



European Network of
Transmission System Operators
for Electricity

Network Code on Capacity Allocation and Congestion Management

27 September 2012

Notice

This Network Code represents ENTSO-E's final proposals, in line with the ACER Framework Guidelines on Capacity Allocation and Congestion Management published on 29 July 2011, developed after receiving the EC mandate letter on 16 September 2011. It reflects the comments received by ENTSO-E during the public consultation held between 23 March and 23 May 2012. Furthermore, it is based on the input received through extensive informal dialogue with stakeholders, as well as bilateral/ trilateral meetings with ACER and with the EC.

This document called "Network Code on Capacity Allocation and Congestion Management" and is submitted to the Agency for the Cooperation of Energy Regulators for its reasoned opinion to be provided pursuant to Article 6 of Regulation (EC) No 714/2009.

PURPOSE AND OBJECTIVES

ENTSO-E Network Code on Capacity Allocation and Congestion Management

Having regard to Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC,

Having regard to Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators (the Agency),

Having regard to Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003 and especially Article 6,

Having regard to the Guidelines on the Management and Allocation of Available Transfer Capacity of Interconnectors between National Systems which form an Annex to the Regulation (EC) No 714/2009,

Having regard to the priority list issued by the European Commission on 19 July 2012 and previous such priority lists,

Having regard to the Framework Guideline on Capacity Allocation and Congestion Management issued by the Agency for the Coordination of Energy Regulators on 29 July 2011,

Having regard to the draft Comitology Guideline on Fundamental Electricity Data Transparency being developed in concurrent timescales to this network code,

Having regard to the draft Comitology Guideline on Governance of Day Ahead and Intraday Market Coupling being developed in concurrent timescales to this network code,

Having regard to the request from the European Commission dated 12 September 2011 to develop a Network Code on Capacity Allocation and Congestion Management in line with the Agency Framework Guidelines on Capacity Allocation and Congestion Management prior to a date of 30 September 2012.

Whereas:

- (1) The internal market in electricity, which has been progressively implemented since 1999, aims to deliver real choice for all consumers in the European Union, be they citizens or businesses, new business opportunities and more cross-border trade, so as to achieve efficiency gains, competitive prices and higher standards of service, and to contribute to security of supply and sustainability.
- (2) Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC and Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 underline the need for an increased cooperation and coordination among transmission system operators within a European Network of Transmission System Operators for Electricity (ENTSO-E) to create network codes for providing and managing effective and transparent access to the transmission systems across borders, and to ensure coordinated and sufficiently forward-looking planning and sound technical evolution of the transmission system in the Community, including the creation of interconnection capacities, with due regard to the environment.
- (3) As stated in Directive 2009/72/EC a well functioning internal market in electricity should provide producers with the appropriate incentives for investing in new power generation, including in electricity from renewable energy sources, paying special attention to the most isolated countries and regions in the European Union's energy market. A well functioning market should also provide consumers with adequate measures to promote the more efficient use of energy for which a secure supply of energy is a precondition.
- (4) The security of energy supply is an essential element of public security and is therefore inherently connected to the efficient functioning of the internal market in electricity and the integration of the isolated electricity markets of Member States. Electricity can reach the citizens of the Union only through the network. Functioning electricity markets and, in particular, the networks and other assets associated

with electricity supply are essential for public security, for the competitiveness of the economy and for the well-being of the citizens of the Union.

- (5) Regulation (EC) No 714/2009 states that in order to ensure optimal management of the electricity transmission system and to allow trading and supplying electricity across borders in the Community, a European Network of Transmission System Operators for Electricity (ENTSO-E), should be established. The tasks of ENTSO-E should be well-defined and its working method should ensure efficiency, transparency and the representative nature of ENTSO-E. The network codes prepared by ENTSO-E are not intended to replace the necessary national network codes for non-cross-border issues. Given that more effective progress may be achieved through an approach at regional level, transmission system operators should set up regional structures within the overall cooperation structure, whilst ensuring that results at regional level are compatible with network codes and non-binding ten-year network development plans at European Union level. Member States should promote cooperation and monitor the effectiveness of the network at regional level. Cooperation at regional level should be compatible with progress towards a competitive and efficient internal market in electricity.
- (6) Regulation (EC) No 714/2009 states increased cooperation and coordination among transmission system operators is required to create network codes for providing and managing effective and transparent access to the transmission systems across borders, and to ensure coordinated and sufficiently forward-looking planning and sound technical evolution of the transmission system in the European Union, including the creation of interconnection capacities, with due regard to the environment. Those network codes should be in line with framework guidelines, which are non-binding in nature (framework guidelines) and which are developed by the Agency for the Cooperation of Energy Regulators established by Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 creating an Agency for the Cooperation of Energy Regulators (the Agency). The Agency will have a role in reviewing, based on matters of fact, draft network codes, including their compliance with the framework guidelines, and it should be enabled to recommend them for adoption by the European Commission. The Agency should assess proposed amendments to the network codes and it should be enabled to recommend them for adoption by the European Commission. Transmission System Operators should operate their networks in accordance with those network codes.
- (7) Transmission system operators are according to Directive 2009/72/EC responsible for operating, ensuring the maintenance of and, if necessary, developing the extra high-voltage and high-voltage interconnected system its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the transmission of electricity and with a view to its delivery of electricity to final customers or to distributors.
- (8) ENTSO-E has produced this network code to comply with the requirements of the Agency “Capacity Allocation and Congestion Management Framework Guideline” published on 29 July 2011.
- (9) Article 16 of Regulation (EC) No 714/2009 states that the maximum capacity of the interconnections and/or the transmission systems affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation and that network congestion problems shall be addressed with non-discriminatory market-based solutions which give efficient economic signals to the market participants and transmission system operators involved.
- (10) Recognizing the need for clear coordination between system operation, market operation and connection procedures, this network code shall be read in conjunction with the existing network code on Requirements for Generators and future network codes developed by ENTSO-E.
- (11) This network code does not address the issues of transparency and information management within the electricity market. These issues are the subjects of dedicated comitology guidelines to be proposed by the European Commission on fundamental electricity data transparency and by the obligations of market participants under the Regulation (EC) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency (REMIT).

- (12) A core element of this network code is the concept of social welfare. All provisions on systemic changes in the electricity wholesale market structure and functioning require social welfare to be increased as a consequence of such structural reforms. An assessment applying a methodology for quantifying social welfare is hence needed for drawing conclusions on social welfare implications. Social welfare is not a unique concept, as any quantification always comprises ideological assumptions on the creation and distribution of benefits for society. Due to this characteristic, it is necessary to require transparency on the implicit assumption of the methodology for quantifying social welfare. As the potential impacts on society and economy stemming from a structural change in the electricity wholesale market can be significant, a sound evaluation must allow for transparent discussions in order to promote better decision-making and ease acceptance amongst all stakeholders.
- (13) Common rules are defined for capacity calculation and allocation in the day ahead and intraday timeframes. The allocation of long term interconnection capacity shall be dealt with in a forthcoming forward capacity allocation network code.
- (14) This network code shall complement and where necessary, amend the guidelines on the Management and Allocation of Available Transfer Capacity of Interconnectors between National Systems which form Annex I to the Regulation (EC) No 714/2009 and specify detailed aspects which need to be implemented with reference to relevant provisions from these guidelines.
- (15) This network code divides up the process steps and responsibilities required for the operation of the pan European electricity market into functional roles. It is the responsibility of Member States to allocate at least one entity to be responsible to perform each functional role, while recognising that these functional roles can be subsequently delegated to third parties by the responsible entity.
- (16) The Guidelines on the Management and Allocation of Available Transfer Capacity of Interconnectors between National Systems annexed to Regulation (EC) No 714/2009 require transmission system operators to coordinate capacity calculation methodologies by defining common rules for the allocation of interconnection capacity in the different timeframes.
- (17) The capacity calculation process covers the day ahead and intraday market timeframes. Capacities will be updated in a timely manner based on latest information through an efficient capacity calculation process.
- (18) Capacity calculation will be coordinated at least at a regional level to ensure reliable capacity calculation and that optimal capacity is made available to the market. Common regional capacity calculation methodologies will be established to define inputs, calculation approach, and validation requirements.
- (19) There are two permissible approaches when calculating cross zonal capacity: Flow based or coordinated net transmission capacity based. The flow based approach is preferred over the coordinated net transmission capacity approach for day ahead and intraday capacity calculation where interdependencies of cross zonal capacity between bidding zones is high. Flow based should only be introduced after market participants have been consulted and given sufficient preparation time to allow for a smooth transition. The coordinated net transmission capacity approach may be applied in regions where interdependencies between cross zonal capacity are low and the added value of the flow based method cannot be proven.
- (20) A common grid model representing the European interconnected system, will be established to calculate cross zonal capacity in a coordinated way. The common grid model will include a model of the transmission system and with the location of generation and load units relevant to cross zonal capacity calculation. The provision of accurate and timely information by each transmission system operator is essential to the creation of the common grid model.
- (21) The common grid model will require each transmission system operator to prepare an individual grid model of their system and send it to a European merging function which will combine them into a single common grid model. The individual grid models will include information from generation and load units.

- (22) Transmission system operators will use a common set of remedial actions to deal with both internal and cross zonal congestions. Transmission system operators will coordinate the use of remedial actions in capacity calculation to facilitate more efficient capacity allocation.
- (23) Bidding zones will be defined to ensure efficient congestion management and overall market efficiency. Bidding zones can be subsequently modified by splitting, merging or adjusting the zone borders. Bidding zones will be consistent across different market timeframes and will be relatively stable across time, while reflecting changing network conditions.
- (24) Transmission system operators will implement coordinated cross zonal redispatching or countertrading at least regionally. Cross zonal redispatching or countertrading shall be coordinated with control area internal redispatching or countertrading.
- (25) Capacity is allocated in the day ahead and intraday timeframes using implicit allocation methods (unless transitional arrangements apply). In the case of the day ahead market this method shall be implicit auctions and in the case of the intraday market it shall be continuous implicit allocation. The operation of implicit auctions relies on effective and timely interfaces between transmission system operators, power exchanges and a series of other parties to ensure capacity is allocated and congestion managed in an efficient manner.
- (26) Other things being equal, the development of more liquid intraday markets which provide abilities for parties to balance their positions closer to real time, will facilitate the integration of renewable energy sources into the European electricity market and thus, in turn, facilitate renewable energy policy objectives.
- (27) Day ahead and Intraday capacity is firm, thereby enabling effective cross border allocation and contributing to the objectives of the Regulation (EC) No 714/2009.
- (28) Pan European implicit auctions require a pan European price coupling process. This process will respect transmission capacities and allocation constraints and will be designed in a manner to allow application/extension across the entire EU and the development of future new product types.
- (29) While order submissions to the price coupling process shall be defined in Euros, this shall not preclude local markets from settling in local currency and converting orders to Euros prior to their submission.
- (30) Despite the creation of a robust algorithm and appropriate back up processes, there may be situations where the price coupling process is unable to produce results. Consequently fallback solutions will be required at a national and/or regional level to ensure capacity can still be allocated.
- (31) Continuous implicit trading will be implemented in the Intraday timeframe with reliable pricing of transmission capacity reflecting congestion in case of scarce capacity.
- (32) Efficiently incurred costs associated with guaranteeing firmness of capacity and the costs of establishing processes to comply with this network code will be recovered via network tariffs or appropriate mechanisms in a timely manner. Nominated electricity market operators and market coupling operators shall be entitled to recover their incurred costs if they are reasonable and proportionate. This avoids transmission system operators and nominated electricity market operations and market coupling operators being exposed to unnecessary financial risks.
- (33) Transitional arrangements will allow direct explicit access for Intraday capacity via the capacity management module in the absence of sophisticated products that meet market needs.

TITLE 1

GENERAL PROVISIONS

Article 1

SUBJECT MATTER AND SCOPE

1. This Network Code sets common rules for Capacity Allocation and managing cross Bidding Zone congestion in the Day Ahead and Intraday Markets. This will involve the establishment of common methodologies for determining the volumes of capacity simultaneously available between Bidding Zones and methodologies for defining Bidding Zones. Within the Day Ahead and Intraday Markets, Capacity Allocation shall refer to implicit Allocation unless stated otherwise.
2. The requirements set forth by this Network Code shall apply to Transmission System Operators, National Regulatory Authorities, the Agency, Designated Nominated Electricity Market Operators and Market Participants.

Article 2

DEFINITIONS (glossary)

1. For the purpose of this Network Code, the definitions contained in Article 2 of Directive 2009/72/EC and in Article 2 of Regulation (EC) No 714/2009 apply. The definitions contained in Article 2 of the Requirements for Generators Network Code shall also apply, with the exception of the definition of “Control Area” which shall be replaced by the following:

Control Area means a coherent part of the interconnected system, operated by a single System Operator and shall include connected physical loads and/or generation units if any;

2. The following definitions shall apply:

Allocation/Capacity Allocation means the attribution of Cross Zonal Capacity;

Agency means the Agency for the Cooperation of Energy Regulators as established by Regulation (EC) No 713/2009;

Allocation Constraints means the constraints specified by the System Operator that are respected during Capacity Allocation. Allocation Constraints may include: operational security constraints, ramping constraints and/or transmission losses;

Bidding Zone means the largest geographical area within which Market Participants are able to exchange energy without Capacity Allocation;

Bidding Zone Border means a set of physical transmission lines linking adjacent Bidding Zones;

Capacity Calculation Approach means either a Flow Based Approach or a Coordinated Net Transmission Capacity approach;

Capacity Calculation Methodology means the description of the way in which Capacity Calculation is performed;

Capacity Calculation Process means a process in which the capability of the Transmission System to accommodate market transactions is assessed, it consists of calculation of the Cross Zonal Capacity. This assessment must be in line with operational security and optimisation of Cross Zonal Capacity made available to market participants;

Capacity Calculation Region means the regions in which regional coordinated capacity calculation shall be applied. A System Operator belongs to a Capacity Calculation Region if a part of its Control Area belongs to a Bidding Zone having its Bidding Zone Border within the Capacity Calculation Region;

Capacity Management Module means a module containing up to date available Cross Zonal Capacity in real time for allocating Cross Zonal Capacity in a continuous manner;

Central Counter Party means the role of entering into contracts with Market Participants, by novation of the contracts resulting from the Matching process and of organizing the transfer of Net Positions resulting from Capacity Allocation with other Central Counter Parties or Shipping Agents;

Clearing Price means the price determined from the highest accepted selling Order and the lowest accepted buying Order;

Common Grid Model means European-wide or multiple-System Operator-wide data set, created by the European Merging Function, through the merging of relevant data;

Congestion Income means the revenues received as a result of Capacity Allocation;

Congestion Income Distributor(s) means the role of distributing Congestion Income;

Continuous Trading Matching Algorithm means the algorithm used in the Intraday Market for Matching;

Coordinated Capacity Calculator(s) means the role of calculating Cross Zonal Capacity, at least at a regional level and managing the validation process;

Coordinated Net Transmission Capacity means either a Cross Zonal Capacity or a capacity calculation method based on the principle of assessing and defining ex-ante a maximum energy exchange between adjacent Bidding Zones;

Costly Remedial Action means a Remedial Action with direct payments made to procure the service (this may include but shall not be limited to, Countertrading and Redispatching);

Countertrading means a Cross Zonal energy exchange initiated by System Operators between two Bidding Zones to relieve a Physical Congestion;

Critical Network Element means a network element either within a Bidding Zone or between Bidding Zones taken into account in the Capacity Calculation Process, limiting the amount of power that be exchanged in order to maintain the System Security;

Cross Border means across a border between two or more Member States or a Member State and one or more jurisdictions in which this Network Code applies;

Cross Control Area Remedial Action means a Remedial Action that requires an action to be undertaken by at least one System Operator different than the System Operator in charge of the Control Area where the Physical Congestion to be relieved is located;

Cross Zonal Capacity means the capability of the Interconnected System to accommodate energy transfer between Bidding Zones. It can be expressed either as a Coordinated Net Transmission Capacity value or Flow Based Parameters, and takes into account Operational Security Constraints;

D-1 means the day prior to the day on which the energy is delivered;

Day Ahead Market means the market timeframe where commercial electricity transactions are executed the day prior to the day of delivery of traded products;

Day Ahead Firmness Deadline means the point in time after which Cross Zonal Capacity becomes firm;

Day Ahead Market Gate Closure means the point in time until which Orders are accepted in the Day Ahead Market;

Designated Nominated Electricity Market Operator means a party which has fulfilled the designation criteria specified in the draft Comitology Guideline on Governance;

Direct Current Line means a transmission link between two Bidding Zones using direct current technology;

Economic Surplus means the sum over all Bidding Zones, of seller surplus, being the aggregated difference between the sellers' willingness to sell and the Clearing Price and of buyer surplus, being the aggregated difference between buyers' willingness to pay and the Clearing Price, Congestion Income, and other costs and benefits, where appropriate;

Emergency Situation means a situation where the System Operator must act in an expeditious manner and Redispatching or Countertrading is not possible as defined by Article 16 of Regulation (EC) No 714/2009;

European Merging Function means the role of creating unique Common Grid Models, through the merging of all Individual Grid Models;

Explicit (Capacity) Allocation means the allocation of Cross Zonal Capacity only, without the energy transfer;

Firm/Firmness means arrangements to guarantee that capacity rights remain unchanged or are compensated;

Flow Based or Flow Based Approach means a capacity calculation method limiting the exchanges between Bidding Zones directly with the maximum flows on the Critical Network Elements and Power Transfer Distribution Factors;

Flow Based Parameters mean the available margins on Critical Network Elements with associated Power Transfer Distribution Factors;

Force Majeure means, for the purpose of application in respect of capacity allocation mechanisms as foreseen in Article 16 of Regulation (EC) No 714/2009, any unforeseeable and/ or unusual event or situation beyond the reasonable control of a System Operator, and not due to a fault of such System Operator, which cannot be avoided or overcome with reasonable foresight and diligence, which cannot be solved by measures which are from a technical, financial and/or economic point of view, reasonably possible for the System Operator, which has actually happened and is objectively verifiable, and which makes it impossible for such System Operator to fulfil temporarily or definitively, its obligations in accordance with this Network Code;

Generation Shift Key(s) mean a method of translating a Net Position change of a given Bidding Zone into estimated specific injection increases or decreases in the Common Grid Model;

Individual Grid Model means a data set prepared by the responsible System Operator(s), to be merged with other Individual Grid Model components through the European Merging Function in order to create the Common Grid Model;

Intraday Market means the electricity market which operates for the period of time between Intraday Cross Zonal Gate Opening Time and Intraday Cross Zonal Gate Closure, where commercial electricity transactions are executed prior to the delivery of traded products;

Intraday Cross Zonal Gate Closure Time means the point in time where Cross Zonal Capacity Allocation is no longer permitted for a given Market Time Period. There is one Intraday Cross Zonal Gate Closure Time for each Market Time Period for a given Bidding Zone Border;

Intraday Cross Zonal Gate Opening Time means the point in time when Cross Zonal capacity between Bidding Zones is released for a given Market Time Period and a given Bidding Zone Border;

Intraday Energy Gate Closure Time means the point in time when energy trading for a Bidding Zone is no longer permitted for a given Market Time Period within the Intraday Market. There is one Intraday Energy Gate Closure Time for each Market Time Period per Bidding Zone. The Intraday Energy Gate Closure Times shall be after or at the same time as the Cross Zonal Intraday Gate Closure Time;

Intraday Energy Gate Opening Time means the point in time when energy trading for a Bidding Zone is permitted for a given Market Time Period. There is one Intraday Energy Gate Opening Time for each day of delivery per Bidding Zone. The Intraday Energy Gate Opening Times of at least the Bidding Zones adjacent to a Bidding Zone Border shall be prior or equal to the Intraday Cross Zonal Gate Opening Time of this Bidding Zone Border;

Market Congestion means a situation in which the Economic Surplus has been limited by the Cross Zonal Capacity or other active Allocation Constraints;

Market Coupling Operator(s) means the role of Matching Orders for all Bidding Zones, taking into account Allocation Constraints and Cross Zonal Capacity and thereby implicitly allocating capacity for the Day Ahead and Intraday timeframes;

Market Information Aggregator means the role of aggregating and publishing market information;

Market Participant means market participant within the meaning of the Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency;

Market Time means Central European Summer Time or Central European Time, whichever is in effect;

Market Time Period means the time resolution for the delivery of energy;

Matched Orders means all matched, buy and sell, Orders within a Trade performed by the Matching Algorithm;

Matching means the trading mode through which sell Orders are assigned to appropriate buy Orders to ensure the maximization of Economic Surplus;

Matching Algorithm means either the Price Coupling Algorithm or Continuous Trading Matching Algorithm;

Net Position means the netted sum of electricity exports and imports for each Market Time Period for a given geographical area. In the context of this Network Code, geographical area is a Bidding Zone;

Nominated Electricity Market Operator means the role of interfacing between local markets and the Market Coupling Operator(s), including collecting and delivering Orders, consistent with the draft ;

Non Costly Remedial Action means a Remedial Action without direct payments;

Operational Security means keeping the Transmission System within agreed security limits;

Operational Security Constraints means a limit that guarantees the secure and reliable operation of the Transmission System;

Order means an intention to purchase or sell energy and/or capacity expressed by a Market Participant subject to a certain number of execution conditions;

Physical Congestion means any network situation, either described in a Common Grid Model, or occurring in real time, where power flows has to be modified to respect Operational Security;

Power Transfer Distribution Factor means a representation of the physical flow on a Critical Network Element induced by the variation of the Net Position of a Bidding Zone;

Price Coupling Algorithm means the algorithm used in the Day Ahead market for Matching;

Redispatching means a measure activated by one or several System Operators by altering the generation and/or load pattern, in order to change physical flows in the Transmission System and relieve a Physical Congestion;

Reliability Margin means the margin reserved on the permissible loading of a Critical Network Element or a Bidding Zone Border to cover against uncertainties between a capacity calculation timeframe and real time, taking into account the availability of Remedial Actions;

Remedial Action means a measure activated by one or several System Operators, manually or automatically, that relieves or contributes to relieving Physical Congestions. They can be applied pre-fault or post-fault and may involve costs;

Scheduled Exchange means the transfer scheduled between geographic areas, for each Market Time Period and for a given direction;

Scheduled Exchange Calculator(s) means the role of calculating Scheduled Exchanges;

Shared Order Book means a module collecting all matchable Orders from the participating Nominated Electricity Market Operators and performing continuous Matching of those Orders;

Shipping Agent means the role of transferring Net Position(s) between different Central Counter Parties;

Social Welfare means a quantification to assess the potential implications of alternative policy options. The assessment of social welfare shall include a consideration of the additional economic benefit or cost, defined as the sum of the additional individual benefits and costs which are expected to be accrued due to the implementation of the respective policy options compared to the status quo. These benefits and costs shall be analysed independently for tariff customers (as a whole and separated based on their ability to afford the cost of electricity), Market Participants and System Operators. In undertaking this assessment, in all cases, the undertaking party shall clearly specify:

- assumptions about the redistributive effects of an increase of one of the above components for the surpluses of the other groups stated above;
- assumptions about preconditions for market functioning such as market power and liquidity; and
- assumptions about implications stemming from external effects

used to undertake the analysis.

Sophisticated Product means a product with specific characteristics designed to reflect system operation practices or market needs, examples may include but shall not be limited to, Orders covering multiple Market Time periods and products reflecting start up costs;

Stakeholder Committee means a group of appointed representatives forming an advisory group consistent with the draft Comitology Guideline on Governance;

Structural Congestion means congestion in the Transmission System that: can be unambiguously defined; is predictable; is geographically stable over time; and is frequently reoccurring under common circumstances;

System Security means the ability of the power system to withstand unexpected disturbances or contingencies;

System Operator means a the role covering various tasks and operational responsibilities assumed by Transmission System Operators pursuant to this Network Code, including the physical transmission of electricity resulting from wholesale electricity market transactions and from all interconnectors which have an impact on the trading of electricity between Bidding Zones, without prejudice to the exemptions granted under Regulation (EC) No 1228/2003 and Regulation (EC) No 714/2009 which shall continue to apply until the scheduled expiry date as decided in the granted exemption decision;

Trade means one or more Matched Orders; and

Transmission System means the electric power network used to transmit electricity over long distances within and between Member States. The Transmission System is usually operated at the 220 kV and above for AC or HVDC, but may also include lower voltages.

Article 3

CONFIDENTIALITY OBLIGATIONS

All entities referred to in Article 1(2) shall preserve the confidentiality of the information and data submitted to them in the fulfilment of the obligations arising from this Network Code.

Article 4

OBJECTIVES OF CAPACITY ALLOCATION AND CONGESTION MANAGEMENT

1. All entities referred to in Article 1(2) shall cooperate in delivering the obligations specified within this Network Code, in order to promote the completion and efficient functioning of the Internal Market in electricity and to ensure the optimal management, coordinated operation and sound technical evolution of the European electricity Transmission System.
2. This Network Code shall facilitate the achievement of the following objectives:
 - (a) promoting effective competition in the generation, trading and supply of electricity;
 - (b) ensuring Operational Security;
 - (c) optimising the calculation and Allocation of Cross Zonal Capacity;
 - (d) ensuring non-discrimination;
 - (e) ensuring and enhancing the transparency and reliability of information; and
 - (f) contributing to the efficient long-term operation and development of the European electricity Transmission System and electricity sector

in order to enhance pan-European Social Welfare.

3. In fulfilling the requirements of this Network Code, System Operators, Nominated Electricity Market Operators and National Regulatory Authorities shall use reasonable endeavours to exploit synergies, draw on experience gained through, respect decisions made as part of, and to use solutions developed as part of, capacity allocation and congestion management projects contributing to the development of the Internal Market in electricity at regional level commenced, concluded or ongoing at the date at which this Network Code enters into force.

Article 5

CONSULTATION

1. The following shall be consulted on with, at minimum, the Stakeholder Committee for a period of not less than 4 weeks by the party responsible for developing the methodology or set of requirements in question. For the avoidance of doubt, a proposal developed by all System Operators, Nominated Electricity Market Operators or Market Coupling Operators shall be consulted on by all those parties. A proposal developed by System Operators, Nominated Electricity Market Operators or Market Coupling Operators at a Capacity Calculation Region level or on a bilateral or multilateral basis shall be consulted on of the Member States concerned:
 - (a) the Capacity Calculation Regions and the amendments pursuant to Article 14 and Article 15;
 - (b) the generation and load data provision methodology and amendments pursuant to Article 16 and Article 17;
 - (c) the Common Grid Model methodology and amendments pursuant to Article 18 and Article 19;
 - (d) the Capacity Calculation methodologies and amendments pursuant to Article 22 and 23;
 - (e) Bidding Zone configuration(s) pursuant to Article 37;

- (f) back-up procedures pursuant to Article 42;
 - (g) a description of the System Operators' set of requirements related to efficient Capacity Allocation pursuant to Article 43(1)(a);
 - (h) a description of the Nominated Electricity Market Operators' set of requirements pursuant to Article 43(1)(b);
 - (i) a description of the proposal of the Market Coupling Operator(s) pursuant to Article 43(3);
 - (j) a description of Algorithm Amendment requirements with direct and significant impact on efficient Capacity Allocation pursuant to Article 44(1) and 44(2);
 - (k) the Maximum and Minimum Prices according to Article 48 and 62;
 - (l) a description of the methodologies for the calculation of Scheduled Exchanges pursuant to Article 50 and Article 64;
 - (m) fallback procedures pursuant to Articles 52;
 - (n) the Intraday capacity pricing methodology developed pursuant to Article 63;
 - (o) the Intraday Cross Zonal Gate Closure time pursuant to Article 67;
 - (p) complementary regional auctions pursuant to Article 71; and
 - (q) the Day Ahead Firmness deadline pursuant to Article 76.
2. The following shall not be subject to consultation:
- (a) Redispatching and Countertrading arrangements pursuant to Article 41;
 - (b) Shipping Agent arrangements pursuant to Article 74(4);
 - (c) Congestion Income distribution arrangements pursuant to Article 81 and 82;
 - (d) the Redispatching or Countertrading cost sharing methodology pursuant to Articles 83 and 84; and
 - (e) Capacity Allocation and congestion management costs pursuant to Articles 85 to 90.
3. The views of stakeholders emerging from the consultations undertaken pursuant to paragraph 1 shall be duly considered by the party to whom the obligation is addressed prior to the submission of the document for regulatory approval if required or prior to publication in all other cases. In all cases, a clear and robust justification of the reasons for including or not including the views emerging from the consultation in the submission shall be developed and published in a timely manner.

Article 6

PUBLICATION OF INFORMATION REGARDING CAPACITY ALLOCATION AND CONGESTION MANAGEMENT METHODS

1. The items consulted upon according to Article 5(1) shall be made publically available after their approval, if regulatory approval is required, or after finalisation in all other cases by the party to whom the obligation is addressed.
2. The items which are not consulted upon according to Article 5(2) shall not be made publically available.
3. The description of the functional requirements of any algorithm developed pursuant to this Network Code shall be made publically available.
4. System Operators, Market Coupling Operator(s) and Nominated Electricity Market Operators shall use reasonable endeavours to ensure that published documents are clear and easily accessible.

Article 7

TRANSPARENCY OF INFORMATION

All entities referred to in Article 1(2) shall ensure that information is published at a time and in a format which does not create an actual or potential competitive advantage or disadvantage to any individual party or category of party.

Article 8

REGULATORY APPROVALS

1. The items specified in paragraphs 3 to 5 shall be treated in a manner consistent with Article 37 of Directive 2009/72/EC.
2. National Regulatory Authorities shall be responsible for approving the methodologies used to calculate or establish the terms and conditions for access to cross-border infrastructures, including the procedures for the Allocation of capacity and congestion management.
3. The following shall be subject to approval by all National Regulatory Authorities:
 - (a) the Capacity Calculation Regions and the amendments pursuant to Article 14 and Article 15;
 - (b) the generation and load data provision methodology and amendments pursuant to Article 16 and Article 17;
 - (c) the Common Grid Model methodology and amendments pursuant to Article 18 and Article 19;
 - (d) a description of the System Operators set of requirements related to efficient Capacity Allocation pursuant to Article 43(1)(a);
 - (e) a description of the Nominated Electricity Market Operator set of requirements pursuant to Article 43(1)(b);
 - (f) the Maximum and Minimum Prices according to Article 48 and 62;
 - (g) a description of the proposal of the Market Coupling Operator(s) pursuant to Article 43(3);
 - (h) a description of Algorithm Amendment requirements with direct and significant impact on efficient Capacity Allocation pursuant to Article 44(1) and 44(2);
 - (i) a description of the methodologies for the calculation of Scheduled Exchanges pursuant to Article 50 and Article 64;
 - (j) the Intraday capacity pricing methodology developed pursuant to Article 63; and
 - (k) the Day Ahead Firmness deadline pursuant to Article 76 .
4. The following shall be subject to approval by each National Regulatory Authority of the concerned Capacity Calculation Region:
 - (a) the Capacity Calculation methodology and amendments pursuant to Article 22 and Article 23;
 - (b) the Redispatching and Countertrading arrangements pursuant to Article 41; and
 - (c) the Redispatching or Countertrading cost sharing methodology pursuant to Articles 83 and 84.
5. The following shall be subject to approval by each National Regulatory Authority of the Member States concerned, as determined on a case-by-case basis:
 - (a) Bidding Zone configuration pursuant to Article 37;
 - (b) back-up procedures pursuant to Article 42;
 - (c) fallback procedures pursuant to Articles 52;
 - (d) the Intraday Cross Zonal Gate Closure time pursuant to Article 67;
 - (e) complementary regional auctions pursuant to Article 71;
 - (f) Shipping Agent arrangements pursuant to Article 74(4);
 - (g) Congestion Income distribution arrangements pursuant to Article 81 and 82; and
 - (h) Capacity Allocation and congestion management costs pursuant to Articles 85 to 90.

6. For each of the approvals specified in paragraphs 3 to 5, System Operators, Nominated Electricity Market Operators or Market Coupling Operator(s) shall, prior to the expiry of the deadline for developing procedures for the allocation of capacity and management of congestion specified in this Network Code, submit those procedures, to its National Regulatory Authority for approval. All submissions shall include a proposed timescale for implementation and a description of the expected impact of the procedure.
7. System Operators, Nominated Electricity Market Operator or Market Coupling Operator(s) shall use reasonable endeavours to facilitate the consideration of related issues at the same point in time.
8. National Regulatory Authorities shall, no later than six months after having received the procedures for the allocation of capacity and congestion management pursuant to paragraphs 1 to 6, provide System Operators, Nominated Electricity Market Operators or the Market Coupling Operator(s) as the case may be, with an approval or request to amend the proposed procedure for the allocation of capacity and congestion management.
9. In the event that concerned National Regulatory Authorities request an amendment to the proposed procedure for the allocation of capacity and congestion management, System Operators, Nominated Electricity Market Operators or the Market Coupling Operator(s) as the case may be, shall resubmit an amended procedure for approval within three months.
10. Where the concerned National Regulatory Authorities have not been able to reach an agreement within a period of six months from when the case was referred to the last of those National Regulatory Authorities, or upon a joint request from the competent National Regulatory Authorities, the Agency shall decide upon those regulatory issues that fall within the competence of National Regulatory Authorities as specified under Article 8 of Regulation (EC) No 713/2009.
11. System Operators, Nominated Electricity Market Operators or the Market Coupling Operator(s) as the case may be, shall implement the decision of National Regulatory Authorities by a date no later than the date specified in the decision.

TITLE 2

GOVERNANCE

CHAPTER 1

ROLES AND RESPONSIBILITIES

Article 9

ROLES IN CAPACITY ALLOCATION AND CONGESTION MANAGEMENT

The process of Capacity Allocation and Congestion Management under this Network Code shall involve the following roles:

- (a) System Operator;
- (b) Nominated Electricity Market Operator;
- (c) Market Coupling Operator(s);
- (d) Scheduled Exchange Calculator;
- (e) Market Information Aggregator;
- (f) Coordinated Capacity Calculator(s);
- (g) European Merging Function;
- (h) Shipping Agent;
- (i) Central Counter Party; and

- (j) Congestion Income Distributor.

Article 10

ASSIGNMENT OF ROLES TO DESIGNATED NOMINATED ELECTRICITY MARKET OPERATORS

1. Entities designated as Nominated Electricity Market Operators in accordance with the draft Comitology guideline on governance, shall, in all cases, be responsible for performing:
 - (a) the role of Nominated Electricity Market Operator; and
 - (b) the role of Central Counter Party.
2. Entities designed as Nominated Electricity Market Operators in accordance with the draft Comitology guideline on governance, shall be responsible for performing the role of the Market Coupling Operator(s) in all cases except where the European Commission, consistent with the draft Comitology guideline on governance determines that a tender process should be used to establish a single regulated entity party responsible for performing the role of the Market Coupling Operator. In such a case, the single regulated entity which is appointed following the tender process shall perform the role of the Market Coupling Operator.
3. Nominated Electricity Market Operators shall cooperate loyally in fulfilling their obligations under this Network Code.

Article 11

ASSIGNMENT OF ROLES TO TRANSMISSION SYSTEM OPERATORS

1. While respecting the principles of transparency, proportionality and non-discrimination, each Member State shall, where required, assign the following roles to Transmission System Operators:
 - (a) System Operator;
 - (b) Scheduled Exchange Calculator;
 - (c) Market Information Aggregator;
 - (d) Coordinated Capacity Calculator(s);
 - (e) European Merging Function;
 - (f) Shipping Agent; and
 - (g) Congestion Income Distributor.
2. Transmission System Operators shall cooperate loyally in fulfilling their obligations under this Network Code.

Article 12

DELEGATION OF ROLES

1. Transmission System Operators and entities designated in accordance with Article 10 shall be entitled to delegate all or part of any role assigned to them under this Network Code to one or more competent third parties. The delegating entity shall remain responsible for ensuring compliance with the obligations under this Network Code.
2. In all cases a third party shall have clearly demonstrated its ability to fulfil each of the obligations of this Network Code to the satisfaction of the delegating party, prior to delegation.

3. In the event that all or part of any role specified in this Network Code is delegated to a third party, the delegating party shall ensure that suitable confidentiality agreements have been put in place prior to delegation.

TITLE 3

REQUIREMENTS

CHAPTER 1

CAPACITY CALCULATION

SECTION 1

GENERAL REQUIREMENTS

Article 13

CAPACITY CALCULATION TIMEFRAMES

1. Capacity Calculation shall produce results for at least the following Capacity Calculation Timeframes:
 - (a) Day Ahead; and
 - (b) Intraday.
2. Unless stated otherwise, the requirements of this Network Code shall apply to the Capacity Calculation Timeframes defined in paragraph 1.
3. All System Operators of each Capacity Calculation Region shall ensure that Cross Zonal Capacity is reassessed sufficiently often within the Intraday Timeframe based on the latest available information. The frequency of this Intraday reassessment shall be guided by the principles of cost-benefit analysis and System Security.

Article 14

CAPACITY CALCULATION REGIONS

1. No later than two months after the entry into force of this Network Code, all System Operators shall make a common proposal regarding the Capacity Calculation Regions within which Coordinated Capacity Calculation shall be performed.
2. In determining the Capacity Calculation Regions the following rules shall be complied with:
 - (a) each Bidding Zone Border shall be attributed to one Capacity Calculation Region;
 - (b) the proposal shall be based on the objectives of this Network Code; and
 - (c) the proposal pursuant to paragraph 1 shall be based on the regions specified in Article 3 (2) of Annex 1 of Regulation (EC) No 714/2009.
3. The Capacity Calculation Regions applying a Flow Based Approach shall be merged to one Capacity Calculation Region provided that:
 - (a) the Capacity Calculation Regions are linked Transmission Systems;

- (b) the Capacity Calculation Regions are within the same Capacity Allocation; and
 - (c) Social Welfare is higher as a consequence of merging the Capacity Calculation Regions than it would be were the Capacity Calculation Regions kept separate.
4. In the event that no proposal is made in the timescale defined in paragraph 1, all National Regulatory Authorities shall be entitled to define Capacity Calculation Regions in accordance with Article 14(2) and Article 14(3).

Article 15

AMENDMENT OF CAPACITY CALCULATION REGIONS

1. All System Operators shall be entitled to launch a reassessment of Capacity Calculation Regions on the basis of their own judgement or following a request from all National Regulatory Authorities. A reassessment shall be launched not earlier than one year after the previous assessment or reassessment.
2. Where a reassessment of the Capacity Calculation Regions is launched, all System Operators shall develop a proposal to amend or maintain the current Capacity Calculation Regions in accordance with Article 14(2) and 14(3).

SECTION 2

THE COMMON GRID MODEL

Article 16

GENERATION AND LOAD DATA PROVISION METHODOLOGY

1. No later than four months after the entry into force of this Network Code, all System Operators shall develop a single methodology for the delivery of generation and load data required to establish the Common Grid Model. This document shall be termed the generation and load data provision methodology.
2. The generation and load data provision methodology shall detail which generation and load units shall be required to provide information to their respective System Operators for the purposes of Capacity Calculation. The proposal shall include a justification, based on the objectives of this Network Code, demonstrating the reasons for requiring the information.
3. The generation and load data provision methodology shall detail the information to be provided by generation and load units to System Operators. The information shall include, but not be limited to the following:
 - (a) information related to technical data;
 - (b) information related to availability;
 - (c) information related to scheduling of generation units; and
 - (d) relevant available information relating to how generation units will be dispatched.
4. The proposal shall include time schedules for providing information.
5. All System Operators shall use and share with other System Operators the information related to paragraph 3. Information in paragraph 3(d) shall be used for Capacity Calculation purposes only.

6. All System Operators shall publish no later than two months after the approval by all National Regulatory Authorities:
 - (a) a list of entities required to provide information;
 - (b) a list of information to be provided; and
 - (c) a time schedule for providing information.

Article 17

AMENDMENTS TO THE GENERATION AND LOAD DATA PROVISION METHODOLOGY

1. All System Operators shall be entitled to develop proposals to amend the generation and load data provisions methodology.
2. Any proposal for amendment(s) shall be supported by a justification based on the objectives of this Network Code.
3. All System Operators shall update the information published in accordance with Article 16(6) to reflect the approval of all National Regulatory Authorities no later than two months after the approval of the amendment(s).

Article 18

COMMON GRID MODEL METHODOLOGY

1. No later than six months after the entry into force of this Network Code, all System Operators shall develop a Common Grid Model methodology.
2. The Common Grid Model methodology shall enable the establishment of the Common Grid Model in accordance with the objectives of this Network Code. At a minimum, it shall contain:
 - (a) a determination of scenarios in accordance with Article 20;
 - (b) a determination of Individual Grid Models in accordance with Article 21; and
 - (c) a description of the process to merge Individual Grid Models to form the Common Grid Model.

Article 19

AMENDMENTS OF THE COMMON GRID MODEL METHODOLOGY

1. All System Operators shall be entitled to launch a reassessment of the Common Grid Model methodology on the basis of their own judgement or following a request from all National Regulatory Authorities. A reassessment shall be launched not earlier than one year after the previous assessment or reassessment.
2. Where a reassessment of the Common Grid Model methodology is launched, all System Operators shall develop a proposal to amend or maintain the current Common Grid Model methodology in accordance with Article 18.

Article 20

SCENARIOS

1. All System Operators shall define a common set of scenarios for each Capacity Calculation Timeframe for use in the Common Grid Model.
2. All System Operators shall define one scenario per Market Time Period for the Day Ahead and Intraday Capacity Calculation Timeframe.
3. For each scenario, all System Operators shall define common rules fixing the Net Position for each Bidding Zone and the flow for each Direct Current Line. These common rules shall be based on the best forecast of the Net Position for each Bidding Zone and flows on each Direct Current Line for each scenario and include the overall balance between load and generation for the European Interconnected System.

Article 21

INDIVIDUAL GRID MODEL

1. Each Individual Grid Model shall represent the best forecast of Transmission System conditions for the specified scenario at the moment at which the Individual Grid Model is created.
2. For each Bidding Zone and for each scenario:
 - (a) all System Operators of the Bidding Zone shall provide a single Individual Grid model which respects the rules defined in Article 20(3); or
 - (b) each System Operator of the Bidding Zone shall provide an Individual Grid Model for its Control Area provided that the sum of net positions in the Control Areas covering the Bidding Zone respects the rules defined in Article 20(3).
3. Individual Grid Models shall cover relevant network elements of the Transmission System.
4. All System Operators shall use best endeavours to progressively harmonize the way in which Individual Grid Models are built.
5. Each System Operator shall provide all necessary data in the Individual Grid Model to allow active and reactive power flow and voltage analyses in steady state.
6. Where appropriate, and upon agreement among all System Operators within a Capacity Calculation Region, each System Operator of that Capacity Calculation Region shall exchange data to enable voltage and dynamic stability analyses.

SECTION 3

CAPACITY CALCULATION METHODOLOGIES

Article 22

CAPACITY CALCULATION METHODOLOGY

1. No later than twelve months after the entry into force of this Network Code, all System Operators of each Capacity Calculation Region shall develop a common coordinated Capacity Calculation Methodology.
2. The common coordinated Capacity Calculation Methodology for a Capacity Calculation Region shall meet the objectives of this Network Code and shall contain at least the following for each Capacity Calculation Timeframe:
 - (a) Capacity Calculation inputs:
 - a determination of the Reliability Margin in accordance with Article 25;
 - a determination of Operational Security Constraints in accordance with Article 27;
 - a determination of Allocation Constraints to be taken into account directly in capacity allocation in accordance with Articles 28;
 - a determination of the Generation Shift Keys in accordance with Article 29; and
 - a determination of Remedial Actions to be considered in Capacity Calculation in accordance with Article 30.
 - (b) Capacity Calculation Approach:
 - a Capacity Calculation Approach to be applied pursuant to Article 24;
 - a mathematical description of the applied Capacity Calculation Approach with different Capacity Calculation inputs;
 - a rule to treat, where appropriate, Cross Zonal Capacity which has been allocated previously;
 - a rule to combine the Remedial Actions made available by System Operators for Capacity Calculation;
 - a rule to share the Cross Zonal Capacity between the borders of the Capacity Calculation Regions prior to Capacity Allocation, where appropriate, and when using the Coordinated Net Transmission Capacity Approach; and
 - a rule to share the Cross Zonal Capacity between the different Capacity Calculation Regions prior to Capacity Allocation, where appropriate.
 - (c) Validation of Cross Zonal Capacity in accordance with Article 31.
3. The Capacity Calculation Methodology shall include the frequency at which capacity will be calculated for the Intraday Market, including a justification, as specified in Article 13(3).
4. The Capacity Calculation Methodology shall include a fallback procedure consistent with the objectives of this Network Code.
5. All System Operators of each Capacity Calculation Region shall use best endeavours to progressively harmonize the Capacity Calculation inputs used for the Capacity Calculation.
6. All System Operators shall use best endeavours to progressively harmonize the Capacity Calculation Methodologies across Capacity Calculation Regions.

Article 23

AMENDMENT OF CAPACITY CALCULATION METHODOLOGIES

1. All System Operators shall be entitled to launch a reassessment of the Capacity Calculation Methodology for a Capacity Calculation Region on the basis of their own judgement or following a request from all National Regulatory Authorities of the Capacity Calculation Region. A reassessment shall be launched not earlier than one year after the previous assessment or reassessment.
2. Where a reassessment of the Capacity Calculation Methodology of a Capacity Calculation Region is launched, all System Operators of that Capacity Calculation Region shall develop a proposal to amend or maintain the current Capacity Calculation Methodology of the Capacity Calculation Region in accordance with Article 22.

Article 24

CAPACITY CALCULATION APPROACHES

1. For the Day Ahead Market and Intraday Market the Capacity Calculation Approach shall be a Flow Based Approach, except where the requirements of paragraph 2 are met.
2. System Operators shall be entitled to apply a Coordinated Net Transmission Capacity Approach:
 - (a) for Capacity Calculation Regions in which the electricity flows between Bidding Zones are not highly influenced by each other; or
 - (b) if the application of the Flow Based Approach would not fulfil the following prerequisites:
 - lead to an increase in Social Welfare in the Capacity Calculation Region with the same level of System Security; and
 - provide Market Participants with six months to adapt their processes.

Article 25

RELIABILITY MARGIN

1. The Reliability Margin shall take into account uncertainties between the Capacity Calculation Timeframe and real time respecting Operational Security and taking into account, Remedial Actions available after Capacity Calculation, and financial risks arising as a consequence of the applicable firmness regime.
2. The Reliability Margin shall integrate a statistical analysis of historic data showing the deviation of power flows and shall take into account expectation of future deviations. In particular, it shall consider deviations caused by:
 - (a) unintended deviations of physical electricity flows within a Market Time Period caused by the regulation of electricity flows within and between Control Areas to maintain a constant frequency; and
 - (b) uncertainties which could affect Capacity Calculation and which could occur between the Capacity Calculation Timeframe and real time, for the Market Time Period being considered.

Article 26

SIZE OF RELIABILITY MARGIN

For each Capacity Calculation Timeframe, each System Operator shall define the size of the Reliability Margin on its Critical Network Elements or its Bidding Zone Borders based on the specification in Article 25.

Article 27

OPERATIONAL SECURITY CONSTRAINTS

1. Each System Operator shall define:
 - (a) thermal limits of the Critical Network Elements; and
 - (b) voltage limits, imposing admissible substation voltage ranges;
2. Each System Operator shall be entitled to define additional Operational Security Constraints. Where appropriate, such constraints may include but shall not be limited to:
 - (a) dynamic or voltage stability limits ensuring the stability of the power system;
 - (b) short circuit current limits; and/or
 - (c) generation limits for a Bidding Zone or a set of Bidding Zones ensuring adequate availability of generation and generation reserves.

Article 28

ALLOCATION CONSTRAINTS

The determination of Allocation Constraints required by the Capacity Calculation Methodology developed pursuant to Article 22 may contain the use of:

- (a) Operational Security Constraints in accordance with Article 27; or
- (b) other types of constraint, which may include but are not limited to transmission losses and ramping constraints.

Article 29

GENERATION SHIFT KEYS

1. All System Operators of each Bidding Zone shall build one Generation Shift Key for each scenario developed pursuant to Article 20.
2. A Generation Shift Key shall represent the best forecast of the translation of a change in the Net Position of a Bidding Zone into a specific change of generation and/or load in the Common Grid Model. This forecast shall make use of information from the generation and load data provision methodology.

Article 30

REMEDIAL ACTIONS IN CAPACITY CALCULATION

1. Each System Operator shall define the available Remedial Actions which may be used in Capacity Calculation to facilitate the objectives of this Network Code.

2. Each System Operator shall ensure that Remedial Actions shall be considered in Capacity Calculation under the condition that the remaining available Remedial Actions together with the Reliability Margin defined in Article 26 are sufficient to ensure Operational Security.
3. Remedial Actions used in Capacity Calculation shall be efficient.
4. Each System Operator shall use available Non Costly Remedial Actions during Capacity Calculation.
5. Each System Operator shall ensure that Remedial Actions are the same for all Capacity Calculation Timeframes, taking into account their technical availabilities for each Capacity Calculation Timeframe.
6. All System Operators of each Capacity Calculation Region shall coordinate the use of Remedial Actions for Capacity Calculation and their actual application in real time operation.
7. All System Operators of each Capacity Calculation Region shall agree on the use of Cross Control Area Remedial Actions in Capacity Calculation.

Article 31

CROSS ZONAL CAPACITY VALIDATION

1. Each System Operator shall accept or correct Cross Zonal Capacity relevant to the System Operator's Bidding Zone Borders or Critical Network Elements provided by the Coordinated Capacity Calculator(s).
2. Where a Coordinated Net Transmission Capacity Approach is applied, all System Operators of the Capacity Calculation Region shall include in the Capacity Calculation Methodology a rule for splitting the correction between the different Bidding Zone Borders.
3. During the validation process, and only for reasons of System Security, each System Operator shall be entitled to reduce the Cross Zonal Capacity on its Bidding Zone Borders or its Critical Network Elements.
4. Each Coordinated Capacity Calculator shall coordinate with the neighbouring Coordinated Capacity Calculator(s) during Capacity Calculation and validation.
5. Each Coordinated Capacity Calculator shall, every three months, report all reductions made during the validation of Cross Zonal Capacity to all National Regulatory Authorities of the Capacity Calculation Region. This report shall include the location and amount of any reduction and shall include a justification for the reduction(s).
6. All National Regulatory Authorities of the Capacity Calculation Region shall decide whether to publish all or part of the report.

SECTION 4:

THE CAPACITY CALCULATION PROCESS

Article 32

GENERAL PROVISIONS

1. No later than twelve months after the entry into force of this Network Code, all System Operators shall establish a European Merging Function and define rules for the operation of the European Merging Function.

2. No later than twelve months after the entry into force of this Network Code, all System Operators of each Capacity Calculation Region shall establish the Coordinated Capacity Calculator(s) and define rules for the operation of the Coordinated Capacity Calculator(s).
3. The Coordinated Capacity Calculator(s) shall cover the Capacity Calculation Process at least on a regional basis as defined in Article 34 and the management of the validation of Cross Zonal Capacity values and the provision of information for the purposes of Capacity Allocation as defined in Article 35.
4. Each System Operator shall, every second year as part of the biennial report on Capacity Calculation produced in accordance with Article 36, review the quality of data submitted within the Capacity Calculation Process.

Article 33

CREATION OF THE COMMON GRID MODEL

1. For each Capacity Calculation Timeframe as specified in Article 13(1), each generator or load unit included in the generation and load data provision methodology established pursuant to Article 16 shall provide the data specified in the methodology in the timescales specified in the methodology to the System Operator responsible for the respective Control Area.
2. Each generator or load unit providing information pursuant to Article 16(3) shall use reasonable endeavours to deliver a reliable set of estimations as practicable.
3. For each Capacity Calculation Timeframe, all System Operators shall provide the Individual Grid Model for each scenario in accordance with Article 21 to the European Merging Function and all other System Operators.
4. Each System Operator shall use best endeavours to deliver a reliable set of estimations for each Individual Grid Model as practicable.
5. For each Capacity Calculation Timeframe, the European Merging Function shall create a single, Europe wide, Common Grid Model for each scenario specified in Article 20 by merging inputs from all System Operators.
6. The European Merging Function shall provide the Common Grid Model for each scenario to each Coordinated Capacity Calculator and to each System Operator.

Article 34

REGIONAL CALCULATIONS OF CROSS ZONAL CAPACITY

1. For each Capacity Calculation Timeframe, each System Operator of each Capacity Calculation Region shall provide the Coordinated Capacity Calculator(s) and all System Operators of that Capacity Calculation Region with Operational Security Constraints, Generation Shift Keys, Remedial Actions, Reliability Margins, Allocation Constraints and previously Allocated Cross Zonal Capacity, pursuant to Article 22(2).
2. Each System Operator shall use best endeavours to deliver a reliable estimation for its Generation Shift Keys.

3. Each Coordinated Capacity Calculator shall perform system security analysis using the Common Grid Model created pursuant to Article 33 for each scenario.
4. When calculating Cross Zonal Capacity, each Coordinated Capacity Calculator shall calculate the impact of the change of Bidding Zone Net Positions and flows on Direct Current Lines using Generation Shift Keys.
5. When calculating Cross Zonal Capacity, each Coordinated Capacity Calculator shall ensure that all the sets of Bidding Zone Net Positions and flows on Direct Current Lines not exceeding the Cross Zonal Capacity, shall respect the Operational Security Constraints and Reliability Margins pursuant to Article 22(2)(a) and take into account already Allocated Cross Zonal Capacity pursuant to Article 22(2)(b).
6. Each Coordinated Capacity Calculator shall optimize Cross Zonal Capacity using available Remedial Actions for Capacity Calculation in accordance with Article 22(2)(a).
7. Each Coordinated Capacity Calculator shall apply the sharing rules established pursuant to Article 22(2)(b).
8. Each Coordinated Capacity Calculator shall respect the mathematical description of the applied Capacity Calculation Approach pursuant to Article 22(2)(b).
9. Each Coordinated Capacity Calculator shall cooperate with the neighbouring Coordinated Capacity Calculators. This coordination shall be ensured by neighbouring System Operators and be achieved by exchanging and confirming information regarding the interdependency between the regional Coordinated Capacity Calculators relevant for the capacity calculation and validation. Neighbouring System Operators shall provide information on the interdependency to the Coordinated Capacity Calculators before the capacity calculation. The biennial report prepared in accordance with Article 34 shall contain an assessment of the accuracy of this information and corrective measures, where appropriate.
10. Each Coordinated Capacity Calculator applying:
 - (a) the Coordinated Net Transmission Capacity Approach shall produce the Cross Zonal Capacity values for each Bidding Zone within the Capacity Calculation Region; or
 - (b) the Flow Based Approach shall produce the Flow Based Parameters for each Bidding Zone within the Capacity Calculation Region.
11. Each Coordinated Capacity Calculator shall submit the Cross Zonal Capacity for validation, pursuant to Article 22(2)(c), to each System Operator within that Capacity Calculation Region.

Article 35

VALIDATION AND DELIVERY OF CROSS ZONAL CAPACITY

1. Each System Operator shall validate the results of the Regional Capacity Calculation on its Bidding Zone Borders or Critical Network Elements, in accordance with Article 31.
2. Each System Operator shall send its capacity validation to the relevant Coordinated Capacity Calculator(s) and to the other System Operators of the relevant Capacity Calculation Region(s).
3. Results of the validation shall be provided by each Coordinated Capacity Calculator for the execution of Capacity Allocation in accordance with Articles 53 and 66.

4. Each System Operator shall provide Allocation Constraints for the execution of Capacity Allocation in accordance with Articles 53 and 66.

SECTION 5

BIENNIAL REPORT ON CAPACITY CALCULATION

Article 36

BIENNIAL REPORT ON CAPACITY CALCULATION

1. No later than 2 years after the entry into force of this Network Code all System Operators shall prepare and send to all National Regulatory Authorities a report on the Capacity Calculation Process.
2. If requested to do so by all National Regulatory Authorities, in every second subsequent year, all System Operators shall prepare and send to all National Regulatory Authorities a report on the Capacity Calculation Process.
3. The report on Capacity Calculation shall contain, for each Bidding Zone, Bidding Zone Border or Capacity Calculation Region at least:
 - (a) the Capacity Calculation Approach used;
 - (b) statistical indicators on Reliability Margins;
 - (c) statistical indicators of the Cross Zonal Capacity for each Capacity Calculation Timeframe;
 - (d) quality indicators for the information used within the Capacity Calculation; and
 - (e) where appropriate, proposed improvement measures, including an evaluation of the continued application of the Coordinated Net Transmission Capacity Approach.
4. Statistical and quality indicators for the report shall be commonly agreed between all System Operators. All National Regulatory Authorities shall be consulted on these indicators before their application.
5. All National Regulatory Authorities shall decide whether to publish all or part of the biennial report.
6. Each System Operator shall provide data to allow the preparation of the report in a timely manner.

CHAPTER 2:

BIDDING ZONES

Article 37

REVIEWING BIDDING ZONE CONFIGURATION

1. A review of the Bidding Zone configuration may be launched by:
 - (a) all National Regulatory Authorities pursuant to Article 39; or
 - (b) all National Regulatory Authorities based upon a recommendation from the Agency or a System Operator; or
 - (c) a System Operator, with the approval of its National Regulatory Authority, inside the System Operator's Control Area, where the distribution of power flows is not highly influenced by exchanges between other Bidding Zones outside the System Operator's Control Area, if:

- the review of the Bidding Zone configuration is necessary in a hydro dominated systems due to rapid and unforeseen changes in network topology, patterns of generation and/or load or local energy situations (deficit or surplus), and when the Bidding Zone configuration is deemed to be the adequate measure to preserve the System Security or to prevent the significant loss of Social Welfare; or
 - the Bidding Zone configuration has negligible impact on the neighbouring System Operators' Control Area and is needed to efficiently maintain the System Security or to prevent a Social Welfare loss inside the System Operator's Control Area.
2. In the event that all National Regulatory Authorities request to launch a review of the Bidding Zone configuration pursuant to paragraphs 1(a) or 1(b), they shall specify:
 - (a) the geographic area(s) in which the Bidding Zone configuration shall be studied and the neighbouring geographic area(s) for which the impacts shall be taken into account;
 - (b) the participating System Operator(s); and
 - (c) the participating National Regulatory Authority(ies).
 3. When a System Operator, having gained the approval of its National Regulatory Authority, decides to launch a review of Bidding Zone configuration pursuant to paragraph 1(c):
 - (a) the geographic area in which the Bidding Zone configuration is studied shall be limited to the Control Area of that System Operator;
 - (b) that System Operator shall be the only participating System Operator;
 - (c) that National Regulatory Authority shall be the only participating National Regulatory Authority;
 - (d) the launch of the review of Bidding Zone configuration shall be notified and justified by the System Operator to the neighbouring System Operators, in timescales agreed bilaterally between those System Operators, and by the National Regulatory Authority to the neighbouring National Regulatory Authorities, before the application; and
 - (e) such a review process shall be transparent, while taking into consideration the time constraints for such review.
 4. The participating System Operator(s) involved in the review of the Bidding Zone configuration shall:
 - (a) Perform the assessment of the Bidding Zone configuration. This assessment shall be undertaken in a coordinated way, unless paragraph 1(c) applies, and include Nominated Electricity Market Operators;
 - (b) propose the alternative Bidding Zone configuration(s);
 - (c) assess the current Bidding Zone configuration and each alternative Bidding Zone configuration using the criteria specified in Article 38;
 - (d) perform a public consultation regarding the alternative Bidding Zone configuration proposal(s) relative to the existing Bidding Zone configuration, including proposing timescales for implementation, unless the first condition of paragraph 1(c) applies; and
 - (e) make the proposal(s) to participating National Regulatory Authority(ies) to maintain or amend the Bidding Zone configuration within twelve months of the decision to launch a review.
 5. Nominated Electricity Market Operators or other Market Participants shall, if requested by System Operators, provide participating System Operators with information to enable them to assess the Bidding Zone configuration. This information shall be shared only between the participating System Operator(s) for the sole purpose of assessing the Bidding Zone configuration.

Article 38

CRITERIA TO ASSESS THE EFFICIENCY OF ALTERNATIVE BIDDING ZONE CONFIGURATIONS

1. When the Bidding Zone configuration is reviewed, at least the following criteria shall be considered:
 - (a) In respect of network security:
 - the ability of the Bidding Zone configuration to ensure Operational Security and the security of supply; and
 - the size of uncertainties in the cross Bidding Zone Capacity Calculation.
 - (b) In respect of overall market efficiency:
 - the increase or decrease in Economic Surplus arising from the change;
 - market efficiency, including, at least, firmness costs, market liquidity, market concentration and market power, the facilitation of effective competition, the accuracy and robustness of price signals and transition costs, including costs of amending existing contractual obligations, incurred by Market Participants, Nominated Electricity Market Operators and System Operators;
 - the need to ensure the feasible market outcome without an extensive application of economically inefficient corrective measures;
 - any adverse effects of internal transactions on other Bidding Zones; and
 - the impact on the operation and efficiency of the balancing mechanisms and imbalance settlement processes.
 - (c) In respect of the stability and robustness of Bidding Zones:
 - the need for Bidding Zones to be sufficiently stable and robust over time;
 - the need for Bidding Zones to be consistent for all Capacity Calculation Timeframes;
 - the need for each generation and load unit to belong to only one Bidding Zone for each Market Time Period; and
 - the location and frequency of congestion, provided that: Structural Congestions influence the delimitation of Bidding Zones; and taking into account investments which may relieve existing congestions.

Article 39

BIENNIAL ASSESSMENT OF THE CURRENT BIDDING ZONE CONFIGURATION

1. The efficiency of the current Bidding Zone configuration shall be assessed every two years.
2. The assessment process shall consist of:
 - (a) a biennial technical report prepared by all System Operators and sent to all National Regulatory Authorities; and
 - (b) an evaluation of market structure and possible market power issues prepared by all National Regulatory Authorities on the basis of the biennial technical report.
3. All National Regulatory Authorities may request to launch a process for reviewing of Bidding Zone configuration based on the assessment.

Article 40

THE BIENNIAL TECHNICAL REPORT

1. The biennial technical report shall include, at least:
 - (a) a list of Structural Congestions and other major Physical Congestions, including their location and frequency;
 - (b) an analysis of the expected evolution or removal of these Physical Congestions due to investments in networks or due to significant changes in generation or consumption patterns;
 - (c) an analysis of the share of power flows that do not result from the Capacity Allocation mechanism, for each Capacity Calculation Region where appropriate; and
 - (d) Congestion Incomes and Firmness costs.
2. Each System Operator shall provide data and analysis to allow the preparation of the biennial technical report in a timely manner.
3. The first biennial technical report shall be delivered no later than six months after the entry into force of this Network Code, and thereafter on a biennial basis, no later than the end of March of each second year.
4. The biennial technical report shall provide information for the previous two calendar years finishing on the 31 December of the previous year.

CHAPTER 3

Article 41

REDISPATCHING AND COUNTERTRADING

1. Each System Operator shall agree, at least with all System Operators of its Capacity Calculation Region, on Redispatching and/or Countertrading arrangements.
2. Each System Operator shall be entitled to redispatch all available generation or load units in accordance with the appropriate mechanisms or/and bilateral agreements applicable to its Control Area.
3. All System Operators shall use Redispatching and/or Countertrading resources efficiently taking into account impact on system security and economic efficiency.
4. The pricing of Redispatching and/ or Countertrading shall be known before their application and shall be based on:
 - (a) market prices, which reflect the prices in the relevant electricity markets of the relevant timeframe; or
 - (b) the costs of Redispatching and/or Countertrading resources, which have been calculated transparently on the basis of incurred costs. Generation and load units shall ex-ante provide all information necessary for calculating the Redispatching and/or Countertrading cost to the relevant System Operators. This information shall be shared between the relevant System Operators for Redispatching and/or Countertrading purposes only.

CHAPTER 4

ALGORITHM DEVELOPMENT AND AMENDMENT

SECTION 1

Article 42

GENERAL PROVISIONS

1. Market Coupling Operator(s) shall develop, maintain and operate:
 - (a) a Price Coupling Algorithm; and/or
 - (b) a Continuous Trading Matching Algorithm.consistent with the objectives of this Network Code.
2. The Market Coupling Operator(s) shall use best endeavours to ensure that the Price Coupling Algorithm and the Continuous Trading Matching Algorithm produce the results identified in Articles 46 and Article 60 respectively.
3. Market Coupling Operator(s) shall develop and implement back-up procedures to comply with their best endeavours obligation specified in paragraph 2.

Article 43

ALGORITHM DEVELOPMENT

1. No later than six months after the entry into force of this Network Code:
 - (a) all System Operators shall jointly provide Market Coupling Operator(s) with a set of requirements related to efficient Capacity Allocation to enable the development of the Price Coupling Algorithm and/or the development of the Continuous Trading Matching Algorithm. These requirements shall specify the functionalities and performance, including deadlines for the delivery of market coupling results and details of the Cross Zonal Capacity and Allocation Constraints which shall be respected; and
 - (b) all Nominated Electricity Market Operators shall jointly provide Market Coupling Operator(s) with a set of requirements related to efficient Matching to enable the development of the Price Coupling Algorithm and/or the Continuous Trading Matching Algorithm.
2. Any proposal provided pursuant to paragraph 1 shall facilitate the achievement of the objectives specified in Article 45 in the case of the Price Coupling Algorithm and Article 59 in the case of the Continuous Trading Matching Algorithm and the Objectives of this Network Code.
3. No later than six months after the receipt of the requirements required by paragraph 1, Market Coupling Operator(s) shall develop a proposal for a single Price Coupling Algorithm and/or a proposal for a Continuous Trading Matching Algorithm which meets the requirements specified by System Operators and Nominated Electricity Market Operators in accordance with paragraph 1 and the objectives of this Network Code and of the Price Coupling Algorithm as specified in Article 45 and of the Continuous Trading Matching Algorithm as specified in Article 59. This proposal shall include the latest time by which Nominated Electricity Market Operators shall submit received Orders to Market Coupling Operator(s).
4. This proposal shall be submitted by Market Coupling Operator(s) to System Operators and Nominated Electricity Market Operators. If appropriate, Market Coupling Operator(s) shall work with Nominated Electricity Market Operators and System Operators for a period of not more than two months to refine the proposal such that it better meets the requirements specified in paragraphs 1 and 2.

5. System Operators shall submit to National Regulatory Authorities those elements of the proposals developed pursuant to paragraph 4 which:
 - (a) relate to the way in which Allocation Constraints or Cross Zonal Capacities are treated in the Price Coupling Algorithm or Continuous Trading Matching Algorithm; or
 - (b) have a direct and significant impact on efficient Capacity Allocation.
6. In the event that approval pursuant to paragraph 5 is sought, Market Coupling Operator(s) shall not implement the proposed change to the Price Coupling Algorithm or Continuous Trading Matching Algorithm until the results of the regulatory approval have been communicated to them by all System Operators. All System Operators shall communicate the decision of National Regulatory Authorities to the Market Coupling Operator(s) and Nominated Electricity Market Operators as soon as reasonably practicable upon receipt. The Market Coupling Operator(s) shall implement the decision of all National Regulatory Authorities.
7. In the event that, in the opinion of the Market Coupling Operator(s), the Nominated Electricity Market Operators or System Operators, it would not be feasible to meet a timescale specified in paragraphs 1 to 4, the Market Coupling Operator(s), the Nominated Electricity Market Operators or System Operators shall be entitled to submit a proposal to amend the timescale specified in paragraphs 1 to 4 to National Regulatory Authorities. The proposal shall include information detailing the reasons for the extension and shall demonstrate that the timescale is proportionate.

Article 44

ALGORITHM AMENDMENT

1. System Operators, the Market Coupling Operator(s) and Nominated Electricity Market Operators shall periodically, and at least every two years, review the operation of the Price Coupling Algorithm and Continuous Trading Matching Algorithm to ensure both continue to facilitate the objectives of this Network Code and of the Price Coupling Algorithm as specified in Article 45 and of the Continuous Trading Matching Algorithm as specified in Article 59.
2. In the event that System Operators, the Market Coupling Operator(s) or Nominated Electricity Market Operators identify an amendment to the Price Coupling Algorithm or Continuous Trading Matching Algorithm which, in their reasoned view, could better facilitate the objectives of this Network Code and would:
 - (a) alter the way in which Allocation Constraints or Cross Zonal Capacity are treated in the Price Coupling Algorithm or Continuous Trading Matching Algorithm; or
 - (b) have a direct and significant impact on efficient Capacity Allocationthey shall make each other aware of their proposal.
3. If either of the criteria in paragraph 2 is, in the opinion of the System Operator, met, System Operators shall submit the proposal for approval by National Regulatory Authorities.
4. The Market Coupling Operator(s) shall not implement the proposed change to the Price Coupling Algorithm or Continuous Trading Matching Algorithm until the decision of National Regulatory Authorities has been communicated to them by all System Operators.
5. All System Operators shall communicate the decision of all National Regulatory Authorities to the Market Coupling Operator(s) and Nominated Electricity Market Operators as soon as reasonably practicable upon receipt. The Market Coupling Operator(s) shall implement the decision of National Regulatory Authorities.

6. If none of the criteria in paragraph 2 is met the Market Coupling Operator(s) shall be entitled to implement the change to the Price Coupling Algorithm or Continuous Trading Matching Algorithm without seeking the approval of National Regulatory Authorities.

CHAPTER 5

THE DAY AHEAD ELECTRICITY MARKET

SECTION 1

THE PRICE COUPLING ALGORITHM

Article 45

OBJECTIVES OF THE PRICE COUPLING ALGORITHM

1. The Price Coupling Algorithm shall determine the results specified in Article 46(2), in a manner which:
 - (a) maximises Economic Surplus for the price coupled region for the subsequent trading day;
 - (b) uses the marginal pricing principle to generate results per Bidding Zone per Market Time Period;
 - (c) facilitates efficient price formation;
 - (d) respects Cross Zonal Capacity and Allocation Constraints; and
 - (e) is repeatable and scalable;
2. The Price Coupling Algorithm shall be capable of being efficiently extended to a larger or smaller number of Bidding Zones.

Article 46

INPUTS AND RESULTS OF THE PRICE COUPLING ALGORITHM

1. In order to determine results, the Price Coupling Algorithm shall use:
 - (a) Allocation Constraints in accordance with Article 28;
 - (b) validated Cross Zonal Capacity in accordance with Article 35; and
 - (c) Orders in accordance with Article 47.
2. The Price Coupling Algorithm shall, at least, simultaneously determine the following information for each Market Time Period:
 - (a) a single Clearing price for each Bidding Zone and Market Time Period in Euros/MWh;
 - (b) a single Net Position for each Market Time Period; and
 - (c) the execution status of Orders.
3. The Market Coupling Operator(s) shall use best endeavours to ensure the accuracy and efficiency of results produced by the single Price Coupling Algorithm.
4. The Market Coupling Operator(s) shall use best endeavours to ensure that results are compliant with the objectives of this Network Code.
5. System Operators shall verify that the results of the Price Coupling Algorithm are consistent with the Cross Zonal Capacity and Allocation Constraints.

Article 47

PRODUCTS ACCOMMODATED

1. Nominated Electricity Market Operators shall ensure that Orders submitted to the Price Coupling Algorithm shall be expressed in terms of Euros and make reference to Market Time.
2. The Market Coupling Operator(s) shall ensure that the Price Coupling Algorithm is able to accommodate Orders covering one Market Time Period and multiple Market Time Periods.
3. Nominated Electricity Market Operators shall periodically, but at least every two years, consult with:
 - (a) Market Participants to ensure that available products reflect their needs;
 - (b) System Operators to ensure products are reflective of System Security; and
 - (c) National Regulatory Authorities to ensure that the available products promote the objectives of this Network Code

and take action to rectify the situation if this is not the case.

Article 48

MAXIMUM & MINIMUM PRICES

1. In the event that the Market Coupling Operator(s), Nominated Electricity Market Operators, System Operators or National Regulatory Authorities consider that the introduction of maximum and minimum prices, or the amendment of maximum and minimum prices if such prices have previously been introduced, within the Day Ahead Market could better facilitate the objectives of this Network Code, they shall notify the Market Coupling Operator(s) who shall, as soon as reasonably practicable but no later than three months after the point at which the impact is identified, propose on harmonised maximum and minimum bid prices to be applied in all Bidding Zones covered by this Network Code to System Operators. The proposal shall include an implementation date.
2. System Operators shall submit the proposal for regulatory approval.
3. As soon as reasonably practicable after receiving a decision from the National Regulatory Authorities of the concerned Member States, System Operators shall inform the Market Coupling Operator(s) of the decision.
4. The Market Coupling Operator(s) shall implement the outcome of the regulatory approval in the timescales specified in the decision.

Article 49

PRICING OF DAY AHEAD CAPACITY

Day Ahead Cross Zonal Capacity shall be priced:

- (a) reflecting Market Congestion; and
- (b) in a manner which defines the price as the difference between the corresponding Day Ahead Clearing Price of the relevant Bidding Zones.

Article 50

METHODOLOGY FOR THE CALCULATION OF SCHEDULED EXCHANGES RESULTING FROM THE DAY AHEAD MARKET

1. No later than twelve months after the entry into force of this Network Code, System Operators shall define and implement a methodology to be used in calculating Scheduled Exchanges resulting from the Day Ahead Market.
2. The methodology shall describe the calculation and shall detail the data which must be provided by Nominated Electricity Market Operators, where appropriate, to the Scheduled Exchange Calculator and the timescales for delivering such information. The timescale for delivering information shall be no later than 15.30 D-1.
3. The calculation shall be based on Net Positions as specified in Article 46(2)(b).
4. Follow approval by National Regulatory Authorities, System Operators shall provide the methodology to the Scheduled Exchange Calculator and shall ensure that the Scheduled Exchange Calculator is able to produce the Scheduled Exchanges specified by this methodology.

Article 51

AMENDMENT OF THE METHODOLOGY FOR CALCULATING SCHEDULED EXCHANGES RESULTING FROM THE DAY AHEAD MARKET

Where Scheduled Exchanges are required by System Operators, System Operators shall periodically, but at least every second year, review the methodology for calculating Scheduled Exchanges resulting from the Day Ahead Market and where they identify a need to amend the methodology such that it better fulfils the objectives of this Network Code, they shall update the methodology.

Article 52

ESTABLISHMENT OF FALLBACK PROCEDURES

1. System Operators shall ensure that robust and timely fallback procedures are in place to ensure efficient, transparent and non-discriminatory Capacity Allocation in the event that the Market Coupling Process is unable to produce results.
2. Prior to the commencement of the Day Ahead Market Coupling Process, as defined in Articles 53 to 58, System Operators shall facilitate the development of one or more fallback procedures capable of effectively dealing with a range of foreseeable events which may prevent the production of results and Allocation of capacity according to this Network Code. Fallback procedures shall, as far as reasonably practicable, facilitate the achievement of the objectives of this Network Code.
3. In developing fallback procedures System Operators shall work collaboratively with Nominated Electricity Market Operators and the Market Coupling Operator(s).

SECTION 3

THE DAY AHEAD MARKET COUPLING PROCESS

Article 53

PROVISION OF INPUT DATA

1. The Coordinated Capacity Calculator(s) shall ensure that Cross Zonal Capacity shall be provided to the Market Coupling Operator(s) in time to ensure the publication of the Cross Zonal Capacity to the market no later than 11.00 Market Time D-1.
2. If a Coordinated Capacity Calculator(s) is unable to provide Cross Zonal Capacity one hour prior to the closure of the Day Ahead Market, that Coordinated Capacity Calculator shall notify the Market Information Aggregator(s), Market Coupling Operator(s) and Nominated Electricity Market Operators. The Nominated Electricity Market Operators shall immediately publish a notification to all Market Participants.
3. In such cases, Cross Zonal Capacity shall be provided by the Coordinated Capacity Calculator(s) no later than the Day Ahead Market Gate Closure Time.
4. Each System Operator shall provide Allocation Constraints to the Market Coupling Operator(s) no later than 11.00 Market Time D-1.

Article 54

OPERATION OF THE DAY AHEAD ELECTRICITY MARKET

1. The Day Ahead Electricity Market shall open no later than 11.00 Market Time D-1.
2. The Day Ahead Market Gate Closure Time in each Bidding Zone shall be noon D-1 Market Time.
3. All Orders shall be submitted by Market Participants in accordance with Article 46, to Nominated Electricity Market Operators before Day Ahead Market Gate Closure.
4. Nominated Electricity Market Operators shall submit Orders received in accordance with paragraph 2 to the Market Coupling Operator(s) no later than a time specified by Market Coupling Operators in the proposal for a single Price Coupling Algorithm according to Article 43(3).
5. The Market Coupling Operator(s) shall ensure anonymity of submitted Orders.

Article 55

DELIVERY OF RESULTS

1. The Market Coupling Operator(s) shall use best endeavours to deliver the Price Coupling Algorithm results:
 - (a) specified in Article 46(2)(a) and 46(2)(b), to all System Operators, the Coordinated Capacity Calculator(s), Nominated Electricity Market Operators and the Market Information Aggregator(s); and
 - (b) specified in Article 46(2)(c) to all Nominated Electricity Market Operatorssimultaneously and no later than the time specified by System Operators in their requirements according to Article 43(1)(a).

2. System Operators shall verify that the results of the Price Coupling Algorithm specified in Article 46(2)(b) have been calculated in accordance with the Allocation Constraints and validated Cross Zonal Capacity.
3. Nominated Electricity Market Operators shall verify that the results of the Price Coupling Algorithm specified in Article 46(2)(c) have been calculated in accordance with the Orders submitted in accordance with Article 54(3).

Article 56

CALCULATION OF SCHEDULED EXCHANGES RESULTING FROM THE DAY AHEAD MARKET

1. The Scheduled Exchange Calculator shall calculate Scheduled Exchanges for each Market Time Period in accordance with the methodology set forth in accordance with Article 50.
2. The Scheduled Exchange Calculator shall notify the Market Coupling Operator(s), Central Counter Parties, Shipping Agents, Market Information Aggregator(s) and System Operators of the agreed Scheduled Exchanges.

Article 57

INITIATION OF FALLBACK PROCEDURES

1. In the event that the Market Coupling Operator(s), having used best endeavours, are unable to deliver part or all of the results of the Price Coupling Algorithm by the time specified in accordance with Article 43(1)(a), fallback procedures as established in accordance with Article 52 shall be followed.
2. In cases where the Market Coupling Operator(s) are unable to deliver part or all of the results, the Market Coupling Operator(s) shall notify System Operators, Nominated Electricity Market Operators and the Market Information Aggregator(s) as soon as an issue is identified. The Nominated Electricity Market Operators shall use best endeavours to provide a notification to Market Participants that fallback procedures may be followed as soon as reasonably practicable.

Article 58

PUBLICATION OF MARKET INFORMATION

1. As soon as reasonably practicable following the receipt of information from the Market Coupling Operator(s), Scheduled Exchange Calculators or the Coordinated Capacity Calculator(s), the Market Information Aggregator(s) shall, having first entered into appropriate commercial arrangements with the entity which is able to generate the data, publish on a central platform at minimum:
 - (a) Net positions;
 - (b) Clearing Prices;
 - (c) Scheduled Exchanges where available;
 - (d) Day Ahead Cross Zonal Capacity;
 - (e) Allocation Constraints; and
 - (f) a notification of the application of fallback.
2. The Market Information Aggregator shall publish the information required in accordance with paragraph 1, no later than 15:30 Market Time D-1, for each Bidding Zone and for each Market Time Period.
3. Nominated Electricity Market Operators shall inform Market Participants on their execution status and Clearing prices of their Orders.

4. The Market Information Aggregator shall ensure that information published pursuant to paragraph 1 is made publicly available in an accessible format for a period of not less than 5 years (where such historical data exists).

CHAPTER 6

THE INTRADAY ELECTRICITY MARKET

SECTION 1

OBJECTIVES, FUNCTIONALITY AND RESULTS FROM THE INTRADAY MARKET

Article 59

OBJECTIVES OF THE CONTINUOUS TRADING MATCHING ALGORITHM

1. As from the Intraday Cross Zonal Gate Opening Time and prior to the Intraday Cross Zonal Gate Closure Time, the Continuous Trading Matching Algorithm shall determine which Orders to select for Matching such that it:
 - (a) maximises Economic Surplus per Trade for the Intraday timeframe by Allocating Capacity to Orders for which it is feasible to Match in accordance with the price and time of submission;
 - (b) respects Allocation Constraints provided in accordance with Article 66(4);
 - (c) respects Cross Zonal Capacity as specified in Article 66(1);
 - (d) respects requirements for the delivery of results as referred to in Article 66; and
 - (e) is repeatable and scalable.
2. The Continuous Trading Matching Algorithm shall produce the results specified in Article 60 and meet the capabilities and functionalities of products provided in accordance with Article 61.

Article 60

INPUTS AND RESULTS OF THE CONTINUOUS TRADING MATCHING ALGORITHM

1. The Market Coupling Operator(s) shall ensure that the Continuous Trading Matching Algorithm shall perform the Matching of Orders resulting in, at a minimum:
 - (a) the execution status of Orders and price(s) per Trade; and
 - (b) a single Net Position for each Market Time Period within the Intraday Market.
2. The Market Coupling Operator(s) shall use best endeavours to ensure the accuracy and efficiency of results produced by the single Continuous Trading Matching Algorithm.
3. The Market Coupling Operator(s) shall use best endeavours to ensure that results are compliant with the objectives of this Network Code and of Article 59.
4. System Operators shall verify that the results of the Continuous Trading Matching Algorithm are consistent with the Cross Zonal Capacity and Allocation Constraints specified in Article 66.

Article 61

PRODUCTS ACCOMMODATED

1. Nominated Electricity Market Operators shall ensure that all Orders submitted to the Market Coupling Operator(s) are expressed in terms of Euro and make reference to Market Time.

2. Nominated Electricity Market Operators shall ensure that products shall be compatible with the characteristics of the Cross Zonal Capacity allowing them to match simultaneously or shall be tradable only inside a Bidding Zone.
3. The Market Coupling Operator(s) shall ensure that the Continuous Trading Matching Algorithm is able to accommodate Orders covering one Market Time Period and multiple Market Time Periods.
4. Nominated Electricity Market Operators shall periodically, but at least every two years, consult with:
 - (a) Market Participants to ensure that available products reflect their needs;
 - (b) System Operators to ensure products are reflective of System Security; and
 - (c) National Regulatory Authorities to ensure that the available products promote the objectives of this Network Code.

and take action to rectify the situation if this is not the case.

Article 62

MAXIMUM AND MINIMUM PRICES

1. In the event that the Market Coupling Operator(s), Nominated Electricity Market Operators, System Operators or National Regulatory Authorities consider that the introduction of maximum and minimum prices, or the amendment of maximum and minimum prices if such prices have previously been introduced, within the Intraday Market could better facilitate the objectives of this Network Code, they shall notify the Market Coupling Operator(s) who shall, no later than three months after the point at which the impact is identified, propose harmonised maximum and minimum bid prices to be applied in all Bidding Zones covered by this Network Code to System Operators. The proposal shall include an implementation date.
2. System Operators shall submit the proposal for regulatory approval.
3. As soon as reasonably practicable after receiving a decision from by the National Regulatory Authorities of the concerned Member States, System Operators shall inform the Market Coupling Operator(s) of the decision.
4. The Market Coupling Operator(s) shall implement the outcome of the regulatory approval in the timescales specified in the decision.

Article 63

PRICING OF INTRADAY CAPACITY

1. Intraday Cross Zonal Capacity shall be priced and in a manner which:
 - (a) reflects Market Congestion; and
 - (b) is based on actual Orders.
2. No later than twenty four months after the entry into force of this Network Code, all System Operators shall develop a single methodology for the pricing of Intraday Cross Zonal Capacity compliant with the objectives of this Network Code and submit it to all National Regulatory Authorities.
3. In the period prior to the approval of the single methodology for the pricing of Intraday Cross Zonal Capacity, System Operators shall be entitled to propose Intraday Cross Zonal Capacity Allocation mechanism with reliable pricing consistent with the objectives of this Network Code and the principles

specified in paragraph 1 for approval by the National Regulatory Authorities of the concerned Member States.

Article 64

METHODOLOGY FOR THE CALCULATION OF SCHEDULED EXCHANGES RESULTING FROM THE INTRADAY MARKET

1. No later than twelve months after the entry into force of this Network Code, System Operators shall define and implement a methodology to be used in calculating Scheduled Exchanges following the Matching of Orders in the Intraday market.
2. The methodology shall describe the calculation and shall detail the data which must be provided, where required, by Nominated Electricity Market Operators to the Scheduled Exchange Calculator and the timescales for delivering such information.
3. The calculation of Scheduled Exchanges shall be based on the Net Positions as specified in Article 60(1)(b).
4. Following approval by National Regulatory Authorities, System Operators shall provide the methodology to the Scheduled Exchange Calculator and shall ensure that the Scheduled Exchange Calculator is able to produce the Scheduled Exchanges specified by this methodology.

Article 65

AMENDMENT OF THE METHODOLOGY FOR CALCULATING SCHEDULED EXCHANGES RESULTING FROM THE INTRADAY MARKET

Where Scheduled Exchanges are required by System Operators, System Operators shall periodically, but at least every two years, review the methodology for calculating Scheduled Exchanges resulting from the Intraday Market and where they identify an opportunity to amend the methodology such that it better facilitates the objectives of this Network Code, shall update the methodology.

SECTION 3

THE INTRADAY MARKET PROCESS

Article 66

PROVISION OF INPUT DATA

1. The Coordinated Capacity Calculator(s) shall ensure that Cross Zonal Capacity shall be provided to the Market Coupling Operator(s) not later than 15 minutes prior to the Intraday Cross Zonal Gate Opening Time.
2. Each System Operators shall notify the Coordinated Capacity Calculator(s) of its Capacity Calculation Region if updates are required to the Cross Zonal Capacity, due to operational changes on the Transmission System. The Coordinated Capacity Calculator(s) shall then notify the Market Coupling Operator(s).
3. If any Coordinated Capacity Calculator is unable to comply with paragraph 1, that Coordinated Capacity Calculator shall notify the Market Coupling Operator(s) and Nominated Electricity Market Operators. The Nominated Electricity Market Operators shall immediately publish a notification to all Market Participants.

4. Each System Operator shall provide Allocation Constraints to the Market Coupling Operator(s) no later than 15 minutes prior to the Intraday Cross Zonal Gate Opening Time.

Article 67

OPERATION OF THE INTRADAY MARKET

1. System Operators shall be responsible for proposing the Intraday Cross Zonal Gate Opening and Intraday Cross Zonal Gate Closure Time.
2. The Intraday Cross Zonal Gate Closure Time shall be set to:
 - (a) maximize Market Participants' opportunities for adjusting their balances by trading in the Intraday timeframe as close as possible to real time; and
 - (b) provide System Operators and Market Participants sufficient time for their scheduling and balancing processes in respect of network and system security.
3. The Intraday Cross Zonal Gate Closure Time shall be at the maximum one hour prior to the start of the relevant Market Time Period and shall respect the related balancing processes related to system security.
4. All Orders for a given Market Time Period shall be submitted by Market Participants to Nominated Electricity Market Operators before the Intraday Energy Gate Closure Time. Orders for a given Market Time Period shall be submitted by Nominated Electricity Market Operators to the Market Coupling Operator(s) before the Intraday Cross Zonal Gate Closure Time.
5. The Market Coupling Operator shall ensure anonymity of the Orders submitted to the Shared Order Book.

Article 68

DELIVERY OF RESULTS

1. The Market Coupling Operator(s) shall use best endeavours to deliver the Continuous Trading Matching Algorithm results:
 - (a) specified in Article 60(1)(a) to Nominated Electricity Market Operators. In the event that the Market Coupling Operator, having used best endeavours, is unable to deliver these Continuous Trading Matching Algorithm results, the Market Coupling Operator shall notify Nominated Electricity Market Operators.
 - (b) specified in Article 60(1)(b) to the System Operators and Nominated Electricity Market Operators. In the event where the Market Coupling Operator(s), having used best endeavours, is unable to deliver these Continuous Trading Matching Algorithm results, the Market Coupling Operator(s) shall notify as soon as reasonably practicable the System Operators, Nominated Electricity Market Operators and the Scheduled Exchange Calculator. System Operators and the Scheduled Exchange Calculator shall notify concerned entities.
2. Nominated Electricity Market Operators shall as soon as reasonably practicable send the necessary information to Market Participants to ensure that the actions specified in Articles 72 to 75 can be undertaken.

Article 69

CALCULATION OF SCHEDULED EXCHANGES RESULTING FROM THE INTRADAY MARKET

1. The Scheduled Exchange Calculator shall calculate Scheduled Exchanges for each Market Time Period in accordance with the methodology set forth in accordance with Article 64.
2. The Scheduled Exchange Calculator shall notify the Market Coupling Operator(s), Central Counter Parties, Shipping Agents, and System Operators of the agreed Scheduled Exchanges.

Article 70

PUBLICATION OF MARKET INFORMATION

1. Each Nominated Electricity Market Operator shall publish, as soon as Matched, at a minimum, the results per Trade of the Continuous Trading Matching Algorithm in accordance with Article 60(1)(a).
2. Each Nominated Electricity Market Operator shall ensure that information published pursuant to paragraph 1 is made publicly available in an accessible format for a period of not less than 5 years (where such historical data exists).

Article 71

COMPLEMENTARY REGIONAL AUCTIONS

1. Complementary regional auctions shall only be approved if the following conditions are met:
 - (a) Regional auctions shall not have an adverse impact on the liquidity of the pan-European Intraday solution;
 - (b) All Cross Zonal Capacity shall be allocated through the Capacity Management Module;
 - (c) The regional auction shall not introduce any discrimination between Market Participants from adjacent regions;
 - (d) The timescales for regional auctions shall be consistent with the pan-European Intraday solution to enable the Market Participants to trade as close as possible to real-time; and
 - (e) National Regulatory Authorities shall have consulted the Stakeholder Committee.
2. The National Regulatory Authorities of the concerned Member States shall periodically, but at least every 2 years, review the compatibility between any regional solutions and the pan-European Intraday solution to ensure the conditions above continue to be fulfilled.

CHAPTER 7:

CLEARING AND SETTLEMENT FOR THE DAY AHEAD AND INTRADAY MARKETS

Article 72

CLEARING AND SETTLEMENT

Central Counter Parties shall perform clearing and settlement activities in a manner which promotes the achievement of the objectives of this Network Code in a timely manner.

Article 73

CLEARING AND SETTLEMENT WITH MARKET PARTICIPANTS

1. The Central Counter Parties shall ensure the clearing and settlement of all Matched Orders. The Central Counter Parties shall act as the counterparty to Market Participants for all their Trades with regard to the financial rights and obligations arising from these Trades.
2. The Central Counter Parties shall maintain anonymity between Market Participants.

Article 74

CLEARING AND SETTLEMENT BETWEEN BIDDING ZONES

1. Central Counter Parties shall act as counterparty to each other for the exchange of energy between Bidding Zones with regard to the financial rights and obligations arising from these energy exchanges.
2. Such exchanges shall take into account:
 - (a) Net Positions as defined in Articles 46(2)(b) and 60(1)(b); and /or
 - (b) Scheduled Exchanges as defined in Articles 56 and 69.
3. Central Counter Parties shall ensure that for each time period:
 - (a) across all Bidding Zones, taking into account, where appropriate, Allocation Constraints, there are no deviations between the sum of energy transferred out of all Bidding Zones and the sum of energy transferred into all other Bidding Zones; and
 - (b) electricity exports and electricity imports between Bidding Zones equal each other. Deviations may only result from considerations of, Allocation Constraints, where appropriate.
4. Notwithstanding paragraph 1 above, a Shipping Agent may act as a counterparty between different Central Counter Parties for the exchange of the energy. Such cases shall be subject to the conclusion of a specific agreement between concerned parties.
5. Central Counter Parties or Shipping Agents shall collect Congestion Incomes arising from the Trades specified in Article 53 to 55 for the Day Ahead Market and in accordance with Articles 66 to 68 for the Intraday Market.
6. Central Counter Parties or Shipping Agents shall ensure that Congestion Incomes resulting from the Trades set out in paragraph 3 are provided to the Congestion Income Distributors no later than two weeks after the date of settlement.
7. In the event that timing of payments is not harmonized between two Bidding Zones, concerned Member States shall ensure an entity is appointed to manage the timing mismatch and bear related costs.

Article 75

CONGESTION INCOME DISTRIBUTION

1. The Congestion Income Distributors shall distribute Congestion Incomes in accordance with the methodology(ies) established pursuant to Article 81 as soon as reasonably practicable and no later than one week after the transfer of Congestion Incomes pursuant to Article 74(6).

CHAPTER 8

FIRMNESS OF ALLOCATED CROSS ZONAL CAPACITY

Article 76

THE DAY AHEAD FIRMNESS DEADLINE

No later than twelve months after the entry into force of this Network Code, all System Operators shall develop a proposal for a single Day Ahead Firmness Deadline which shall not be shorter than half hour before Gate Closure Time of the Day Ahead Market.

Article 77

AMENDMENT OF THE DAY AHEAD FIRMNESS DEADLINE

In the event that all System Operators identify a need to amend the Day Ahead Firmness Deadline, they shall produce a proposal.

Article 78

FIRMNESS OF DAY AHEAD CAPACITY AND ALLOCATION CONSTRAINTS

1. Prior to the Day Ahead Firmness Deadline the Coordinated Capacity Calculator(s) shall be entitled to adjust Cross Zonal Capacity and System Operators shall be entitled to adjust Allocation Constraints provided to the Market Coupling Operator(s).
2. After the Day Ahead Firmness Deadline all Cross Zonal Capacity and Allocation Constraints shall be firm for Day Ahead Capacity Allocation, unless the requirements of Article 53(3) are met. In such cases, Cross Zonal Capacity and Allocation Constraints shall be firm as soon as they are submitted to the Market Coupling Operator.
3. After the Day Ahead firmness deadline Cross Zonal Capacity which has not been allocated may be adjusted for subsequent allocations.

Article 79

FIRMNESS OF INTRADAY CAPACITY

Cross Zonal Capacity shall be firm as soon as it has been allocated.

Article 80

FIRMNESS IN THE CASE OF FORCE MAJEURE OR EMERGENCY SITUATIONS

1. In the event of a Force Majeure situation or an Emergency Situation, System Operators shall have the right to curtail Cross Zonal Allocated Capacities. In all cases, curtailment shall be undertaken in a coordinated manner having liaised with all directly affected System Operators.

2. The System Operator which invokes the Force Majeure or the Emergency Situation shall publish a notification describing the nature of Force Majeure and its probable duration.
3. Allocated Capacities which become subject to an Emergency Situation or Force Majeure situation shall be reimbursed for the period of that Emergency Situation or Force Majeure situation, by the System Operator which invokes the Force Majeure or Emergency Situation, in accordance with the following arrangements:
 - (a) in the event of Implicit Allocation, Central Counter Parties or Shipping Agents shall not be subject to financial damages or financial benefits arising from any imbalance created by such curtailment; or
 - (b) in the event of Explicit Allocation Market Participants shall be entitled to compensation equal to the value of the capacity set during the Explicit Allocation process.
4. The System Operator which invokes a Force Majeure situation or an Emergency Situation shall make every possible effort to limit the consequences and duration of the Force Majeure situation or Emergency Situation.

CHAPTER 9

CONGESTION INCOME DISTRIBUTION

Article 81

ESTABLISHMENT OF CONGESTION INCOME DISTRIBUTION ARRANGEMENTS

1. No later than twelve months after the entry into force of this Network Code, all System Operators shall establish a methodology for sharing Congestion Income.
2. The methodology(ies) developed pursuant to paragraph 1 shall:
 - (a) facilitate the efficient long-term operation and development of the pan-European Interconnected System and the efficient operation of the pan-European electricity market;
 - (b) facilitate the achievement of the general principles of congestion management as specified in Article 16 of Regulation (EC) No 714/2009;
 - (c) allow for reasonable financial planning;
 - (d) be compatible across timeframes; and
 - (e) establish arrangements to share Congestion Income deriving from transmission assets owned by parties other than System Operators.

Article 82

AMENDMENTS TO CONGESTION INCOME DISTRIBUTION ARRANGEMENTS

Where System Operators identify a need to amend the methodology(ies) established pursuant to Article 72 they shall:

- (a) develop a proposal agreed by relevant System Operators; and
- (b) demonstrate how the proposal better facilitates the achievement of the principles specified in Article 81(2).

CHAPTER 10

Article 83

CROSS BORDER REDISPATCHING OR COUNTERTRADING COST SHARING METHODOLOGY

1. No later than eighteen months after the entry into force of this Network Code, all System Operators of each Capacity Calculation Region shall develop and propose a common methodology for Cross Border Redispatching or Countertrading cost sharing for regulatory approval.
2. Cross Border Redispatching or Countertrading costs eligible for the cost sharing between the System Operators shall be defined in a transparent and auditable manner.
3. A Cross Border Redispatching or Countertrading cost sharing methodology shall at least include the following:
 - (a) a rule to define which Cross Border costs, incurred from using costly remedial actions considered in the capacity calculation, where a common framework on the use of such actions has been established, are eligible for sharing between the System Operators of Capacity Calculation Region in accordance with the Capacity Calculation Methodology pursuant to Article 22;
 - (b) a rule to define which Cross Border costs, incurred from using redispatching or countertrading to guarantee the Firmness of the Cross Zonal Capacity are eligible for sharing between the System Operators of Capacity Calculation Region in accordance with the Capacity Calculation Methodology pursuant to Article 22; and
 - (c) rules for the region wide Cross Border cost sharing as determined under (a) and (b).
4. A methodology developed pursuant to paragraph 1 shall be accompanied by:
 - (a) a mechanism to verify between the involved System Operators the actual need for Cross Border Redispatching or Countertrading;
 - (b) an ex-post mechanism monitor the usage of the costly Remedial action(s);
 - (c) a mechanism to assess the impact of the actions, based on the system security and economic criteria;
 - (d) a process allowing improvements of the actions; and
 - (e) a process allowing monitoring by all National Regulatory Authorities of each Capacity Calculation Region.
5. A methodology developed pursuant to paragraph 1 shall respect the following principles:
 - (a) provide correct incentives to manage congestion(s) including remedial actions and investments;
 - (b) be consistent with the responsibilities and liabilities of the System Operators;
 - (c) ensure a fair distribution of costs and benefits between the involved System Operators;
 - (d) be consistent with other related mechanisms including at least:
 - The Congestion Income distribution arrangements as specified in Article 81; and
 - The inter Transmission System Operator compensation mechanism as specified in Article 13 of Regulation (EC) No 714/2009 and Regulation (EC) No 838/2010.
 - (e) facilitate the efficient long-term development and operation of the pan-European Interconnected System and the efficient operation of the pan-European electricity market;
 - (f) facilitate the achievement of the general principles of congestion management as specified in Article 16 of Regulation (EC) No 714/2009;
 - (g) allow for reasonable financial planning;
 - (h) be compatible across timeframes; and
 - (i) respect the principles of transparency and non-discrimination.

6. All System Operators of each Capacity Calculation Region shall use best endeavours to progressively harmonize the Cross Border Redispatching or Countertrading cost sharing methodologies across Capacity Calculation Regions.

Article 84

AMENDMENTS TO THE CROSS BORDER REDISPATCHING OR COUNTERTRADING COST SHARING METHODOLOGY

1. All System Operators of the Capacity Calculation Region shall be entitled to launch a reassessment of the Cross Border Redispatching or Countertrading cost sharing methodology for a Capacity Calculation Region on the basis of their own judgement or following a request from all National Regulatory Authorities of the Capacity Calculation Region. A reassessment shall be launched not earlier than one year after the previous assessment or reassessment.
2. Where a reassessment of the Cross Border Redispatching or Countertrading cost sharing methodology of the Capacity Calculation Region is initiated, all System Operators of the Capacity Calculation Region shall develop a proposal to amend or maintain the current common methodology for the Redispatching or Countertrading cost sharing of the Capacity Calculation Region in accordance with Article 83.

CHAPTER 11

CAPACITY ALLOCATION AND CONGESTION MANAGEMENT COSTS

Article 85

GENERAL PROVISIONS

1. The costs related to the obligations allocated to Transmission System Operators in accordance with Article 11, including but not limited to the costs specified under Article 83, Article 84 and Articles 86 to 90, shall be assessed by National Regulatory Authorities.
2. Costs assessed as reasonable and proportionate shall be recovered in a timely manner via network tariffs or appropriate mechanisms as determined by National Regulatory Authorities.
3. If requested to do so by National Regulatory Authorities, any party defined in Article 1, shall, within three months of such a request, use best endeavours to provide such information as reasonably requested by National Regulatory Authorities to facilitate the assessment of the costs incurred.

Article 86

COSTS OF ESTABLISHING AND AMENDING ALGORITHMS

1. The Market Coupling Operator(s) shall bear:
 - (a) the costs of establishing, updating or further developing the Price Coupling Algorithm for the Day Ahead Electricity Market;
 - (b) the costs of establishing, updating or further developing the Continuous Trading Matching Algorithm.
2. System Operators, subject to agreement with the Market Coupling Operator(s), shall be entitled to make a contribution to the costs described in paragraph 1. In such a case, System Operator(s) shall

within two months of receiving a forecast from the Market Coupling Operator(s), be entitled to provide a cost contribution proposal to the concerned National Regulatory Authorities for approval.

3. In this case the Market Coupling Operator(s) shall, when submitting a proposal pursuant to paragraph 2, provide a forecast to System Operators for each of the costs described in paragraph 1.
4. The Market Coupling Operator(s) shall be entitled to recover costs pursuant to paragraph 1 which have not been borne by System Operators pursuant to paragraph 2 by means of fees or other appropriate mechanisms only if they are reasonable and proportionate.

Article 87

COSTS OF ESTABLISHING AND OPERATING COORDINATED CAPACITY CALCULATION PROCESSES

1. Each System Operator shall bear the costs related to the provision of inputs to the Capacity Calculation Process.
2. All System Operators shall bear costs related to the establishment and operation of the European Merging Function.
3. All System Operators of each Capacity Calculation Region shall bear costs related to the establishment and operation of the Coordinated Capacity Calculator(s).
4. Any costs incurred by Market Participants in meeting the requirements of this Network Code shall be borne by those Market Participants.

Article 88

COSTS OF OPERATING THE DAY AHEAD AND INTRADAY MARKET PROCESSES

1. All costs incurred by the Market Coupling Operator(s) in operating the Day Ahead Market and Intraday Market Processes shall be recovered from Nominated Electricity Market Operators.
2. The Nominated Electricity Market Operators shall be entitled to recover costs pursuant to paragraph 1 by means of fees or other appropriate mechanisms only if they are reasonable and proportionate.

Article 89

CLEARING AND SETTLEMENT COSTS

1. All costs incurred by Central Counter Parties shall be recoverable by means of fees or other appropriate mechanisms only if they are reasonable and proportionate.
2. Shipping Agents shall not be subject to fees nor be required to provide collateral.

Article 90

COSTS OF ENSURING FIRMNESS

The costs of ensuring firmness in accordance with Articles 76 to 80 shall be borne by System Operators. These costs shall include, but shall not be limited to: the costs of Redispatching, Countertrading, correcting imbalances, incurred market mechanism imbalance costs and compensation mechanisms associated with ensuring firmness.

TITLE 4

TRANSITIONAL ARRANGEMENTS

CHAPTER 1

TRANSITIONAL INTRADAY ARRANGEMENTS

Article 91

GENERAL PROVISIONS

The transitional arrangements shall promote the objectives of this Network Code in the Explicit Allocation of Intraday Capacity. The arrangements shall be compatible and, as far as possible consistent with, the arrangements specified in Articles 59 to 67.

Article 92

EXPLICIT ALLOCATION

1. System Operators shall provide Explicit Allocation via the Capacity Management Module on those Bidding Zone Borders where they are requested to do so by National Regulatory Authorities of the Member State concerned.
2. In such cases, System Operators shall publish the conditions that must be fulfilled by Market Participants to participate in the Explicit Allocation. These conditions shall be subject to approval by National Regulatory Authorities of the Member States concerned.
3. The Capacity Management Module shall avoid discrimination when concurrently allocating implicitly and explicitly capacity. The Capacity Management Module shall determine which Orders to select for Matching and which explicit capacity requests to accept, according to a compatible ranking of price and/or time of entrance.

Article 93

REMOVAL OF EXPLICIT ALLOCATION

1. Nominated Electricity Market Operators shall cooperate closely with System Operators and shall consult Market Participants in order to translate the needs of Market Participants linked with Explicit Capacity Allocation rights into Sophisticated Products.
2. Prior to the removal of Explicit Allocation, National Regulatory Authorities shall organize a consultation to assess whether the proposed Sophisticated Products are well understood by Market Participants and whether they fulfil their needs for Intraday trading.
3. Concerned National Regulatory Authorities shall approve the introduction of Sophisticated Products and the removal of Explicit Allocation.

CHAPTER 2

OBJECTIVES AND PROVISIONS OF THE TRANSITIONAL INTRADAY ARRANGEMENTS

Article 94

BIDDING ZONE BORDER-SPECIFIC PROVISIONS, POST-TRADING OBLIGATIONS AND TRANSPARENCY

1. Market Participants shall comply with the approved conditions for Explicit Allocation developed pursuant to Article 92.
2. Market Participants shall ensure the completion of post-trading obligations related to Explicit Allocation of Cross Zonal Capacity.
3. Market Participants shall fulfil any financial rights and obligations, relating to settlement arising from Explicit Allocation.
4. System Operators shall publish the interconnection(s) where Explicit Allocation is applicable, the Cross Zonal Capacity for Explicit Allocation and other relevant information.

Article 95

EXPLICIT REQUESTS FOR CAPACITY

The explicit request for capacity can only be submitted by a Market Participant for an interconnection where the Explicit Allocation is applicable. For each explicit request for capacity the Market Participant shall submit the volume and the price to the Capacity Management Module. The price and volume of Explicit Allocated Capacity shall be made publicly available.

CHAPTER 3

ISLAND SYSTEMS WITH CENTRAL DISPATCH

Article 96

TRANSITIONAL ARRANGEMENTS FOR ISLAND SYSTEMS WITH CENTRAL DISPATCH

1. The requirements of this Network Code shall not apply to Transmission System Operators in Ireland and Northern Ireland, operating island systems with central dispatch, until 31 December 2016.
2. From the date of the entry into force of this Network Code until 31 December 2016 Transmission System Operators referred to in paragraph 1 shall implement arrangements intended to ensure full implementation of and compliance with this Network Code by 31 December 2016. Those arrangements shall:
 - (a) facilitate the transition to the full implementation of and compliance with this Network Code;
 - (b) be justified on the basis of a cost-benefit analysis;
 - (c) not unduly affect other jurisdictions;
 - (d) guarantee a reasonable degree of integration with the markets in adjacent jurisdictions;
 - (e) provide for at least:
 - allocation of interconnector capacity in a day-ahead explicit auction and in at least two intraday implicit auctions;

- joint nomination of interconnection capacity and energy at the day-ahead timeframe;
 - application of the “Use-It-Or-Lose-It” or “Use-It-Or-Sell-It” principle, as specified in Article 2.5 of Congestion Management Guidelines which form an Annex I to the Regulation (EC) No 714/2009, to capacity not used at the day-ahead timeframe.
- (f) ensure fair and non-discriminatory pricing of interconnector capacity in the intraday implicit auctions;
- (g) put in place fair, transparent and non-discriminatory compensation mechanisms for ensuring firmness;
- (h) set out a detailed roadmap, approved by the regulatory authorities for Ireland, Northern Ireland and Great Britain, of milestones for achieving full implementation of and compliance with this Network Code;
- (i) be subject to a consultation process involving all relevant parties and give utmost consideration to the consultation’s outcome.
3. The National Regulatory Authorities for Ireland, Northern Ireland and Great Britain shall provide to the Agency regularly, but at least quarterly, or upon the Agency’s request, any information required for assessing the transitional arrangements for the electricity market on the island of Ireland and the progress towards achieving full implementation of and compliance with this Network Code.

TITLE 5

FINAL PROVISIONS

Article 97

ENTRY INTO FORCE

1. This Network Code shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.
2. Chapters 1-11 and Title 4 of this Network Code shall apply:
 - (a) as of the date specified in the approval of Capacity Calculation Methodologies pursuant to Article 22 for Chapter 1;
 - (b) as of the date on which Bidding Zone configuration is approved for Chapter 2;
 - (c) as of the date specified in the approval of the Redispatching and Countertrading Cost Sharing Methodology for Chapter 3 and 10;
 - (d) as of the date specified in the approvals of the requirements for algorithm development pursuant to Article 43 for Chapters 4,5,6,7 and 8;
 - (e) as of the date specified in the approval of Congestion Income Distribution Arrangements pursuant to Article 81 for Chapter 9; and
 - (f) as of the date of entry into force of this network code for Chapter 10 and Title 4.
3. This Network Code shall be binding in its entirety and directly applicable in all Member States.