effectiveness and minimisation of negative impacts on the Internal Electricity Market. Specifically, TSOs may not limit interconnection capacity in order to solve congestion inside their own control area, except for the above mentioned reasons and reasons of operational security. If such a situation occurs, this shall be described and transparently presented to all the users by the TSOs. Such a situation may be tolerated only until a long-term solution is found. The methodology and projects for achieving the long-term solution shall be described and transparently presented to all the users by the TSOs."

Additional interpretation given by ERGEG has concentrated here on transparency of the reasons for such limitations. If such a situation occurs, this shall be described and transparently presented to all the users by the TSOs. ERGEG criteria for compliance with Article 1.7 includes that the reasons explaining the limitations of transmission capacity on interconnectors emerging from internal congestions have been described and transparently presented on website of TSO or power exchange (at time of capacity publication). Reports on reductions and reasons shall be published by TSOs.

Furthermore, according to ERGEG interpretation the methodology and projects for achieving the long-term solution shall be described and transparently presented to all the users by the TSOs. ERGEG criteria for compliance with this Article includes that the TSO has found a long-term solution to solve the internal congestions and their impact on interconnector capacity. The TSO has described and transparently presented (on the website) the methodology and projects with time table for achieving long-term solution to solve the problem of limiting interconnection capacity in order to solve congestions inside their control area. In addition, the TSO has sent the description to solve the problem with timetable to the relevant NRA.

The transparency requirement set in Article may be met in the Nordic market through the present Nord Pool Spot procedures, where reasons for limitations are published according to predefined categories (codes for capacity reduction reasons and codes for area/location). However, the applicability of these codes should be monitored through reports on reductions and reasons to evaluate if revisions to these codes should be made. To ensure transparency in situations when interconnection capacity is limited procedures

should be developed including also monitoring by the regulators (e.g. in the context of indicators discussed later on in this report).

Nordic Grid Plan largely meets the requirements set for finding and describing the long-term solution in order to solve congestions inside the control area and impact on interconnection capacity. These long-term solutions are usually grid investments and their commissioning may take several years. The CM Guidelines states that such situation may be tolerated until a long-term solution is found. The Guidelines does not give clear requirements how in CM methods these very long time spans to invest in the grid to relieve internal congestions should be taken into account. It only requires that TSOs shall be guided by the principles of cost-effectiveness and minimisation of negative impacts on the Internal Electricity Market when defining appropriate network areas in and between which congestion management is to apply. This requirement applies also within TSO internal network in the context when internal congestions are to be moved to the interconnections.

In the Nordic market studies TSOs, EMG and regulators have tried to address this issue but solution has not yet been found. However, it is vital that solutions based on cost-effectiveness and minimisation of negative impacts on the IEM to handle internal congestions for the interim time frame (from identification of grid reinforcement until commissioning of new infrastructure) shall be developed. Here the role of TSOs is crucial. To achieve results the required regulatory policy to solve congestion management during the interim period (i.e. before long-term investments are commissioned) should be developed by Nordic energy policy makers and implementation should be monitored by the Nordic regulators. This policy may include also issues on network investments and monitoring the realisation of the investment plans.

2.2.3 Article 1.10

Article 1.10 requires that “the national Regulatory Authorities shall regularly evaluate the congestion management methods, paying particular attention to compliance with the principles and rules established in the present Regulation and Guidelines and with the terms and conditions set by the Regulatory Authorities themselves under these principles and rules. Such evaluation shall include consultation of all market players and dedicated studies.” Regular evaluation of the CM methods requires that evaluation process should be defined including consultation of market players and dedicated studies. Furthermore, there is need for co-ordination between national, regional and European level.

ERGEG’s compliance reporting at the EU level includes also public consultation on the ERGEG compliance report. ERGEG has plans to revise the criteria report based on the experience gained from monitoring exercises. The Nordic regulators have contributed to this compliance monitoring by providing requested information to the ERGEG data bases and ensured that interpretations across the interconnections are consistent.

When assessing the appropriate context for compliance assessment, NordREG prefers to co-ordinate and publish the compliance report at the European level. However, it is possible to use the information provided by Nordic regulators in case separate Nordic compliance reporting and consultations are needed. NordREG proposes that Nordic compliance reporting will be prepared only when regulators consider it necessary, especially in cases when new solutions related to congestion management are

implemented in the Nordic market and new studies or analyses have been published. National evaluations should be made only on special cases, where only national impacts exist.

Article 1.10 foresees also dedicated studies to be made for evaluation. At the moment NordREG does not have any plans to launch any dedicated studies but to utilize the existing reports and studies for this purpose.

Figure 1 shows the proposed evaluation process according to Article 1.10.

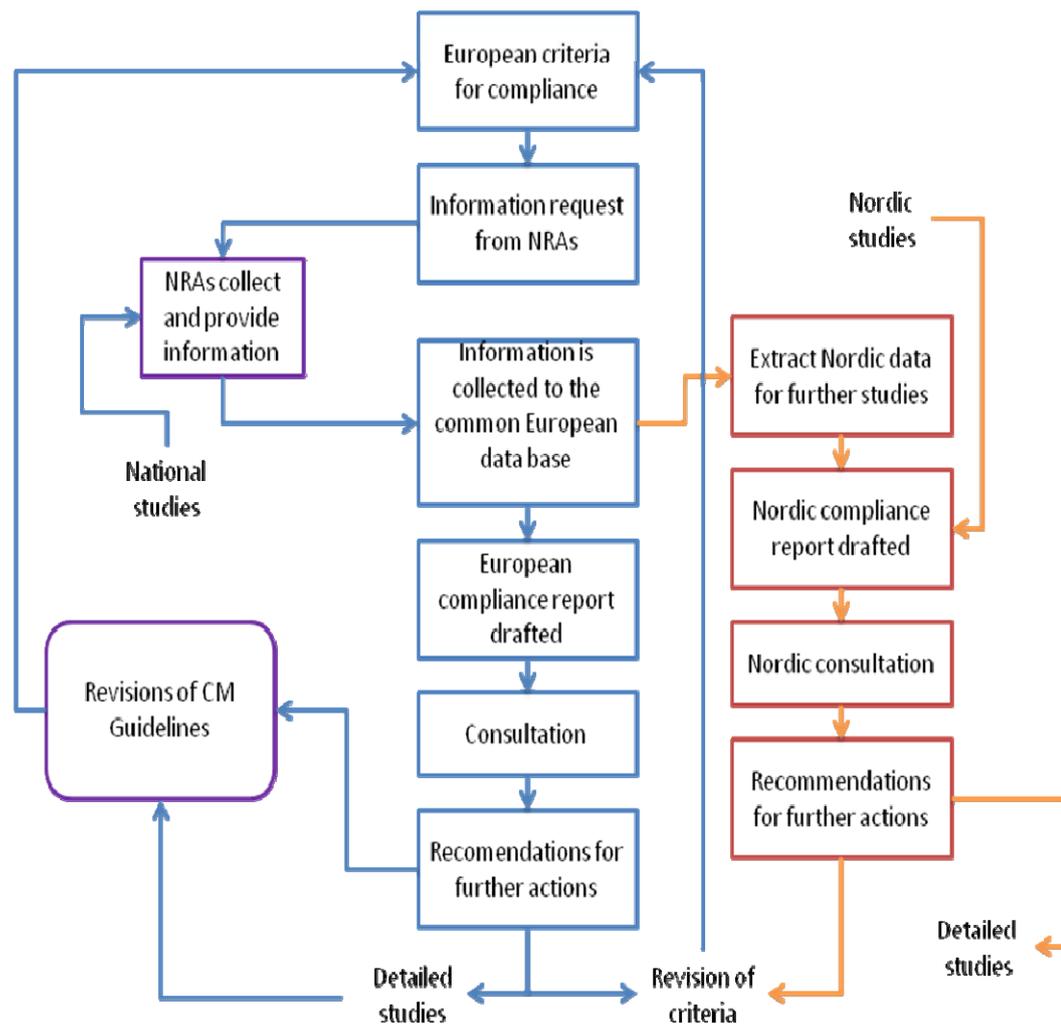


Figure 1. Proposed evaluation process for CM methods according to Article 1.10, where Nordic evaluation process is executed when appropriate.

2.2.4 Article 2.6

Article 2.6 states that “TSOs shall define an appropriate structure for the allocation of capacity between different timeframes. This may include an option for reserving a minimum percentage of interconnection capacity for daily or intra-daily allocation. This

allocation structure shall be subject to review by the respective Regulatory Authorities. In drawing up their proposals, the TSOs shall take into account: (a) the characteristics of the markets, (b) the operational conditions, such as the implications of netting firmly declared schedules and (c) the level of harmonisation of the percentages and timeframes adopted for the different capacity allocation mechanisms in place.”

In the Nordic market allocation takes place only in day-ahead and intra-day time frames and all interconnection capacity (100% of interconnection capacity) is allocated for these two short term time frames. Between these two timeframes allocation principle has been defined in a way that all remaining unused interconnection capacity from day-ahead allocation can be used for continuous intra-day trading (Elbas market) under the principle first-come-first-served. From year 2009 all Nordic interconnections will apply these allocation principles; presently interconnections from Norway apply only day-ahead allocations.

Article 2.6 includes also the requirement that allocation structure shall be subject to review by NRAs. The process for reviewing including criteria for descriptions e.g. details, documentation and transparency, shall be discussed in Chapter 4.

2.2.5 Article 2.13

According to Article 2.13 “the financial consequences of failure to honour obligations associated with the allocation of capacity shall be attributed to those who are responsible for such a failure. Where market participants fail to use the capacity that they have committed to use, or, in the case of explicitly auctioned capacity, fail to trade on a secondary basis or give the capacity back in due time, they shall lose the rights to such capacity and pay a cost-reflective charge. Any cost-reflective charges for the non-use of capacity shall be justified and proportionate. Likewise, if a TSO does not fulfil its obligation, it shall be liable to compensate the market participant for the loss of capacity rights. No consequential losses shall be taken into account for this purpose. The key concepts and methods for the determination of liabilities that accrue upon failure to honour obligations shall be set out in advance in respect of the financial consequences, and shall be subject to review by the relevant national Regulatory Authority or Authorities.”

According to the Nordic TSOs, in the Nordic market the above-mentioned obligations for market participants and TSOs are defined in Nord Pool Spot rules. However, the Nord Pool Spot rules shall be checked to ensure that obligations, including also compensations, are unambiguous and transparently included in when regulators will review the concepts and methods for liabilities in case of failures to honour obligations as required by Article 2.13. TSOs’ liability to compensate the market participant for the loss of capacity shall be set in advance. This TSO liability should be defined also in the rare cases when enough counter trading may not be applied (i.e. not enough resources to counter trading) to maintain firm interconnection capacity. Only in case of ‘force-majeure’ market participants shall not receive compensations from the TSOs when interconnection capacity has been curtailed according to the Article 6.2 of the Regulation 1228/2003.

NordREG will consider these issues when reviewing the liabilities included in the Nord Pool Spot rules. Amount of compensations shall be also discussed within the ERGEG

work on firmness according to the Work Programme for year 2008 and continuing in 2009.

2.2.6 Article 3.2

Article 3.2 requires that “a common coordinated congestion management method and procedure for the allocation of capacity to the market at least yearly, monthly and day-ahead shall be applied by not later than 1 January 2007 between countries in the following regions: (a) Northern Europe (i.e. Denmark, Sweden, Finland, Germany and Poland), (b) North-West Europe (i.e. Benelux, Germany and France), (c) Italy (i.e. Italy, France, Germany, Austria, Slovenia and Greece), (d) Central Eastern Europe (i.e. Germany, Poland, Czech Republic, Slovakia, Hungary, Austria and Slovenia), (e) South-West Europe (i.e. Spain, Portugal and France), (f) UK, Ireland and France, (g) Baltic states (i.e. Estonia, Latvia and Lithuania). At an interconnection involving countries belonging to more than one region, the congestion management method applied may differ in order to ensure the compatibility with the methods applied in the other regions to which these countries belong. In this case the relevant TSOs shall propose the method which shall be subject to review by the relevant Regulatory Authorities.”

A common coordinated congestion management method and procedure for allocation of capacity at day-ahead has been applied in Nordic interconnections (i.e. interconnections between Denmark – Sweden, Denmark – Norway, Norway – Sweden and Finland – Sweden). However, with interconnections from Nordic countries to Germany and Poland more coordination is required to meet the requirement for a common coordinated CM method and allocation procedure in the Northern Europe region.

All Nordic interconnections belong only to one region, i.e. Northern Europe region, and thus review process of the CM method is not applicable as requested by CM Guidelines.

2.2.7 Article 3.5

According to Article 3.5 “with a view to promoting fair and efficient competition and cross-border trade, coordination between TSOs within the regions set out in 3.2 above shall include all the steps from capacity calculation and optimisation of allocation to secure operation of the network, with clear assignments of responsibility. Such coordination shall include, in particular: (a) Use of a common transmission model dealing efficiently with interdependent physical loop-flows and having regard to discrepancies between physical and commercial flows, (b) Allocation and nomination of capacity to deal efficiently with interdependent physical loop-flows, (c) Identical obligations on capacity holders to provide information on their intended use of the capacity, i.e. nomination of capacity (for explicit auctions), (d) Identical timeframes and closing times, (e) Identical structure for the allocation of capacity among different timeframes (e.g. 1 day, 3 hours, 1 week, etc.) and in terms of blocks of capacity sold (amount of power in MW, MWh, etc.), (f) Consistent contractual framework with market participants, (g) Verification of flows to comply with the network security requirements for operational planning and for real-time operation, (h) Accounting and settlement of congestion management actions.”

In the Nordic market the coordination includes already requirements (d), (e), (f) and (h) as a part of Nord Pool Spot market place. NordREG preliminary view is that also the

remaining requirement (i.e. (a), (b) and (g)) can be considered compliant with the CM Guidelines but more advanced coordinated approach is recommended to be taken by the TSOs with these requirements to foster market functioning. Regulators should also look the Nordic Grid Code (especially System Operation Agreement) in more detail e.g. the definitions on information exchange and take position on the adequacy of information exchange for ensuring the system security and efficient market functioning.

2.2.8 Article 4.1

Article 4.1 requires that “the allocation of the available transmission capacity shall take place sufficiently in advance. Prior to each allocation, the involved TSOs shall jointly publish the capacity to be allocated, taking into account where appropriate the capacity released from any firm transmission rights and, where relevant, associated netted nominations, along with any time periods during which the capacity will be reduced or not available (for the purpose of maintenance, for example).”

In the Nordic market the available transmission capacity is published for day-ahead markets some hours before the gate closure, which occurs at noon on P-1 (previous day before day for Elspot market operation). For intra-day market (i.e. the remaining capacity from day-ahead allocation) is published some hours after gate-closure for day-ahead market (i.e. previous day before Elbas market operation).

ERGEG has defined in the Criteria Paper that sufficiently in advance means in this Article P-1 where P is time period for market operation (i.e. in Nordic context day and hour). NordREG’s view is that present practises and procedures comply with the CM Guidelines. However, transparency to the regulators should be increased especially in practises within Nord Pool Spot and TSOs how capacity is allocated for intra-day market and if changes in total available capacity occur and how these changes are published to the market.

2.2.9 Article 4.4

Article 4.4 states that “when preparing day-ahead grid operation, the TSOs shall exchange information with neighbouring TSOs, including their forecast grid topology, the availability and forecasted production of generation units, and load flows in order to optimise the use of the overall network through operational measures in compliance with the rules for secure grid operation.”

System Operation Agreement defines the information exchange between Nordic TSOs. NordREG’s preliminary view is that Nordic System Operation Agreement largely includes the required exchange of information but to ensure full compliance the extent of System Operation Agreement to fulfil this requirement should be checked against the secure grid operation by regulators.

2.2.10 Articles from 5.1 to 5.9

Chapter 5 of the CM Guidelines sets requirements for transparency. The transparency requirements applied in the Nordic market include the requirements set in transparency

report from the Northern ERI⁷. These requirements from the Northern ERI are also aligned with those set in the ERGEG Criteria Paper. The criteria defined in transparency report are clear with requirements for published data and time frames and no further clarification is required.

NordREG's view is that Nord Pool website can be used for publishing, but it is TSOs' responsibility to ensure that information required by the CM Guidelines is published at the Nord Pool website or at the TSO website.

2.2.11 Article 5.10

Article 5.10 requires that "TSOs shall exchange regularly a set of sufficiently accurate network and load flow data in order to enable load flow calculations for each TSO in their relevant area. The same set of data shall be made available to the Regulatory Authorities and to the European Commission upon request. The Regulatory Authorities and the European Commission shall ensure the confidential treatment of this set of data, by themselves and by any consultant carrying out analytical work for them on the basis of these data."

The network and load flow data exchange between Nordic TSOs is defined in the Nordic Grid Code. This data exchange shall occur regularly according to Article 5.10 and it should be discussed with Nordic TSOs what is the needed time frame, i.e. daily, weekly, monthly, for this data exchange to ensure secure grid operation and to make available the maximum transmission capacity for market participants. Furthermore, requirement for sufficient accuracy of the network and load flow data should be defined.

2.2.12 Articles from 6.1 to 6.6 (Chapter 6)

Chapter 6 defines the requirements for use of congestion income. According to Article 6.2 "national Regulatory Authorities shall be transparent regarding the use of revenues resulting from the allocation of interconnection capacity." The transparency requirement set in Article 6.2 is filled if Nordic regulators publish the use of revenues in Nordic market report, national benchmarking report and submit information to ERGEG compliance report. This reporting shall include the amount of revenues used for three purposes defined in Article 6.6 of the Regulation 1228/2003 (i.e. guaranteeing actual availability of the allocated capacity, investments maintaining or increasing interconnection capacity or reducing network tariffs) both in percentage of revenues and in million euros.

For NordREG Nordic market report the reporting occurs in annual timeframe and the published figures comprise the previous year. National benchmarking report includes figures from previous year (both collected revenues and use of the revenues for three purposes) and for 12-month period up to 30 June of the same year (collected revenues). ERGEG compliance report includes both collected revenues and use of these revenues.

According to the information available to the Nordic regulators the use of congestion revenues differs within the Nordic TSOs. Revenues are either used for investments or reduction of tariffs. The effects of these different approaches on competition, non-

⁷ Northern ERI report, 2007

discrimination and market integration shall be further studied by NordREG. Furthermore, the procedures to use congestion income to investment projects (i.e. how to manage and use congestion revenues for longer time spans than one year) should be defined across the Nordic market.

Reviews and verification requested in Articles 6.1, 6.3, 6.4 and 6.5 shall be discussed in more detail in Chapter 4.

2.3 Identification of issues irrelevant for the Nordic interconnections

According to the CM Guidelines both implicit and explicit auctions are allowed and this implies that some rules included in the Guidelines may not be applicable to the Nordic market due to the present market design where day-ahead implicit auctions are applied along with the forward financial markets. This chapter maps the articles under the CM Guidelines which do not have relevance to the Nordic market and gives also reasons for this non-relevance. The compliance of these non-relevant parts of the CM Guidelines shall not be monitored in the future compliance exercises as long as the present Nordic market design for congestion management remains.

2.3.1 Article 1.6

Article 1.6 requires that “no transaction-based distinction may be applied in congestion management. A particular request for transmission service shall be denied only when the following conditions are jointly fulfilled:

- (a) the incremental physical power flows resulting from the acceptance of this request imply that secure operation of the power system may no longer be guaranteed, and
- (b) the value in monetary amount attached to this request in the congestion management procedure is lower than all other requests intended to be accepted for the same service and conditions.”

This Article is not applicable in present Nordic market design, where implicit auctions applied do not allow any transaction-based distinctions and besides this all interconnection transmission capacity has been reserved for implicit auctions. Furthermore, as long as implicit auctions are applied for interconnections, request for transmission service is denied when the conditions mentioned in the Article are jointly fulfilled.

2.3.2 Article 2.2

Article 2.2 states that “depending on competition conditions, the congestion management mechanisms may need to allow for both long- and short-term transmission capacity allocation”.

Here the time frame for long-term transmission capacity allocation is for yearly, monthly and weekly time frame and capacity allocations for these time frames are not applied in Nordic market. Thus only short-term transmission capacity allocation (as day-ahead capacity allocation) is applied.

It has been agreed within Nordic market that there is no need for longer term transmission capacity allocations because forward financial markets can be considered to substitute these longer term allocations in competitive markets. Thus competition conditions don't require that both long- and short-term transmission capacity allocation are needed.

2.3.3 Article 2.4

According to Article 2.4 "TSOs shall optimise the degree to which capacity is firm, taking into account the obligations and rights of the TSOs involved and the obligations and rights of market participants, in order to facilitate effective and efficient competition. A reasonable fraction of capacity may be offered to the market at a reduced degree of firmness, but the exact conditions for transport over cross-border lines shall at all times be made known to market participants."

The purpose of the Article is to ensure firm transmission capacity to facilitate the effective and efficient competition. This might not be applicable in all situations and thus the Article requires the optimisation for a degree of firmness by the TSOs where obligations and rights of TSOs and market participants are taken into account when amount of transmission capacity and a degree of firmness are defined for each allocation.

In the Nordic market only firm capacity by the TSOs is delivered to the market participants through the day-ahead implicit auction mechanism. Firmness of capacity after day-ahead market gate closure is ensured by counter trading and a reduced degree of firmness is not applied. Effective and efficient competition is facilitated by the TSOs by delivering all capacity as firm and thus optimisation for firmness is not applied.

NordREG encourages the TSOs to make as much as possible firm capacity available for the day-ahead market.

Furthermore, market participants know the conditions for firmness all the time because no conditions exist where a reduced degree of firmness is applied.

2.3.4 Article 2.5

Article 2.5 requires that "The access rights for long- and medium-term allocations shall be firm transmission capacity rights. They shall be subject to the use-it-or-lose-it or use-it-or-sell-it principles at the time of nomination".

In the Nordic market long- and medium-term (i.e. multi-yearly, yearly, monthly, weekly) allocations do not exist. Thus this Article is not applicable in Nordic interconnections.

2.3.5 Article 2.7

Article 2.7 states that "Capacity allocation may not discriminate between market participants that wish to use their rights to make use of bilateral supply contracts or to bid into power exchanges. The highest value bids, whether implicit or explicit in a given timeframe, shall be successful."

The relevance of this Article has to be considered together with the Article 2.8 according to which "In regions where forward financial electricity markets are well developed and have shown their efficiency, all interconnection capacity may be allocated through implicit auctioning."

In Nordic market forward financial electricity markets exists and thus all interconnection capacity can be allocated through implicit auctions. Thus requirements in Article 2.7 are not applicable in Nordic market.

2.3.6 Article 2.9

According to Article 2.9, “Other than in the case of new interconnectors which benefit from an exemption under Article 7 of the Regulation, establishing reserve prices in capacity allocation methods shall not be allowed.”

On Nordic interconnections reserve prices are not applied due to the implicit auctions for the all interconnection capacity in the day-ahead time frame. Furthermore, intra-day allocations are made through continuous first-come-first-served (FCFS) principle for the interconnection capacity unused after day-ahead allocation. With intra-day allocation the capacity is served for free of charge until all available transmission capacity has been reserved (including netting in opposite directions).

The Article is not relevant in the Nordic market as long as the present market design is maintained. However, for interconnections from Nordic countries to other countries it may be relevant to address this Article to ensure that compliance for this Article is met.

2.3.7 Article 2.11

Article 2.11 requires that “Market participants shall firmly nominate their use of the capacity to the TSOs by a defined deadline for each timeframe. The deadline shall be set such that TSOs are able to reassign unused capacity for reallocation in the next relevant timeframe — including intra-day sessions.”

This Article is applicable only for explicit auctions, where firm nomination of the use of capacity is required from market participants. In implicit auctions this kind of firm nomination is not required.

In Nordic market the gate-closure for Nord Pool Spot is deadline for day-ahead timeframe and afterwards the unused capacity can be reassigned to intra-day and balancing markets accordingly. Due to Nordic market design, i.e. implicit auctions in day-ahead time frame and continuous FCFS allocation in intra-day time frame, Article 2.11 is not relevant for Nordic market.

2.3.8 Article 2.12

Article 2.12 requires that “Capacity shall be freely tradable on a secondary basis, provided that the TSO is informed sufficiently in advance. Where a TSO refuses any secondary trade (transaction), this must be clearly and transparently communicated and explained to all the market participants by that TSO and notified to the Regulatory Authority.”

This Article applies only for explicit auctions and for the Nordic market, where implicit auctions are applied, the Article is non-relevant.

2.3.9 Article 3.4

Article 3.4 requires that “Compatible congestion management procedures shall be defined in all these seven regions with a view to forming a truly integrated Internal European Electricity Market. Market parties shall not be confronted with incompatible regional systems.”

This Article has to be considered in the European context and it does not have relevance in the context of this report. However, compatibility with congestion management procedures in other regions may require modifications in the Nordic market design in the future. These kinds of changes within regions should be evaluated together with other European regulators to ensure that incompatible regional systems do not exist.

2.3.10 Article 3.5

According to Article 3.5, “With a view to promoting fair and efficient competition and cross-border trade, coordination between TSOs within the regions set out in 3.2 shall include all the steps from capacity calculation and optimisation of allocation to secure operation of the network, with clear assignments of responsibility. Such coordination shall include, in particular:

- (a) Use of a common transmission model dealing efficiently with interdependent physical loop-flows and having regard to discrepancies between physical and commercial flows,
- (b) Allocation and nomination of capacity to deal efficiently with interdependent physical loop-flows,
- (c) Identical obligations on capacity holders to provide information on their intended use of the capacity, i.e. nomination of capacity (for explicit auctions),
- (d) Identical timeframes and closing times,
- (e) Identical structure for the allocation of capacity among different timeframes (e.g. 1 day, 3 hours, 1 week, etc.) and in terms of blocks of capacity sold (amount of power in MW, MWh, etc.),
- (f) Consistent contractual framework with market participants,
- (g) Verification of flows to comply with the network security requirements for operational planning and for real-time operation,
- (h) Accounting and settlement of congestion management actions.”

In Article 3.5 requirement set in (c) is relevant only for explicit auctions and thus in Nordic market requirement set in (c) is irrelevant.

2.3.11 Article 4.2

Article 4.2 states that “Having full regard to network security, the nomination of transmission rights shall take place sufficiently in advance, before the day-ahead sessions of all the relevant organised markets and before the publication of the capacity to be allocated under the day-ahead or intra-day allocation mechanism. Nominations of

transmission rights in the opposite direction shall be netted in order to make efficient use of the interconnection.”

This Article deals with nomination of transmission rights before day-ahead and intra-day markets and publication of the capacity to be allocated under the day-ahead and intra-day mechanism. In the Nordic market these nominations and allocations are not relevant because only day-ahead and intra-day markets and allocation mechanisms exist implying that requirement set in Article 4.2 is not relevant to Nordic interconnections.

Furthermore, netting of transmission rights requested here is valid only for explicit auctions because implicit auctions apply netting inherently leading to the conclusion that Article 4.2 has no relevance for Nordic interconnections.

2.3.12 Article 5.5

According to Article 5.5 (g) TSOs shall publish at least total capacity used, by market time unit, immediately after nomination. This Article is applicable only for explicit auctions and thus irrelevant for the Nordic interconnections.

3 Process for the Nordic supervision and monitoring

3.1 Introduction

The Nordic market differs from the other European markets since interconnection capacity is allocated only through implicit auctions. The CM Guidelines require that competent regulators oversee TSO's actions. Therefore, this chapter discusses how regulatory supervision could take place in the Nordic context.

The CM Guidelines set requirements on which information should be published by the TSOs in order to be compliant with the CM Guidelines. This includes, among other things, that the TSOs, in order to ensure transparency, shall publish all relevant data related to network availability, network access and network use including a report on where and why congestion exists. Further, it is required that TSO's publish a general description of the congestion management method applied under different circumstances for maximising the capacity available to the market and a general scheme for the calculation of the interconnection capacity for the different timeframes based upon the electrical and physical realities of the network. It is also required that all relevant data concerning cross-border trade on the basis of the best possible forecast. The published information shall be subject to review by Regulatory Authorities.

Since Nord Pool Spot plays an important role in Nordic congestion management, the regulatory oversight regarding congestion management must also be extended to monitoring how Nord Pool Spot deals with these tasks. The interface between TSOs and NPS is crucial here and has to be closely examined by the regulators to ensure compliance with the CM Guidelines. However, it should be emphasized that responsibilities defined in the CM Guidelines lie always within TSOs and they have to take care of that these responsibilities are fulfilled although they are carried out by Nord Pool Spot.

3.2 Process for monitoring and supervision

The monitoring and supervision conducted by the Regulatory Authorities shall ensure compliance with the CM Guidelines. The efficiency of the compliance monitoring, to some extent, will depend on how detailed the monitoring is. The more often the TSO's are required to report and provide information, the more will the TSO's be inclined to achieve compliance with the CM Guidelines. Furthermore, regular information flow will give the Regulatory Authorities relevant information on how the implementation of the CM Guidelines is progressing. However, one should also note that the involved parties would have to dedicate more resources into the task of monitoring and reporting depending on the frequency of monitoring and reporting. To make this monitoring process effective the areas that are not that transparent to the regulators are addressed first by providing information and data to the regulators so that they can conduct studies and define indicators for evaluating the CM methods and their effect on the Nordic market.

According to the CM Guidelines (1.10) the national Regulatory Authorities shall regularly evaluate the congestion management methods. ERGEG's view is that Regulatory Authorities shall pursue evaluations within the context of the ERGEG compliance report. Proposal for this evaluation according to Article 1.10 has been presented in Chapter 2.2. The results of the evaluations can be used for launching dedicated studies, revisions of ERGEG criteria or revision of the CM Guidelines if appropriate. Furthermore, as stated previously, some indicators shall be developed by NordREG for evaluating the existing congestion management methods in the Nordic context. These indicators are discussed in more detail in Chapter 5.

The Nordic process to supervise how the TSOs meet compliance with the CM Guidelines could look as follows (Figure 2):

- Nordic TSOs prepare procedures/issues to meet the requirements set to them in CM Guidelines and implement them in their operation
- These procedures/issues are published to the market participants (if required by CM Guidelines) – transparency of TSO procedures should be fostered
- TSO shall either inform NRA about the procedures/issues or send the procedures/issues for subject to review / approval for NRA if requested by CM Guidelines
- NRA shall review the procedures / issues sent by the TSO – review process shall include national consultation and consultation with Nordic regulators.
- Review will result in NRA's view together with consultation results
- Change of TSO procedure /issue will initiate a new review process if requested by the CM guidelines (or only informing NRA and market participants)

This process follows the process set by the ERGEG in the ERGEG Criteria Paper. When reviewing or approving of proposed procedures / issues takes place regulators should have in place common evaluation criteria, which shall be based on the principles stated in the Regulation 1228/2003 and the CM Guidelines. These evaluation criteria are discussed in Chapter 5, where the issues requiring regulators' review or approval are dealt in more detail.

Review process of procedures / issues for congestion management should be made between involved regulators and practically there exists no issue without cross border effects (implying that NRAs on both sides of the border have to be involved in review process). In the Nordic market this implies that all Nordic regulators shall be consulted during reviews. This consultation with involved NRAs shall be aligned with national consultation process. Furthermore, as a first step the Nordic regulators should check how consistent the documentation provided presently by the Nordic TSOs for different rules and procedures subject to review actually is and are there relevant rules on the national level besides the rules set in the Nordic Grid Code and Nord Pool Spot rules. This task will include the mapping of relevant documentation and differences found.

To monitor the effects of applied procedures and issues on the Nordic market indicators for monitoring should be developed by the NordREG. Annual monitoring of the

efficiency of applied CM methods will be based on these indicators. Indicators are discussed in more detail in Chapter 5.

Common compliance reporting by the European energy regulators occurs in the context of ERGEG compliance reporting. NordREG may publish the compliance report concentrating on the Nordic issues (with Nordic consultation) when appropriate as proposed in Chapter 2.2 (Figure 1).

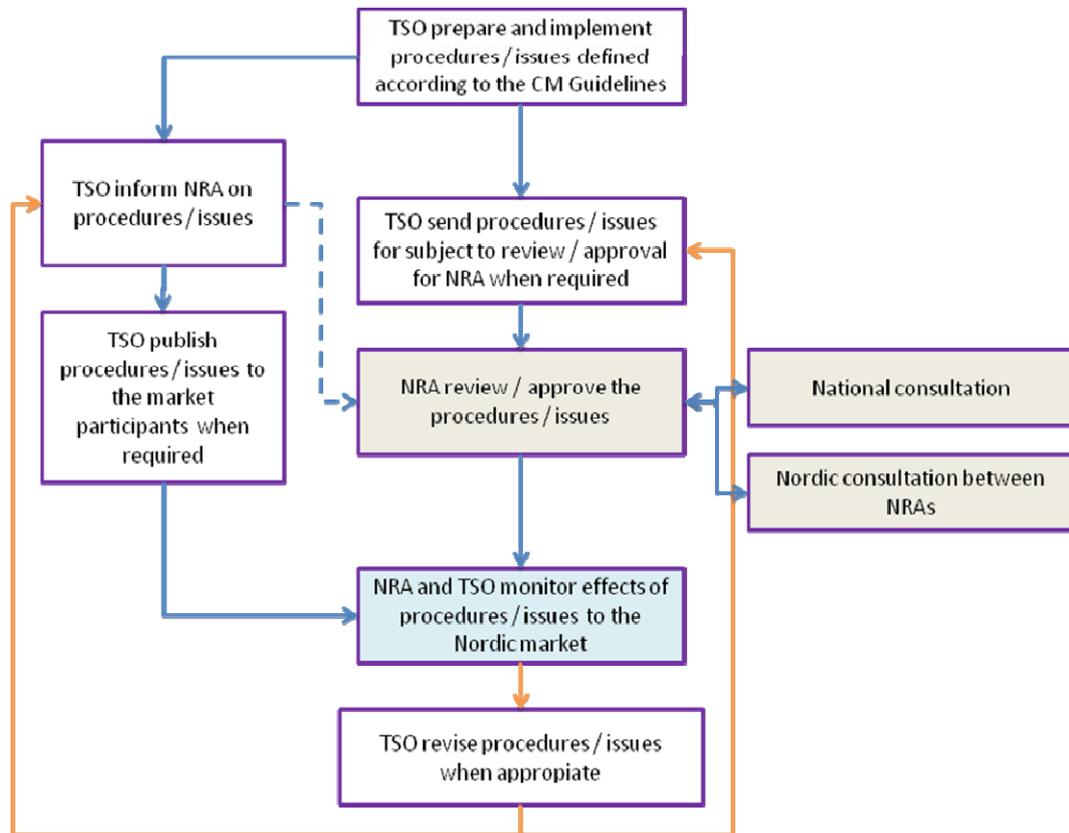


Figure 2. The Nordic process to supervise how the TSOs meet compliance with the CM Guidelines.

4 Issues requiring regulators' approval

4.1 Introduction

The role of regulators in the congestion management are determined in national and European legislation, that is the Regulation 1228/2003 on conditions for access to the network for cross-border exchanges in electricity and the amended Annex on congestion management to the Regulation, which are legally binding documents in all Member States.

In the following sections the recognized tasks and responsibilities of the regulators are dealt with in relation to the Regulation 1228/2003 and the annexed CM Guidelines. A recognised task or a responsibility is set up in a square.

4.2 Regulators' powers in national legislation

According to the article 9 of the Regulation 1228/2003 the regulatory authorities, when carrying out their responsibilities, shall ensure compliance with this Regulation and the guidelines adopted pursuant to the Article 8 of the Regulation. Where appropriate to fulfill the aims of the Regulation they shall cooperate with each other and the Commission. This implies that regulators shall be given the powers within their national legislation to meet the responsibilities set in the Regulation.

The review and approval process for the CM Guidelines may differ depending on national legislation ranging from ex-ante approval to ex-post monitoring. Sometimes the process may only consist of providing information to the NRA either orally or in written format and afterwards the NRA has some time to act if revisions to the rules and the procedures are needed.

In Finland the Energy Market Authority (EMV) supervises that the provisions of the Regulation 1228/2003 are complied with. If anyone infringes against or neglects his obligations laid down in the Regulation (EC) 1228/2003, the Energy Market Authority shall oblige him to correct his mistake or omission. In practice this means that EMV has to make ex-post decisions on rules and procedures in the CM Guidelines to ensure compliance. The Energy Market Authority may order in the obliging decision how the mistake or omission should be mended. In addition the Energy Market Authority may impose a conditional fine to make the decision effective.

In Denmark both DERA and Danish Energy Agency have supervisory powers as regards to the Regulation 1228/2003.

In Sweden it is stated in the Electricity Act that the Energy Markets Inspectorate is the Regulatory Authority according to Article 9 of Regulation (EC) 1228/2003. Hence, the Energy Markets Inspectorate is the supervisory body of the Regulation's full practical implementation in Sweden.

In Norway the Norwegian Water Resources and Energy Directorate (NVE) oversees that the energy market is functioning efficiently. This includes ensuring compliance with the provisions of Regulation (EC) 1228/2003. NVE has the powers to supervise and impose sanctions in the case of non-compliance. Regular meetings with relevant market institutions (i.e. TSO and power exchange) are one supervisory instrument NVE uses to monitor compliance with the obligations of the CM guidelines. When these obligations are found to be neglected NVE may use individual decisions or compulsory fines to correct non-compliant behaviour.

4.3 European legislation

Article 6 in the Regulation 1228/2003 contains the framework conditions of congestion management which are defined in more detail in the amended Annex for congestion management. Furthermore preamble and Article 9 to the Regulation set responsibilities to regulators.

4.3.1 Preamble and Article 9 of the Regulation

According to preamble (20) of the Regulation national regulatory authorities should ensure compliance with the rules contained in the Regulation and the guidelines adopted on the basis of this Regulation.

Regulators are responsible of ensuring compliance with the Regulation and Annex.

According to Article 9 the regulatory authorities, when carrying out their responsibilities, shall ensure compliance with this Regulation and the guidelines adopted pursuant to Article 8. Where appropriate to fulfil the aims of this regulation they shall cooperate with each other and the Commission.

Regulators shall cooperate with each other and the Commission where appropriate.

4.3.2 Article 6 of the Regulation

In Article 6 of the Regulation the basic roles of regulators in relation to congestion management are described. However, how the role is filled in as to monitoring have to be discussed more detailed.

Section 6.1

The Regulation states that congestion management should be:

- non-discriminatory market based solutions which give efficient economic signals to market participants and TSOs involved
- explicit or implicit (and preferentially non distance related, i.e. methods that do involve a selection between the contracts of individual market participants)
- give efficient economic signals to market participants and TSOs involved

Regulators ensure that congestion management methods applied by the TSOs are non-discriminatory and give efficient economic signals to market participants and the TSOs involved.

Regulators ensure that congestion management is handled by explicit or implicit auctions of capacity.

Section 6.2

Transaction curtailment procedures can take place in emergency situations, where the TSO must

- act in an expeditious manner and
- countertrading is not possible.

Transaction curtailment procedures shall be non-discriminatory.

Regulators ensure that transaction curtailment procedures, when applied, are justified (time limitation and countertrading is not possible) and non-discriminatory.

Market participants who are allocated capacity shall be compensated for any curtailment (unless it is a case of force majeure).

Regulators ensure that allocated capacity to market participants are not curtailed, unjustified.

Regulators ensure agreement on the definition of force majeure for each interconnection and agreement on compensation principles (in case when there is no force majeure).

Section 6.3

The maximum capacity of the interconnections and the transmission networks affecting cross border flows shall be made available to market participants, complying with safety standards of secure network operation.

Regulators ensure that the maximum capacity of the interconnections and the transmission networks affecting cross border flows shall be made available to market participants.

Regulators ensure that safety standards of secure network operation are defined for each of the interconnections and the transmission networks affecting cross border flows.

Section 6.4

Market participants shall inform the transmission system operators concerned a reasonable time ahead of the relevant operational period whether they intend to use allocated capacity. Any allocated capacity that will not be used shall be reattributed to the market, in an open, transparent and non-discriminatory manner.

This requirement will only be relevant for interconnections from Nordic countries to other European countries, i.e. in the Germany - Denmark West, Norway – Netherlands interconnections.

Regulators ensure that any allocated capacity that will not be used (and TSOs are informed timely) are reattributed in an open, transparent and non-discriminatory manner.

Section 6.5

Transmission system operators shall, as far as technically possible, net the capacity requirements of any power flows in opposite direction over the congested interconnection line in order to use this line to its maximum capacity. Having full regard to the network security, transactions that relieve the congestion shall never be denied.

Regulators ensure that no transactions that relieve congestions are denied.

Section 6.6

Any revenues resulting from the allocation of interconnection shall be used for one or more of the following purposes:

- (a) guaranteeing the actual availability of the allocated capacity;
- (b) network investments maintaining or increasing interconnection capacities;
- (c) as an income to be taken into account by regulatory authorities when approving the methodology for calculating network tariffs, and/or in assessing whether tariffs should be modified

Regulators ensure the use of congestion management income on availability of the allocated capacity, investments in maintaining or increasing interconnector capacity, tariff reductions.

4.3.3 CM Guidelines annexed to the Regulation

The role of the regulators is furthermore defined in the amended CM Guidelines annexed to the Regulation as seen in Table in Annex 1.

According to the CM Guidelines the following issues shall be approved or subject to review or reviewed by the regulators:

- TSO definition of allocation of capacity between different timeframes (Article 2.6)
- Key concepts and methods for the determination of liabilities (Article 2.13)
- A general scheme for the calculation of the interconnection capacity for the different timeframes (Article 5.2)
- Information publishing method of all relevant data concerning cross-border trade on the basis of the best possible forecast (Article 5.5)
- Procedure for the distribution of congestion management revenues (Article 6.1)
- TSOs' proposal for sharing the congestion management income (Article 6.3)

Regulators shall exercise according to the CM Guidelines transparency on the issues:

- Be transparent on how congestion management income is used (Article 6.2)
- Publication of report by July 31 on revenues collected for 12-month period up to 30 June of the same year, use made of the revenues, verification that use complies with the Regulation and Guidelines and that income is devoted to one or more of the three prescribed purposes.

Regulators shall ensure according to the CM Guidelines that

- confidential treatment of network and load flow data (Article 5.10)
- that no congestion management procedure with significant effects on physical electric power flows in other networks is devised unilaterally (Article 3.1)

Furthermore, regulators shall

- verify that use of congestion revenues complies with present Regulation and that the total amount of congestion income resulting from the allocation of interconnection capacity is devoted to one or more of the three purposes described in Article 6(6) of Regulation (Article 6.4)
- evaluate regularly the congestion management methods, including monitoring compliance with Regulation and Guidelines, consultation of all market players and dedicated studies (Article 1.10)

Finally, according to Article 2.10 regulators and/or Competition Authority shall impose restrictions in general or on an individual company on account of market dominance.

The regulators have also a role when the rules in the Regulation and the amended Annex of congestion management are to be legally tested due to a complaint or a dispute raised by TSOs or market participants and decision on the issue or input to the appeal court/court has to be prepared by the regulator. In this case the role of the regulator depends on the powers given by the national legislation.

The process for supervision has been described in Chapter 3, where it was also identified the need for common evaluation criteria for review (i.e. subject to review, review and approve) and monitoring process for Nordic regulators.

4.4 Criteria for evaluation

Common evaluation criteria to review the rules and procedures developed by the Nordic TSOs shall be based on the framework given in the Regulation and the annexed CM Guidelines.

Besides the specific requirements set in the involved Articles, the following more general objectives and principles shall be taken into account when reviewing rules and procedures and fulfilling other supervisory tasks set in the CM Guidelines:

- promotion of the creation of a real internal electricity market,
- harmonised principles between national transmission systems,
- economic efficiency and promotion of competition,

- non-discrimination, fairness and cost-reflectiveness
- correct economic signals to TSOs and market participants,
- maximization of capacity available and the use made of it,
- transparency to network users on a non-discriminatory basis,
- secure network operation, and
- largely revenue neutral mechanisms from the point of view of TSOs.

5 Regulators' role in developing CM methods

5.1 Introduction

The basic regulatory role in the development of Congestion Management methods is to make sure that the rules in the Regulation and CM Guidelines are followed by the TSOs in the relevant region. According to CM Guidelines the regulators have an important role in reviewing the rules and the proposals made by the TSOs. This role makes it attractive for the TSOs to involve the regulators at an early stage of the rules setting process in order to avoid late requests for change by the regulators. This can especially be expected to be the case of controversial issues.

Equally, the task of the regulators to pursue “dedicated studies” regarding congestion management methods makes it natural that regulators come up with suggestions or even requests for change. On the other hand, the regulator also has the need to keep its independence in relation to the TSO.

As this discussion shows, there is a role for the regulators in the development of CM methods, but the regulators should be careful with their interaction. Especially, it can be envisaged that the regulators will need to take a more active role in situations when the relevant TSOs are not able to reach a common or at least compatible solution. It would not be enough for the regulators only to say ‘yes’ or ‘no’ to proposals – that would make the process too slow. Thus, in practice, regulators will have to take an active role if called for. An example of that is the work in the Implementation Groups “Kontek” and “Merchant lines” in the Northern regional initiative. There the regulators have played the role of facilitators and of setting the frame for the possible solutions.

In order to be able to assess the methods that are used or proposed by the TSOs, the regulators need to build competence on the issue of congestion management. This also leads to a dialogue with the TSOs that can increase the understanding of the CM methods.

The regulators and the TSOs have different roles and that should also be reflected in the way they deal with the issues. In the Nordic countries there is a foundation for a basic common understanding between regulators and TSOs on this issue, while there might be more of a conflict between these roles in other European countries.

The TSOs have their primary focus on their own control area according to the national legislation. Their incentives to cooperate are safe operation and economic efficiency. Therefore the regulatory framework of incentives for cross-border collaboration is important. The present framework for this is relatively weak. Counter trade in order to mitigate bottlenecks is costly for the TSOs. Congestions leading to price areas give TSOs income. The rules in the CM Guidelines do not give the regulators much power regarding the use of congestion income (i.e. setting three possible alternatives but not giving any priority for these alternatives). One possible solution would be to create Nordic regulatory guidelines regarding the use of congestion income.

Monitoring the efficiency of the CM methods and effects of CM methods to the market integration and competition falls for the competence of the regulators. For this purpose NordREG should develop indicators, which address these issues. Based on the trends from these indicators further development of CM methods may be requested from the TSOs.

5.2 Indicators for monitoring purposes

Monitoring the efficiency of the CM methods and their effect to the market integration and competition requires that indicators should be introduced. These indicators may fall within the scope of several indicators or combined indicator(s) reflecting characteristics of the market and power system, i.e. market structure, congestion management method and security of system. It is possible to figure out the effects of reductions in transmission capacity to price differences, reasons for these capacity reductions, annual durations of price areas, collected annual congestion income and annual costs for counter trade.

NordREG will as part of the monitoring task collect and publish annually the following indicators and analysis based on the indicators (e.g. in NordREG Market report):

- Duration of price areas, percentage of time per year for every price area existing in Nordic market; information is published in table format including at least five previous years,
- Annual congestion income for every TSO; information is published in table format including at least five previous years (publishing congestion income is required also in the CM Guidelines),
- Annual counter trade costs for every TSO; information is published in table format including at least five previous years,
- Annual duration of normal transmission capacity (NTC at Nord Pool Elspot market) per interconnection, percentage of time; information is published in table format including at least five previous years,
- Annual price difference between bidding areas; information is published in table format for previous year; (see Table 1)
- Price differences across the interconnections compared to transmission capacity; information is published annually for every interconnection in a figure format including also percentages for price differences across the interconnection (higher or equal price) and if capacity was normal (NTC) or reduced (percentages for these) (see Figure 3)
- Reasons for capacity reductions per interconnection based on Nord Pool codes for capacity reduction in Elspot; codes may be regrouped as follows: normal capacity, planned outage on interconnection, network failure on interconnection, internal congestions, other reasons; information is published in table format with percentages of the regrouped reasons for every interconnector

Table 1 presents example how annual price difference between bidding areas might be presented. Table 1 presents information for year 2007. Figure 3 presents how relationships between price differences and transmission capacity might be presented. In Figure 3 values for interconnection between Norway and Sweden has been presented during August 2007 and July 2008.

These indicators are used in analysing the efficiency of the congestion management methods, where the actual results are compared against desired functioning of the Nordic market. When analysis shows that more efficient methods are needed cost-benefit analysis for these more efficient methods shall be performed before the implementation. Furthermore, the usefulness of these proposed indicators in analysing the efficiency of the methods shall be evaluated after 2-3 years when experience has been gained. Against this experience these indicators may be adjusted where appropriate.

Table 1. Price difference between Nordic bidding areas in year 2007⁸

2007		NO1	NO2	NO3	SE	FI	DK1	DK2
		Less than						
NO1	Higher than		10%	12%	11%	13%	16%	10%
NO2		43%		6%	4%	8%	21%	10%
NO3		42%	0%		3%	7%	21%	9%
SE		40%	10%	14%		4%	19%	6%
FI		40%	11%	13%	1%		19%	6%
DK1		47%	33%	34%	27%	29%		15%
DK2		44%	26%	28%	19%	22%	23%	

⁸ NordREG, Nordic Market report 2008, Report 3/2008 available at www.nordicenergyregulators.org.

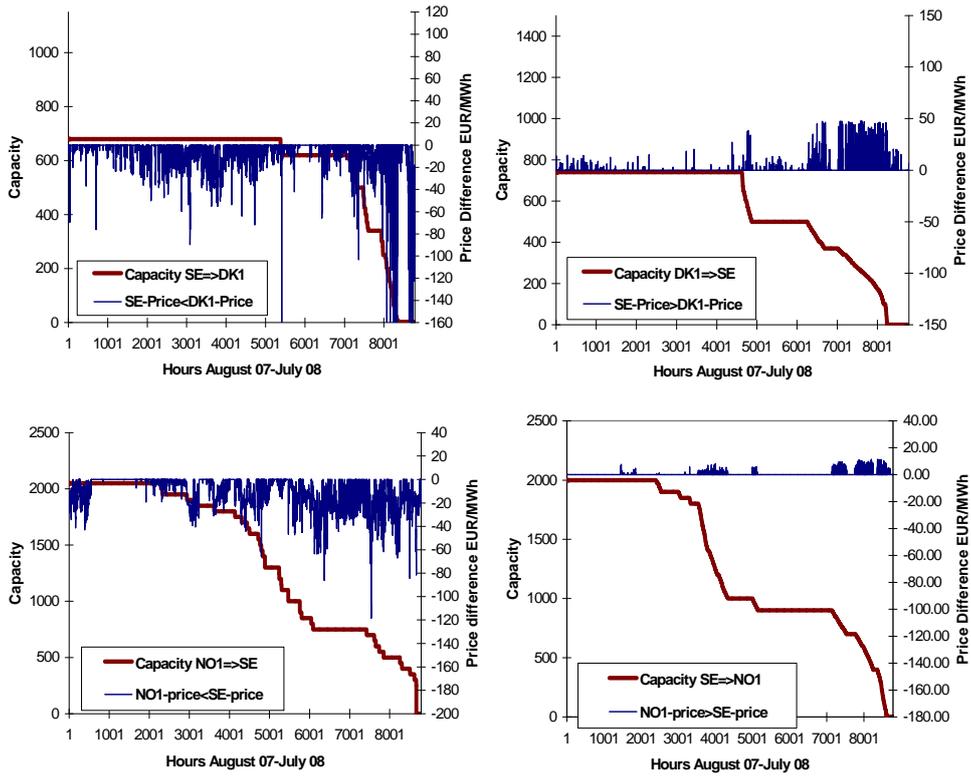


Figure 3. Duration curve of transmission capacity and price differences between southern Norway and Sweden and Sweden and western Denmark between August 2007 and July 2008.

6 Conclusions

NordREG has in the report identified the issues requiring Nordic approach in the implementation of the CM Guidelines. Furthermore, some clarifications from Nordic perspective in implementation have been discussed and also issues irrelevant for the Nordic interconnections have been identified and reasons omitting these issues in Nordic interconnections have been given.

The report presents the process for supervision and monitoring of the CM Guidelines to be executed in the Nordic interconnections. This process includes regulators' reviews and national and Nordic consultations of procedures applied by the TSOs according to the CM Guidelines. Furthermore, process includes also monitoring of effects of applied procedures to the Nordic market and revision of procedures where appropriate.

The CM Guidelines require that some issues shall be subject to regulators' approval. In this context the regulators' powers in national legislation and European legislation are addressed in the report. Common evaluation criteria for reviews of rules and procedures have been developed according to the framework given in the Regulation and the annexed CM Guidelines.

Monitoring the efficiency of the CM methods and effect of the CM methods to the market integration and competition falls for the competence of the regulators in the development of the CM methods. To address these issues for further development of the CM methods NordREG has proposed indicators to be followed.

Further work in the implementation of CM Guidelines has been identified in the report:

- NordREG will analyse that Nordic markets are well developed by applying already available material from previous studies,
- NordREG will arrange a workshop to address and review
 - o Nord Pool rules and their adequacy to comply with obligations and liabilities set to TSOs and market participants required in Article 2.13,
 - o System Operation Agreement for adequacy to comply with information exchange set in Article 3.5, Article 4.4 and Article 5.10,
- NordREG will study the possibility to create regulatory guidelines regarding the use of congestion income.

Annex 1

The role of the regulators according to the CM Guidelines

Requirements for the regulator in the amended Annex	Role of Regulator
<p>1.10 The national Regulatory Authorities shall regularly evaluate the congestion management methods, paying particular attention to compliance with the principles and rules established in the present Regulation and Guidelines and with the terms and conditions set by the Regulatory Authorities themselves under these principles and rules. Such evaluation shall include consultation of all market players and dedicated studies.</p>	<p>Evaluate</p> <p>regularly the congestion management method, including</p> <ul style="list-style-type: none"> – monitor compliance – consult market players – conduct studies
<p>2.6 TSOs shall define an appropriate structure for the allocation of capacity between different timeframes. This may include an option for reserving a minimum percentage of interconnection capacity for daily or intra-daily allocation. This allocation structure shall be subject to review by the respective Regulatory Authorities. In drawing up their proposals, the TSOs shall take into account:</p> <p>(a) the characteristics of the markets,</p> <p>(b) the operational conditions, such as the implications of netting firmly declared schedules,</p> <p>(c) the level of harmonisation of the percentages and timeframes adopted for the different capacity allocation mechanisms in place.</p>	<p>Subject to review / approve</p> <p>TSO definition of allocation of capacity between different timeframes</p>
<p>2.10 In principle, all potential market participants shall be permitted to participate in the allocation process without restriction. To avoid creating or aggravating problems related to the potential use of dominant position of any market player, the relevant Regulatory and/or Competition Authorities, where appropriate, may impose restrictions in general or on an individual company on account of market dominance.</p>	<p>Impose restrictions (by NRA and/or Competition Authority)</p> <p>in general or on an individual company on account of market dominance</p>
<p>2.12 Capacity shall be freely tradable on a secondary basis, provided that the TSO is informed sufficiently in advance. Where a TSO refuses any secondary trade (transaction), this must be clearly and transparently communicated and explained to all the market participants by that TSO and notified to the Regulatory</p>	<p>Receive notification</p> <p>of TSO refusal of a secondary trade, its reasons and publication</p> <ul style="list-style-type: none"> – not relevant for Nordic

Authority	market
<p>2.13 The financial consequences of failure to honour obligations associated with the allocation of capacity shall be attributed to those who are responsible for such a failure. Where market participants fail to use the capacity that they have committed to use, or, in the case of explicitly auctioned capacity, fail to trade on a secondary basis or give the capacity back in due time, they shall lose the rights to such capacity and pay a cost-reflective charge. Any cost-reflective charges for the non-use of capacity shall be justified and proportionate. Likewise, if a TSO does not fulfil its obligation, it shall be liable to compensate the market participant for the loss of capacity rights. No consequential losses shall be taken into account for this purpose. The key concepts and methods for the determination of liabilities that accrue upon failure to honour obligations shall be set out in advance in respect of the financial consequences, and shall be subject to review by the relevant national Regulatory Authority or Authorities.</p>	<p>Approve / subject to review</p> <p>key concepts and methods for the determination of liabilities.</p>
<p>3.1 Capacity allocation at an interconnection shall be coordinated and implemented using common allocation procedures by the TSOs involved. In cases where commercial exchanges between two countries (TSOs) are expected to significantly affect physical flow conditions in any third country (TSO), congestion management methods shall be coordinated between all the TSOs so affected through a common congestion management procedure. National Regulatory Authorities and TSOs shall ensure that no congestion management procedure with significant effects on physical electric power flows in other networks is devised unilaterally.</p>	<p>Ensure</p> <p>that no congestion management procedure with significant effects on physical electric power flows in other networks is devised unilaterally</p>
<p>3.2 A common coordinated congestion management method and procedure for the allocation of capacity to the market at least yearly, monthly and day-ahead shall be applied by not later than 1 January 2007 between countries in the following regions:</p> <p>(a) Northern Europe (i.e. Denmark, Sweden, Finland, Germany and Poland),</p> <p>(b) North-West Europe (i.e. Benelux, Germany and France),</p> <p>(c) Italy (i.e. Italy, France, Germany, Austria, Slovenia</p>	<p>In case of more than 1 region:</p> <p>Approve / subject to review</p> <p>methods of congestion management with neighbouring regulator after proposal from TSOs</p> <p>– not relevant in the Nordic market</p>

<p>and Greece),</p> <p>(d) Central Eastern Europe (i.e. Germany, Poland, Czech Republic, Slovakia, Hungary, Austria and Slovenia),</p> <p>(e) South-West Europe (i.e. Spain, Portugal and France),</p> <p>(f) UK, Ireland and France,</p> <p>(g) Baltic states (i.e. Estonia, Latvia and Lithuania).</p> <p>At an interconnection involving countries belonging to more than one region, the congestion management method applied may differ in order to ensure the compatibility with the methods applied in the other regions to which these countries belong. In this case the relevant TSOs shall propose the method which shall be subject to review by the relevant Regulatory Authorities.</p>	
<p>5.2 TSOs shall publish a general description of the congestion management method applied under different circumstances for maximising the capacity available to the market, and a general scheme for the calculation of the interconnection capacity for the different timeframes, based upon the electrical and physical realities of the network. Such a scheme shall be subject to review by the Regulatory Authorities of the Member States concerned.</p>	<p>Approval / subject to review</p> <p>a general scheme for the calculation of the interconnection capacity for the different timeframes</p>
<p>5.5 TSOs shall publish all relevant data concerning cross-border trade on the basis of the best possible forecast. In order to fulfil this obligation the market participants concerned shall provide the TSOs with the relevant data. The way in which such information is published shall be subject to review by Regulatory Authorities. TSOs shall publish at least:</p>	<p>Approve / subject to review</p> <p>information publishing method of all relevant data concerning cross-border trade on the basis of the best possible forecast</p>
<p>5.10 TSOs shall exchange regularly a set of sufficiently accurate network and load flow data in order to enable load flow calculations for each TSO in their relevant area. The same set of data shall be made available to the Regulatory Authorities and to the European Commission upon request. The Regulatory Authorities and the European Commission shall ensure the confidential treatment of this set of data, by themselves and by any consultant carrying out analytical work for them on the basis of these data.</p>	<p>Ensure</p> <p>confidential treatment of network and load flow data</p>
<p>6.1 Congestion management procedures associated with</p>	<p>Approve /subject to review</p>

<p>a pre-specified timeframe may generate revenue only in the event of congestion which arises for that timeframe, except in the case of new interconnectors which benefit from an exemption under Article 7 of the Regulation. The procedure for the distribution of these revenues shall be subject to review by the Regulatory Authorities and shall neither distort the allocation process in favour of any party requesting capacity or energy nor provide a disincentive to reduce congestion.</p>	<p>procedure for the distribution of congestion management revenues</p>
<p>6.2 National Regulatory Authorities shall be transparent regarding the use of revenues resulting from the allocation of interconnection capacity</p>	<p>Be transparent on how congestion management income is used</p>
<p>6.3 The congestion income shall be shared among the TSOs involved according to criteria agreed between the TSOs involved and reviewed by the respective Regulatory Authorities.</p>	<p>Review TSOs' proposal for sharing the congestion management income</p>
<p>6.4 TSOs shall clearly establish beforehand the use they will make of any congestion income they may obtain and report on the actual use of this income. Regulatory Authorities shall verify that this use complies with the present Regulation and Guidelines and that the total amount of congestion income resulting from the allocation of interconnection capacity is devoted to one or more of the three purposes described in Article 6(6) of Regulation</p>	<p>Verify that use of congestion revenues complies with present Regulation and that the total amount of congestion income resulting from the allocation of interconnection capacity is devoted to one or more of the three purposes described in Article 6(6) of Regulation</p>
<p>6.5 On an annual basis, and by 31 July each year, the Regulatory Authorities shall publish a report setting out the amount of revenue collected for the 12-month period up to 30 June of the same year and the use made of the revenues in question, together with verification that this use complies with the present Regulation and Guidelines and that the total amount of congestion income is devoted to one or more of the three prescribed purposes</p>	<p>Publish report by July 31 on revenues collected for 12-month period up to 30 June of the same year, use made of the revenues, verification that use complies with the Regulation and Guidelines and that income is devoted to one or more of the three prescribed purposes.</p>

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