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## Appendix 2

### Framework Guidelines and European Codes

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#### 1. Introduction

1. The 3rd package contains proposals for the creation of codes covering a number of specified areas. The purpose of the codes is to create a framework to enable national transmission networks to interact in a seamless manner to create a level playing field for market participants and a sound climate for investment in cross-border infrastructure. The areas specified in the 3rd package cover the technical issues, which must be addressed to achieve this framework. Framework guidelines<sup>1</sup>, are needed to set the objectives for the codes.
2. European regulators consider that the codes and framework guidelines, taken together, are a major tool which will, over time, enable the diverse national and regional markets in the Union to evolve towards an efficient single European market. Initially it is expected that codes and framework guidelines will have to accommodate the different approaches that exist, but over time these differences should be reduced so that a single European market is the final outcome. This evolutionary approach will enable the difficult and complex issues of market convergence to be addressed and the necessary investments made in a planned way. For this outcome to be achieved it is essential to ensure that the processes for establishing the first set of framework guidelines and codes are effective and that processes for the subsequent modification of the codes are well designed. The processes are likely to require a much greater degree of interaction between the European regulators and the EU TSO organisations. Appendix 3 considers how these regional aspects can be taken into account, both in the development of the initial framework guidelines and codes, and in subsequent process of market convergence.
3. In addition to the codes the 3rd package contains proposals for a number of other key documents which will potentially form part of the European regulatory framework. The most important of these is the 10-year network development plan, as well as possible further guidelines for gas storage and LNG operators.
4. There are a number of important issues in which the 3rd package is silent, but which need to be addressed in order to make practical progress on the development of the codes. Although the 3rd package has yet to be finalised and the Agency will not be able to undertake any of its tasks until 2010 at the earliest, European energy regulators consider that in order to make progress quickly it is important to begin preliminary work during the interim period. This document explains our proposed approach and discusses

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<sup>1</sup> Framework Guidelines were not included in the original Commission proposal, but were included subsequently by the European institutions during the negotiations.

the key issues. Here the main focus is on the codes, but also other issues, i.e. 10-year network development plan, are dealt in general terms.

## 2. The process in the 3rd package for creation of the codes

5. In summary, the broad process envisaged for the creation of codes is that (see figure 1):

- ‘Framework guidelines’ are prepared by the Agency, which establish clear and objective principles for each of the codes.
- Priorities for the development of codes are established by the Commission having consulted the Agency. The Commission then invites ENTSOs to prepare the codes according to the priorities set.
- Codes are prepared by the relevant ENTSO and submitted to the Agency, taking into account the objectives set in the framework guidelines.
- The Agency provides advice to the Commission on each code. Advice will be based on evaluation how the proposed codes meet the objectives set in the framework guidelines.
- The Commission may propose the code to the comitology committee in order that the code becomes binding.

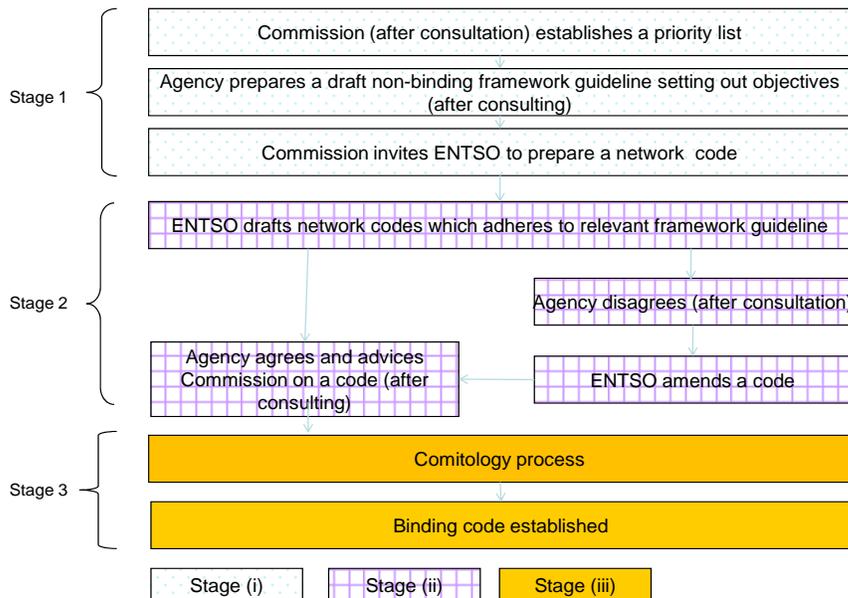


Figure 1: Process for establishing binding network codes.

6. The process for the establishment of the 10-year investment plan is that the relevant ENTSO adopts the plan every two years. The Agency provides its opinion on the plan to the Commission.

### **3. The nature of the European network codes**

7. In considering how to develop European network codes, it is necessary for the European regulators, TSOs and the Commission to have a common view on what type of codes we are seeking to produce. This section considers the scope and the legal nature of the European network codes.

#### *Scope of the European codes*

8. European network codes shall be developed for all key aspects which impact on cross-border network issues, as their aim is to create seamless interaction between national transmission networks which, together, will form a European grid as the basis for a single European market. It is envisaged that the network codes will co-exist with national codes or rules, European energy regulators consider that the scope of the European network codes should be limited to what is necessary to achieve the objective of creating seamless interaction between national transmission networks. However, it will be necessary for the national codes and rules to be compatible with the European network codes, which may lead to changes in current national practices. The changes and their impact can only be assessed on a case-by-case basis in the context of the particular codes.

#### *Legal nature of the codes*

9. In the European energy regulators' view the network codes should be legally binding, directly applicable, and compliance with them should be enforceable. Legally binding and enforceable codes will need to be drafted by the ENTSOs in legally precise terms. If contraventions of the code are to result in enforcement action, it is important that the obligations in the codes are clearly outlined, specific in nature and achievable for all concerned stakeholders. National codes and rules will need to be compatible with the European network codes, which may lead to changes in current national practices. The impact of such changes can only be assessed on a case-by-case basis in the context of the particular codes. Experience has shown, that high level, general obligations and principles are difficult or even impossible to enforce in consistent ways and thus the intended effect of the codes will be lost. In this case, it would be up to national regulators how to implement the high-level obligations, but the risk is that there would not be sufficient compatibility in national approaches to overcome the barriers to cross-border trade. In drawing up the framework guidelines and the codes it will be important to understand the impact of the proposed rules on all parties.

10. Other types of codes could be envisaged, such as codes which rely entirely on implementation in national laws to make them binding; or as explained above, codes which set out principles and high level obligations which could not be enforceable by the NRAs. However, to promote regulatory clarity and predictability for investors and for new entrants in the market, to ensure that barriers to competition are removed, and that there is a sound basis for progressing towards a single European market, European energy regulators consider their preferred approach, i.e. legally binding codes, is more appropriate. It is important to reach a common understanding on the legal nature and type of codes envisaged before drafting begins.

#### 4. The creation of the European network codes

11. The 3rd package and its subsequent development envisage that the European network codes will result from a process involving the European Commission, the Agency and the ENTSOs, with appropriate consultation of all stakeholders. The process envisages a particular role for each organisation and there will need to be close co-ordination between them:
- the Commission in setting the priorities for the code development and proposing the codes for adoption through comitology,
  - the Agency in setting out, in framework guidelines, the objectives for the codes and advising the Commission on the adequacy of the codes,
  - the ENTSOs in drafting the codes.
12. The purpose of this section is to consider how the process could work in practice and the role of the Agency/European energy regulators in facilitating the process.

##### *Grouping areas into codes*

13. The 3rd package identifies a number of areas that the gas and electricity network codes should cover. The Commission's original proposal listed 11 areas, which includes issues such as grid connection and access, capacity allocation and congestion management, harmonised transportation tariff structures, security and reliability rules, operational procedures in an emergency, rules of trading, balancing rules, transparency and energy efficiency. A definitive list will emerge when the final agreement is reached. However, many of the issues covered in 11 areas are inter-related. The generic areas which are to be incorporated into codes and their inter-relationships are described in Annex 1 of this document, which gives a preliminary view of the possible scope of each area.
14. The European Regulators view is that some of the areas should be joined together into fewer codes to reflect the strongest inter-relationships between the proposed 11 areas. This will help ensure consistency between inter-related areas and avoid duplication. This will be very important as European regulators expect the codes to be modified over time to reflect further harmonisation of the current differences in approach between markets.

This process will be a central element in the achievement, over time, of a single European gas and electricity market.

15. It might be possible to combine the areas listed in the Commission's initial proposals into a small number of codes, perhaps three or four for each of gas and electricity. The issues included in the 3rd package cover the most critical network related issues for the creation of the true internal gas and electricity market. The issues can be categorized in a number of ways. One way would be to list the topics on the basis whether the issue is related to: 1) providing and maintaining a well-functioning and secure platform for electricity and gas trading (security and reliability rules, joint grid planning, environmental impact of gas and electricity networks, operational procedures in an emergency); 2) specifying rules for the use of the platform (grid connection and access, tariffication (including, in electricity, the inter-TSO compensation scheme), capacity allocation and congestion management), rules for trading, balancing, data exchange 3) providing a level playing field for wholesale market operators (transparency). The area of data exchange may have relevance to other areas such as settlement and transparency. It is also possible that transparency is considered as its own stand-alone code with a broad scope covering all aspects capacity availability and balancing. Views on this, or other approaches, would be welcome.

#### *10-year network development plan*

16. In addition to the codes, the 3rd package proposals include an obligation on the ENTSOs to prepare a 10-year network development plan every two years. The 10-year plan is not a 'code', and the process for its development will therefore be different. It is not yet agreed whether the 10-year plan will be a document which informs the network development process, or a binding document which determines where investment should happen in a more centrally planned way. The outcome will influence the nature of the plan and the process for its development.
17. However, European energy regulators consider that it would be prudent for the Agency to prepare, and consult on, a document dealing with 10-year network development plan to inform the ENTSOs of the views of the Agency on such issues as the nature of the document, its scope, and any principles which the plan should adhere to. Although not part of the list of "11 Areas", the 3<sup>rd</sup> package may provide the Commission with new possibilities to propose guidelines for LNG and storage, two areas which have repeatedly been identified as having a significant impact on the internal gas market. European energy regulators would encourage the Commission to propose such guidelines, closely coordinated with the work on the 11 areas.

#### *Prioritising work on the codes and related documents*

18. In order to manage the use of scarce expert resources, and for other practical reasons, it is necessary to prioritise work on the codes. Codes are complex technical documents and the process for their adoption is a lengthy one involving the ENTSOs, the Commission and the Agency. European energy regulators have already started work

related to the development of the framework guidelines which set objectives for the codes. As the Agency and the ENTSOs will need to interact closely on the development of the framework guidelines and the codes, it will be important to reach a common view on the priorities. Currently, the position on the development of the framework guidelines is different in gas and electricity because in some areas work undertaken in the past is relevant to the work on the framework guidelines which has enabled preparatory work on the electricity guidelines to proceed more quickly than is the case in gas.

19. In electricity work related to preparing framework guidelines is underway in the following areas:

- Security and reliability rules including interoperability rules and operational procedures in an emergency;
- Grid connection and access rules;
- Capacity allocation and congestion management rules;
- Transparency rules;
- Balancing rules including reserve power rules; and
- Energy efficiency regarding electricity networks.

20. In gas work related to framework guidelines is underway in a number of areas as well. In addition the existing Guidelines for Good Practice (GGP) which have been developed, consulted and monitored already will be the basis of framework guidelines. Current work of European energy regulators in gas cover the following areas:

- Capacity calculation, allocation and congestion management;
- Transparency rules;
- Tariff guidelines;
- Balancing rules including transparency provisions on balancing.

21. Furthermore, detailed work has either been completed or is under way in relation to the scope, content and approach for developing the 10 year investment plan, GGPs and other specific recommendations for the Commission on storage and on LNG. Ultimately, the prioritisation of work by the ENTSOs on the codes is a decision which rests with the Commission on the advice of the Agency. During the interim period work could proceed by agreement between the Regulators, the EU TSO bodies and the Commission. European energy regulators would therefore like to seek views on prioritisation so that a common view can be reached on the work on the codes that should be undertaken during the interim period.

22. For electricity, ambitious and necessary measures addressing climate change concerns have substantial implications for the reliable operation of networks and energy markets and pose major challenges for the development and operation of Europe's energy infrastructure. In addition, the large system disturbances occurred in Europe in 2003 and in 2006 emphasized the importance of a reliable platform for the market. For these

reasons, system security and reliability is considered to be the highest priority. After completing this first Priority group, the focus should be on the issues related to the use of the infrastructure; rules on connecting to the grid and also accessing it. This Priority group should also cover the issues of scarce capacity and how to accommodate the requests of grid users in these cases. A closely related issue is transparency the lack of which has been one of the major shortcomings of the European electricity market. The third Priority group covers issues essential for good market functioning. Finally, the fourth Priority group contains topics that are important but not that critical for market integration or for which there currently exists a working solution. This suggests that one possible approach for prioritization of the codes in electricity could be the following:

- Priority I: Security and reliability rules; interoperability rules; and operational procedures in an emergency;
- Priority II: Grid connection and access rules; capacity allocation and congestion management rules; and transparency rules;
- Priority III: Balancing rules including reserve power rules; and data exchange and settlement rules;
- Priority IV: Rules regarding harmonised transportation tariff structures including locational signals and inter-TSO compensation rules; energy efficiency regarding electricity networks.

23. It should be emphasized that some issues within the areas for codes in electricity may have a different level of priority in relation to the overall proposed prioritisation, due to fact that they are either covered within another code, or they are not so urgently needed as the others. Furthermore, data exchange is relevant for most of the codes, so the priority for the data exchange is determined by the specific issue the data exchange covers.

24. For gas the proposed priorities are different and reflect the different situation in gas. Here the main concerns are proper access to existing infrastructure, lack of transparency and resolving practical problems with interoperability and coordination between TSOs. A number of studies indicate the following priorities should be attached to the areas identified in the Commission's initial proposals for the development of codes:

- Priority I: Capacity allocation and congestion management rules; transparency rules; balancing rules;
- Priority II: Rules regarding harmonised transmission tariff structures; interoperability rules;
- Priority III: Security and reliability rules; grid connection and access rules; data exchange (although aspects of this area may have relevance to other higher priority areas) and settlement rules; rules for trading related to technical and operational provision of network access services and system balancing;
- Priority IV: Operational procedures in an emergency, energy efficiency regarding gas networks;

- Although not part of the list of “11 Areas” the 3<sup>rd</sup> package will nonetheless most likely provide the Commission with new possibilities to propose guidelines for LNG and Storage, two areas which have repeatedly been identified as having a significant impact on the internal gas market. European energy regulators share this view from the market and would encourage the Commission to propose such guidelines, closely coordinated with the work on the 11 areas.

25. The prioritisation of the individual areas will also depend on decisions on possible grouping.

*The role of the Agency: the ‘Framework Guidelines’*

26. It has been envisaged, that the Agency will prepare guidelines to establish objectives for the development of each network code. Each guideline shall contribute to non-discrimination, effective competition and the efficient functioning of the market. It is also important to establish a clear understanding of the relationship between the framework guidelines and the codes.
27. The framework guidelines will specify the objectives and the outcomes for each particular code. They will also explain clearly what is expected to be covered in the codes and the arrangements that should be established in the codes.
28. It is essential to decide the relationships between the code and the framework guidelines. The initial set of framework guidelines and codes will facilitate the process of harmonisation by taking the steps towards the single European market. Over time, the level of convergence should increase the process for modifications of codes should allow this to be progressed as soon as practicable. This may be facilitated by the Agency developing a process for evaluation of code modifications, which could include explicit and objective criteria for making its assessment and proposals to the Commission.
29. An important aspect is the level of detail in the framework guidelines. The framework guidelines must reflect the degree of harmonisation which can be achieved through the first set of codes if the path is to be set towards a single European market. If the framework guidelines remain on a relatively general level there will be uncertainty with regard to the preparation of the codes by the ENTSOs. General framework guidelines cannot provide the guidance needed by the ENTSOs in their preparatory work and the final outcome of the process will be unpredictable. Therefore, the Agency and the ENTSOs will have to interact closely on the development of the framework guidelines and the codes. The Agency is obliged to deliver a justified opinion on the draft codes within a period of just two months, which includes a public consultation. Careful preparation will be essential if this timetable is to be met, and without appropriate and sufficiently detailed framework guidelines prepared in advance it will not be possible for the Agency to meet the strict deadlines and the delay in the process will be inevitable.
30. The degree of detail in each framework guideline is likely to depend in the circumstances of each case. To illustrate how detailed the framework guidelines could be and what could be their relationship to the codes, it is worth considering the example of

transparency in electricity. The Congestion Management Guidelines of the Regulation (EC) 1228/2003 contain a general description of the legally binding transparency obligations. However, due to their relatively general nature, it was necessary for ERGEG to prepare the more detailed Guidelines of Good Practice on Information Management and Transparency for the practical implementation of the obligations. Additionally, the regional implementation of Guidelines of Good Practice revealed that the further elaboration of the detailed rules was needed, which led to the compilation of regional transparency reports. These regional transparency reports could be envisaged as a model for future codes, where the essential factor is their clarity and readiness for implementation and supervision.

#### *Interaction of the Agency and the ENTSOs*

31. A level of interaction between the Agency and the ENTSOs (and, in the interim period, between ERGEG and the EU TSO bodies), in addition to the formal written consultation processes would assist in ensuring that the codes achieve their overall objectives and could facilitate the drafting of both the guidelines and the codes.
32. Such interaction should be agreed jointly by the European regulators, the bodies representing the European TSOs, ENTSO-E and GTEplus and the European Commission. There are various options for ensuring that there could be envisaged, these include:
  - Ad-hoc discussions or work - groups. The Agency (or ERGEG in the interim period) could invite representatives of the ENTSOs (or GTEplus and/or ENTSO-E in the interim period) to discuss the guidelines. Similarly, the TSOs (or GTEplus and/or ENTSO-E in the interim period) could call on the Agency (or ERGEG in the interim period) to explain or give more detailed guidelines during the code drafting process.
  - Regular joint drafting committees of the guidelines and codes. The Agency (or ERGEG in the interim period) with the ENTSOs (or GTEplus and/or ENTSO-E in the interim period) could establish regular sessions to discuss the guidelines and the codes.
33. The proper involvement of stakeholders in the process is essential, and this is discussed in detail in Appendix 1.

#### *A proposed timetable and process*

34. The process and timetable for the development of the codes and other key documents needs to be specified.
35. Formally, the Agency will not be able to undertake any of its tasks for 18 months after the 3<sup>rd</sup> package enters into force, which if the package is agreed at the end of 2008 would be June 2010. The process for the code adoption as currently envisaged could take until 2012 as the Agency has six months to draft the framework guidelines and the ENTSOs, subsequently one year to draft the network codes after the code priorities have been set by the Commission.

36. For the 10-year European network development plan, the ENTSOs are required to adopt the plan every two years after the amendment of the Regulation enters into force. If the 3rd package is adopted by the end of 2008, this could mean that the ENTSOs have to produce their first investment plan by the end of 2011, or by 2013 if the two year deadline is taken to run from the point the ENTSOs are formed.
37. However, there will be an 'interim period' from the point the 3rd package is agreed and when it takes effect (and therefore lasting possibly until 2011) during which work could be undertaken by ERGEG and ENTSO-E/GTEplus in preparation for the formal steps which can happen only after the establishment of the Agency and the ENTSOs. Therefore, as well as establishing the priorities, the procedure for ERGEG working together with ENTSO-E/GTEplus in the interim period must also be set out in a transparent way.
38. The key features of the process that European regulators envisage for the development of the codes identified as priorities by the Commission are:
- ERGEG will prepare draft framework guidelines during the interim period. It will interact with the ENTSOs and the European Commission and consult stakeholders fully on the draft guidelines using an effective published consultation procedure. Furthermore, an impact assessment, where appropriate, will ensure that ERGEG is aware of any implementation issues (whether from TSOs or network users) before the guidelines are finalised. The Agency, when it is established, would finalise this work through a formal consultation.
  - The resulting draft framework guideline will be submitted by ERGEG to the Commission and, once the Commission has endorsed it, to ENTSO-E or GTEplus.
  - ENTSO-E and GTEplus will draft the relevant preliminary network code to fulfil the objectives specified in the draft framework guideline. ENTSO-E and GTEplus will involve network users and other stakeholders. In view of the public interest issues involved, and to minimise the need for duplicate consultations, European energy regulators consider that the exact methods for involving stakeholders by the ENTSOs should be included in their rules of procedure which should be approved by the Commission on the advice of the Agency. It would be practical for the Agency to be closely involved in the process. This work will be finalised by the relevant ENTSO when it is established, and the ENTSO will pass the draft network code to the Agency.
  - There should be a public document which outlines the arrangements for co-ordination between the Agency and the ENTSOs (and European energy regulators and ENTSO-E/GTEplus in the interim period).
  - When it is established, the Agency will undertake a consultation on each draft framework guideline, and then on each network code to assist it in establishing that the code meets the objectives in the relevant framework guideline. This will be a further opportunity to ensure comments raised previously have been properly considered – stakeholders will already have had the opportunity to raise substantive issues in the previous rounds of consultation.
  - The Agency will advise the Commission on the draft network code in the light of the consultation.

- The Commission may then make a proposal to the comitology committee to make the draft network code binding.
39. These steps will ensure the effective involvement of stakeholders in the process for the development of the codes; that the roles and responsibilities of the Commission, the Agency, and the ENTSOs are clearly defined; and that progress can be made also during the interim period. The Agency would also consult on other important documents which are not network codes – notably the 10-year network development plan and the annual work plan of the ENTSOs.

## 5. Issues once the codes are developed

### *Enforcing the network codes*

40. As explained above the European energy regulators consider that the European network codes should be legally binding and enforceable by the NRAs. In this case, since the codes are cross-border in nature, it will need to be considered how the NRAs will co-operate in enforcing compliance.
41. The proposals amending the Directive 2003/55/EC concerning common rules for the internal market in natural gas and the Directive 2003/54/EC concerning the common rules for the internal market in electricity envisage that the NRAs shall co-operate closely. The Commission may adopt guidelines on the extent of the duties of the NRAs to co-operate with each other and the Agency.

### *Changes to network codes after they are established*

42. Wide experience with national codes and rules is that changes are needed to them from time to time. When progress is to be made towards a single European market then binding codes will need to evolve over time. The frequency of change tends to depend on the topic, changes in the market and the level of maturity of the regulatory framework. It is envisaged that modification to a network code may be proposed by the Agency, ENTSO, TSOs, network users or consumers. It requires the Agency to establish efficient processes for the assessment of and thorough consultation of the draft modification. The Agency may then make justified proposal for modifications proposed by ENTSOs to the Commission. The Commission may adopt these modifications through comitology.
43. European energy regulators believe that network users and consumers should have a central role in this process and would welcome views on how they should be engaged in this modification process. These views will assist European energy regulators in the preparation of a separate consultation on the process for making changes to established codes after agreement on the 3rd package has been reached.

## Annex 1

### The scope of codes

The European energy regulators Work Programme 2008 has already reflected the areas for codes of the European Commission's proposals on the 3<sup>rd</sup> energy package.. The contents of this Appendix have been largely taken from the Work Programme 2008 and further work on the deliverables is foreseen in the Work Programme 2009. This document contains a preliminary view of the possible scope of the each of the 11 areas contained in the Commission's initial proposals. Many of the areas overlap with others and so the exact scope of each area will be affected by later decisions on grouping of areas into codes, and on views received from stakeholders.

### Section 1: Electricity

#### Security and reliability

1. The key to the well functioning electricity markets is a secure and reliable network, where energy supplies are reliable and continuously transmitted to the users of electricity.
2. Faults in electricity transmission lines, substations and generators give rise to disturbances which can spread widely if power system is not planned and operated according to the congruent principles. Presently there is no obligatory framework for all EU TSOs and / or synchronous areas to comply with any common, EU-wide rules. However, after large disturbances and electricity supply interruptions in the past (e.g. the 4th of November 2006 in the UCTE synchronous area, blackout in Italy in 2003), it is evident that a number of issues which are presently either not addressed or not adequately dealt with within the existing technical rules and codes, can only be appropriately resolved through a common, EU-wide approach. To this end, some key issues and conditions must be taken into account accordingly in order to achieve operational security, maintain efficiency and effectiveness.
3. The common operational security rules in electricity need to be defined and agreed. The specific issues to be dealt with include e.g.:
  - Roles and responsibilities of different stakeholders and market players;
  - Organisational framework for technical rules and codes including e.g. rules drafting principles and compliance monitoring;
  - Technical framework for operational security including e.g. security criteria, transmission capacity calculation, co-ordinated operational planning, real-time operation, emergency operation, restoration and interoperability;
  - Training and certification provisions for the TSO staff.

### **Grid connection and access**

4. Common grid connection and access rules are needed throughout the internal gas and electricity market in order to ensure a non-discriminatory treatment of all grid users and equal grid connection and access conditions for all market participants.
5. The grid connection and access rules shall be based on the comparative analysis and extraction from the existing network codes. They shall not make redundant the national network codes, but rather reflect a complementary addendum to those codes, ensuring EU-wide equal, non-discriminatory treatment of all network users.

### **Data exchange and settlement**

6. The data exchange and settlement rules are needed within and between the synchronous areas of the European internal electricity market to enable and support the operation and security of electricity grids and effective functioning and operation of the market. Data exchange rules are closely related to several areas and probably more efficiently to be included in the relevant rules than a separate data exchange rules. Furthermore, settlement rules are closely related to the balancing rules and the interface shall be taken into account when drafting the relevant rules

### **Interoperability**

7. TSOs shall ensure that their system can operate as smoothly as possible with other TSOs' systems. This requires co-ordination in protection measures and in operation of the networks. The requirements for co-ordination shall be set so as to maximise transmission capacities without violating the system security. These procedures relating to operation, monitoring, data sharing, and – in the case of electricity - disturbance management on interconnections, shall be described to ensure interoperability within and between defined areas.
8. Provisions need to be included so that TSOs having interconnections to other areas shall ensure that operation of these interconnections is compatible with their own area.
9. Interoperability rules are closely related to the security and reliability rules and the interface shall be taken into account when drafting the relevant rules.

### **Operational procedures in an emergency**

10. In case of emergency, the TSO shall take the remedial actions to restore the system to the normal secure operating state without delay, safely, and as quickly and efficiently as possible. Remedial actions are dependent on the nature of the emergency and may include a range of possibilities. These remedial actions shall accordingly be used to

restore the normal operating state of the system as efficiently as possible within a predefined target time frame.

11. Procedures for remedial actions shall be defined by TSOs. Agreements and coordinated procedures between neighbouring TSOs shall be implemented to complement national rules and procedures.
12. TSOs shall maintain emergency plans and have regular training for emergency management across their own system area borders, where appropriate. In particular, TSOs shall define when the power system is in the normal operating state and when it diverges from this state. TSOs have to ensure that these definitions are common across the area and between areas in order to avoid adverse effects in network operation.
13. Automatic load shedding systems design shall be harmonised and co-ordinated across synchronous areas. In this respect, the DSOs involved shall cooperate with TSOs. Responsibilities regarding load shedding system installation and maintenance shall be defined in each control area and the efficiency of load shedding systems shall be regularly evaluated.
14. Operational procedures in an emergency are closely related to the security and reliability rules and the interface shall be taken into account when drafting the relevant rules.

### **Capacity allocation and congestion management**

15. An interconnection is considered congested when the sum of demand for capacity accepted by the TSOs at a specific allocation timeframe exceeds the capacity available at that interconnection. Capacity allocation and congestion management are based on following principles: 1) economic efficiency and promotion of competition; 2) maximization of capacity available and the use made of it; 3) transparency to network users on a non-discriminatory basis; and 4) secure and safe network operation.
16. Capacity allocation and congestion management rules shall follow the provisions and requirements as specified in the existing Congestion Management Guidelines annexed to the Regulation<sup>2</sup>. Beyond that, the specific issues of transmission capacity calculation in relation to the security and reliability rules (e.g. applied security criteria, applied reliability margin and description of 'base case'<sup>3</sup>) shall be taken into account accordingly. Furthermore, based on compliance monitoring of the Guidelines new amendments to the Congestion Management Guidelines are addressed with a view to ensure an unambiguous implementation of the Guidelines across the EU.

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<sup>2</sup> EC Decision 2006/770/EC

<sup>3</sup> 'Base case' describes the forecasted grid topology, forecasted production of generators and forecasted consumption of loads for application in load-flow simulation program to calculate transmission capacity for the required allocation time frame.

## **Transparency**

17. The actors of the internal electricity market need information on the market as a basis for their business decisions. To provide a level playing field for the actors it is important to have the necessary information available at the same time for all the actors. However, some actors may have better access to the information (e.g. have more information or get it earlier) for instance due to vertical integration. This information asymmetry can be a barrier to market entry or can make it difficult for the less informed actors to succeed in the market. Poor transparency has been identified in all the key studies as one of the major shortcomings of the Internal Electricity Market.
18. The areas for transparency include information on supply, demand, network conditions, access to interconnectors, balancing and other wholesale market information. ERGEG has prepared Guidelines of Good Practice for transparency in the electricity market with a view to make the transparency requirements more specific<sup>4</sup>. The implementation of transparency rules has been undertaken through the Regional Initiatives. These rules will provide the basis for the legally binding framework on transparency and information management.

## **Balancing rules including reserve power rules**

19. The operation of a power system requires that TSOs ensure a balance between supply and demand during operational hour. In competitive electricity markets, a balancing mechanism therefore generally exists such that TSOs can undertake balancing actions – that is, they identify the need for, and procure adjustments in, generation or demand – in order to maintain balance during the operational hour in the power system, i.e. control area, for which they are responsible. Imbalance pricing can be used to encourage market players to maximize their efforts to be in balance and settlement rules for defining those responsible for imbalances. Balancing markets - i.e. markets, where TSOs can buy and sell balancing energy - therefore form an integral part of the overall electricity trading arrangements and timetables.
20. In the longer term, the integrated European electricity market will require the integration or at least full interaction of European balancing markets as far as is technically possible and economically efficient to facilitate trade within larger balancing areas. An efficient integrated balancing market provides benefits, where efficient and competitive price discovery and market liquidity are promoted. A high degree of transparency concerning market rules, price formation, and market participation will also facilitate the functioning of the market by allowing market parties to make informed decisions and minimize risk concerning investment and operation. Altogether the benefits of such features will encourage market entry and competitive pressures to develop, and for overall system costs to be minimized.

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<sup>4</sup> Guidelines of Good Practice on Information Management and Transparency in Electricity Markets, ref. E05-EMK-06-10, 2 August 2006

21. Beyond that, the interaction of balancing markets with automatically activated reserves and with the intra-day trade will need to be taken into account in order to optimise economic efficiency and security of operation and supply.
22. Imbalance arrangements including pricing and settlement shall be simple and transparent so that principles behind them are easily understood and justified so that economic risk for market participants can be easily assessed. Imbalance arrangements need to enhance the efficient operation of the balancing market and the wholesale market.
23. Balancing rules are closely related to the data exchange and settlement rules and the interface shall be taken into account when drafting the relevant rules.

#### **Harmonised transportation tariff structures including locational signals and ITC**

24. The transmission tariffication systems and the charges for access to the transmission networks differ across the Member States. To avoid distortions of competition some degree of harmonisation of the charges for access to networks by the generators is needed. Harmonisation of the generators' fee – G charge – is considered to be more important than the harmonisation of the consumers' or load's fee – the so called L charge – as the generation of electricity and the location of generation plants is considered to be more responsive to price signals than the consumption of electricity.
25. Regulation 1228/2003 provides that charges applied by network operators for access to networks shall be transparent, take into account the need for network security, reflect actual costs incurred insofar as they correspond to those of an efficient and structurally comparable network operator and be applied in a non-discriminatory manner. Additionally, charges shall not be distance-related.
26. ERGEG delivered its advice on the Tarification Guidelines to the European Commission in July 2005. The objective of these guidelines was to serve as a first step for the harmonisation of charges paid by generation on the transmission network level. The draft Tarification Guidelines reviewed the ranges of national tariffs at the time as a starting point for harmonisation and foresaw further work on this issue, e.g. on locational signals.
27. It is an inherent feature of the interconnected power system that injections of electricity in the national systems and withdrawals of electricity cause physical power flows in the power systems. Power flows are not only restricted to the transmission grid involved in the injection and the withdrawal but may cause power flows to the transmission grids of other interconnected network operators. For this reason, there is the need to establish a mechanism to compensate for the use of the transmission networks of third parties that are used to host non indigenous power flows. So far the inter-TSO compensation mechanism has been carried out on a voluntary basis. The current system, which does not comply with the Electricity Regulation 1228/2003, runs until the end of 2009. Thus,

there is an urgent need to have binding and compliant rules on inter-TSO compensations.

### **Energy efficiency**

28. Power losses in transmission and distribution networks can be broadly defined as the difference between the total amount of electricity entering the transmission system and the aggregated consumption registered at end-user meter points. From an operational point of view, electricity losses are an unavoidable cost of the transfer of energy across electricity transmission and distribution networks which need to be appropriately tackled, as they impose an additional demand and energy load on the system.
29. Losses result in considerable financial and environmental costs. It should be noted that power losses in transmission and distribution networks may account for up to 10%-15% of the total amount of electricity that is produced. The financial costs related to these losses are mainly borne by final customers, as they are obliged to pay for an energy supply that includes also energy that is 'lost' when transmitted and, therefore, not consumed.
30. The environmental impact of losses is borne by the society as a whole, as a result of the emission of air pollutants associated with the additional generation that may be needed to cover losses. Therefore, the objective of the regulatory treatment of losses is twofold. On the one hand, protect the interest of customers. On the other hand, promote the efficiency and sustainability of the transmission and distribution networks.

### **10 year Network Development Plan**

31. At present, there exists no coordinated electricity grid planning neither at the European level, nor at the level of the synchronous areas with the exception of Nordel area. Whereas the System Adequacy Forecasts (SAF) of a given synchronous area includes the findings and some indirect suggestions on what grid expansions and new infrastructure investments are needed, it is not sufficient for European wide infrastructure development.
32. With respect to the new infrastructure, the 10-year network development plan for the European electricity grid(s) shall address among others:
  - All the inter- and intra-control area new lines at the 220/380-kV (or higher) that are to be built and enter operation in the next 10 years.
  - Each of those projects shall be specified in terms of e.g. rationale behind / justification, costs, responsible TSOs and/or other parties (e.g. investors), implementation and completion time, expected benefits for security of supply and for the market, i.e. technical/economic evaluation.

- With respect to the general System Adequacy Forecast, the 10-year network development plan shall be build around the present concepts of the e.g. UCTE SAF or Nordel SAF, but enhanced in the future, when experience has been gained from the first general forecast.
- The 10-year network development plan shall be developed and updated by the ENTSOs on a bi-annual basis.

## **Section 2: Gas**

### **Security and reliability rules**

33. The introduction of an incident prevention policy and a safety management system should be defined in the guidelines. The incident prevention policy should contain concrete goals relating to incident reduction, to be evaluated on a regular basis on the basis of agreed criteria which should be outlined in the guidelines. This policy should have the objective to guarantee a high level of protection of the installations by means of appropriate measures and structures. A safety management system should serve as a tool to implement the policy. It should contain the organisational structure, responsibilities, roles and procedures.
34. An emergency plan has to be defined. This will be treated under article 2c.3 e with the operational procedures in an emergency.

### **Grid connection and access rules**

35. Grid connection and access rules should be harmonized on a level to allow for the efficient functioning of the internal gas market. Connection procedures should be made clear for end-customers and other operators, covering new connections and extensions. The economic feasibility of the connection and the related sharing of the connection costs as well as the contribution of the investment to the totality of the development of the existing system are two criteria to be evaluated. Conditions on indemnifications and guarantees should be transparent. Undue discrimination of access to the grid has to be avoided. Conditions for priority access should be set out to prevent undue discrimination.

### **Data exchange and settlement rules**

36. The data transfers between all market participants should be implemented as specified by Codes prepared by ENTSOG ensuring confidentiality and commercial sensitivity. The TSO may only use network user data required for the performance of its duties in accordance with the relevant statutory provisions. It may only, where necessary and legally permissible, forward such data to market participants, while ensuring

confidentiality and commercial sensitivity. The TSO should provide relevant market participants with the information and data required by them to perform their functions, and to operate the network safely and efficiently, coordinate network upgrading and expansion, and maintain interoperability. Analogous duties to inform should apply to the network users in respect of the transmission company/transportation rights holders into whose network it injects gas. The interaction between LNG and Storage operators and TSOs has to be considered as well. (Data exchange rules are closely related to several areas and in some cases it is probably more efficient to include those in the relevant rules than a separate data exchange rules.)

### **Interoperability rules**

37. Gas specifications on interconnection points are historically being dealt with in the supply contracts, because only one party on each side of the border existed. With multiple network users on both sides, the interoperability rules should be common and transparent for everybody and laid down in an agreement between system operators. The conclusion of interconnection agreements on each interconnection point is key. Technical specifications (e.g., gas day) on pressure and quality should be specified therein. Nomination and re-nomination procedures should be harmonized at interconnection points. Significant preparatory work has been done by market participants already and this will need to be taken into consideration when determining the priority and scope of the code.

### **Operational procedures in an emergency**

38. Robust operational procedures are required to prevent network emergencies and to return the system to stable operating conditions when an emergency has occurred. Co-operation between TSOs is essential to ensure that an emergency in one area does not have an impact on a neighbouring system. Emergency plans need to be compatible. Provisions for the co-operation between TSOs to assist in potential emergency situations should be formalised. The roles and responsibilities of all parties need to be clearly set out in the emergency procedures. Provisions for the co-operation of neighbouring TSOs should be provided in the codes.

### **Capacity allocation and congestion management rules**

39. CAMs and CMPs should to be coordinated among adjacent system operators. This is already explained in ERGEG Guidelines for Good Practice on Open Season Procedures (GGPOS), ref. C06-GWG-29-05c, 21 May 2007: adjacent system operators must offer compatible products, in compatible quantities, using compatible timing and processes, including compatible information processes.

40. As a first recommendation TSOs should set aside a non-negligible portion of their new capacity for one-year capacity bookings and shorter term needs (with appropriate lead times regarding the respective duration of these bookings). The current Regulation states that short term services have to be offered, but does not lay down any threshold. One-year bookings and shorter term capacity is especially important for new entrants which do not have the financial wherewithal to book capacity for as long and as long in advance as incumbents. Building more capacity for short term bookings on top of the capacity secured by long term contracts is also positive in terms of flexibility, which new entrants are usually short of, and in terms of facilitating arbitrage opportunities as well as the ultimate emergence of a common market.
41. Secondly, scarce capacity that is systematically unused must be placed back into the market in a firm way. The current Regulation 1775/2005 lays down interruptible day ahead UIOLI mechanisms as a way to avoid capacity hoarding also including long-term firm UIOLI requirements. LT UIOLI measures are effective tools which discourage large players from booking too much capacity and / or encourage shippers to release unused capacity on the secondary market if needed by other shippers. If the mechanism is carefully designed it will be used only at the request of shippers to acquire capacity and under precise conditions, thus avoiding unfair expropriations and risks of contract cancellation for TSOs.
42. The rules to be set should provide guidance for the CAMs and CMPs which are today commonly used, or, at least, at hand in Europe. These CAMs and CMPs include, among others, open subscription periods, short term UIOLI mechanisms, secondary market, rucksack principle, and interruptible capacity.

### **Rules for trading**

43. Guidance should be given for network related rules for commodity trading (e.g. at virtual hubs) and TSOs related services in secondary capacity trading. Here, guidance on the necessary cooperation between TSOs and capacity trading platform operators should be given.
44. In this area, the guidelines shall not contain technical and / or operational rules on data exchange protocols, data formats or other technical details which must in turn be delivered within the related detailed rules and codes to be prepared by the ENTSOG and/or other stakeholders.

### **Transparency rules**

45. Poor transparency has been identified in all key studies as one of the major shortcomings of the Internal Gas Market. It is proposed that these Guidelines will address the publication of network related data, specifically: technical information,

definition of relevant points, tariff information, capacity information, balancing information and user-friendliness of the information provided by TSOs. In this context, transparency refers only to the information to be provided by TSOs and does not cover other areas of transparency, such as storage and LNG.

46. The Guidelines should not cover details on the harmonisation of units, calculation of available capacity or any actual technical and/or operational standards and rules, which must be provided in the respective detailed rules and codes to be prepared by the ENTSOG and/or other stakeholders.
47. ERGEG has prepared a number of Guidelines of Good Practice in the gas market aiming to make the transparency requirements more specific. The implementation of the transparency rules has been carried out through the Regional Initiatives.

### **Balancing rules**

48. The focus of these Guidelines should be on creating the right conditions to incentivise a reduction in the number of balancing zones as far as is economically efficient, and on addressing cross border difficulties in order to facilitate trade and competition. These should be the overall objectives in considering individual elements of the code.
49. The following issues are examples of the types of considerations that will have to be addressed when evaluating the respective content of the Guidelines and the codes:
  - Balancing period: at a policy level the balancing period will need to be specified, either as a fully harmonised period or as a menu of balancing period options.
  - Imbalance charges: for example, the necessary design principles of charges could be set out in the guidelines, with the detailed methodology contained in the code.
  - Penalty charges: situations where penalties should be imposed and the principles behind calculation of penalties and their application.
  - Access to sources of flexibility: Trading and pooling of imbalance positions: tolerance levels, services and access to sources of flexibility; consideration needs to be given to the extent to which these issues are relevant to cross-border balancing.
  - Agreements on interconnections: the conclusion of interconnection agreements on each interconnection point is a must. The agreement shall establish operational balancing accounts.

### **Rules regarding harmonised transportation tariffs**

50. Basic cost and tariff principles should ensure a certain level of harmonisation of transmission tariff structures across Member States. Close cooperation between NRAs is especially required when setting entry and exit tariffs in order to avoid pancaking. Harmonisation is needed for the design of incentives for (extension) investments in new

infrastructure. The benefit of a harmonised tariff framework for new investments should foster a positive investment climate. Furthermore, guidance should be given on the design of tariffs for interruptible and short-term capacity products.

### **Energy efficiency regarding gas networks**

51. Energy efficiency is an important issue that should be taken into consideration when decisions have to be made concerning investments. It can trigger investment in new installations or the decisions not to maintain or upgrade old equipment. The obligation to use Best Available Techniques which are economically justifiable is a policy decision that should be considered under this topic. The aim to cooperate with other operators to optimize installations on a technical performance level is an additional one. Optimisation of system operation can result in real energy savings from reduced balancing actions and reduction in compressor operations. Harmonising operating regimes and co-operation between TSOs should be fully exploited to maximise potential savings.

### **10-year network Development Plan**

52. As trade and interdependence between EU countries grows, it will be especially important to look at plans from an EU point of view in order to coordinate investments in gas infrastructure across Europe, which is why the 3rd package calls for ENTSOG to adopt an EU-wide 10-year network development plan and regional investments plans to be updated every two years.

53. The plan should:

- Cover investments aimed at increasing or maintaining capacity levels on the main high pressure transmission networks (at entry and exit points as well as inside the network);
- Cover investments in conversion facilities;
- Take into account storage, LNG and CCGT projects (not because ENTSOG should propose what facilities are to be constructed, but because these facilities will have a big impact on demand for transmission capacity).

54. Furthermore, the plan should:

- Provide a map of existing, decided and planned infrastructure (both regulated and not);
- Provide sufficient information about worldwide and EU gas demand and supply trends (the sources used to elaborate these trends can have a big impact on investment plans and may need to be defined in the strategic guidelines – some issues as to the information powers of ENTSOG that may need to be addressed);

- Include a summary of investment plans developed at national level and of any additional input submitted through the Gas Regional Initiatives (GRIs);
- Identify physical congestions, particularly at cross-border level, that will result from EU demand and supply trends;
- Identify the potential projects that could resolve physical congestions, including a cost-benefit analysis and/or assess the probability of the realisation of each project;
- Propose an investment plan, with the following features:
  - Development of entry points into the European market;
  - Internal debottlenecking and interconnection between Member States;
  - Development of exit points (notably storage and CCGT connections).

55. A certain degree of TSOs' commitment referred to construction of the infrastructures included in the plan is advisable. The plan should also include an assessment of the conditions under which the TSOs would commit themselves to undertake the infrastructures construction, such as considerations on internal rate of return, market demand.