ACER Public Consultation on Draft Framework Guidelines on System Operation

Evaluation of responses

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1 Introduction

In July 2011, the Agency for the Cooperation of Energy Regulators (ACER) launched a public consultation on the draft Framework Guidelines on System Operation in electricity (henceforth referred to as the Framework Guidelines), pursuant to Article 6(2) of Regulation (EC) No 714/2009. These Framework Guidelines focus on issues related to electric power systems and network operations, covering the areas of Article 8 (6) (a), (d), (e) and (f) of Regulation (EC) No 714/2009. The purpose of this consultation was to present the draft Framework Guidelines developed by ACER according to the provisions of the Third Package and to solicit feedbacks from stakeholders on the regulators' approach to date. Stakeholders were also invited to answer a questionnaire related to the Framework Guidelines. In order to better understand the background of the Framework Guidelines and to enable better readability of the document, the Initial Impact Assessment was also published. However, the Impact Assessment was not submitted to consultation.

On 24 August 2011, a presentation of the Framework Guidelines was organised for the stakeholders by ACER.

The public consultation was held between 15 July and 15 September 2011. A total of 31 responses were received, including two confidential responses. This evaluation of the responses received during the public consultation contains a summary of the answers provided by the respondents to the questionnaire that accompanied the Framework Guidelines. It highlights the main issues raised by the respondents as well as ACER's position, and, where relevant, the changes that have been made to the Framework Guidelines text to reflect the comments received in the consultation process. Finally, the respondents commented on several other issues, that were not directly related to the questions from the questionnaire. These comments are summarised and addressed in Chapter 3 of this document.

The respondents represented the interests of equipment manufacturers, national associations, generators, *distribution system operators* (*DSOs*), *transmission system operators* (*TSOs)*, electricity and gas suppliers and European associations. Annex 2 lists all respondents according to their activity.

2 Responses per question

In the frame of the public consultation, ACER raised 12 questions on issues related to the Framework Guidelines as presented below (8 questions refer to general issues, whilst 4 questions cover specific issues). A summary of the answers provided by the stakeholders together with ACER's view and indications of changes to the Framework Guidelines is given below.

General Issues

Question 1. The Initial Impact Assessment (IIA) identifies the following challenges: (i) growing amount of distributed generation and variable generation; (ii) increasing interdependence of control areas. Are there additional key cross-border challenges that the Framework Guidelines and Network Code(s) on System Operation should address?

Respondents' feedback: While the stakeholders, in general, recognised the issues mentioned above as important challenges they are faced with, they also expressed the need for market efficiency and market integration to be addressed as challenges in the Framework Guidelines on Electricity System Operation.

ACER's views: The Framework Guidelines on Electricity System Operation should only define the high-level principles for secure *system operation*. ACER agrees that if possible the way these requirements are met should be based on market principles (in order to improve efficiency), with due respect to the differences between *synchronous areas* and the availability of reserves needed for the effective functioning of the ancillary services market.

Changes to the Framework Guidelines: None.

Question 2. The Framework Guidelines identify a number of actions and requirements to be included in the Network Code(s) as a solution to these challenges. Are the actions and requirements identified in the Framework Guidelines appropriate to solve these challenges?

Respondents' feedback: While several stakeholders considered the actions and the requirements identified in the Framework Guidelines as appropriate for addressing these challenges, many stakeholders asked for more clarity regarding the information exchange issues (i.e. roles of the involved parties, confidentiality, and justification), the cost-benefit analysis, the security standards and the market aspects of the *system operation* requirements.

ACER's views: ACER agrees that the issues raised by the stakeholders are important and that a clarification with regard to the above topics must therefore be provided.

Changes to the Framework Guidelines: The document has been redrafted to clarify the roles of the involved parties, the justification of the new requirements as well as the market aspects of the *system operation* requirements.

Question 3. Are the proposed levels of harmonisation sufficient to solve these challenges?

Respondents' feedback: There was no clear consensus on this question among the stakeholders. While several stakeholders considered the proposed levels of harmonisation sufficient, many stakeholders argued that an increase in the level of harmonisation was not necessary. Some of them believed that a higher level of harmonisation was required for market and renewable energy generation integration. Several stakeholders requested a justification of the changes to the existing level of harmonisation by a cost-benefit analysis.

ACER's views: Harmonisation is not only a complex issue to implement but also different levels of harmonisation are required according to the concerned topics of System Operation (see Table 1 in the Framework Guidelines on Electricity System Operation). It is clearly a mean to reach the objective rather than the objective itself. The diverging opinions expressed by the stakeholders are a strong indication that a proportional as well as a subsidiarity approach are needed within the individual areas of System Operation.

Changes to the Framework Guidelines: Several parts have been redrafted to reflect ACER's views.

Question 4. Should the Framework Guidelines be more specific with regard to areas that need to be harmonised, both across and within *synchronous areas*?

Respondents' feedback: There was no clear consensus on this question among the stakeholders. While several stakeholders asked for more detail on several Topics (in order to achieve a higher level of harmonisation), a number of stakeholders argued that the Framework Guidelines on Electricity System Operation should include only high-level principles in order to ensure flexibility in both the Framework Guidelines and the network code(s) on Electricity System Operation. Some stakeholders emphasised that harmonisation was more important within a *synchronous area*.

ACER's views: See answer to question 3.

Changes to the Framework Guidelines: Several parts have been redrafted.

Question 5. Should the Framework Guidelines require the development of common rules for System Operation between *synchronous areas*?

Respondents' feedback: The majority of the stakeholders supported the development of common rules for System Operation across the *synchronous areas* as a basis for reaching a

higher level of market integration. Several stakeholders argued that due to the particular features of the *interconnectors* this harmonisation was either not required or that the level of harmonisation should be limited to common definitions and principles.

ACER's view: The existing differences between the *synchronous areas* must be taken into account during the development of network code(s) (see Implementation Issues in Topic 1). In case of emergency and *restoration*, the emphasis is on ensuring the appropriate level of coordination between the involved *TSOs* (see Methodology and Tools in Topic 5).

Changes to the Framework Guidelines: None.

Question 6. Considering the current arrangements of the *system operation* rules and procedures throughout the EU, what would be an appropriate level of detail for the network code(s) on System Operation?

Respondents' feedback: There was no clear consensus on this question among the stakeholders. Several stakeholders emphasised that the network code(s) should remain at functional level, be flexible and allow for appropriate regional specifics. A number of stakeholders asked for either higher level of detail or as much detail as possible for specific issues – and that would include *TSO* cooperation and *ancillary services*.

ACER's view: ACER's opinion is that the appropriate level of detail in the network code(s) varies according to the concerned aspects of System Operation. Furthermore, the network code(s) should be flexible and allow for national codes to be more detailed where needed; whereas, "*The network code(s) shall take precedence over the relevant national codes and international standards and regulations. Where there are proven benefits, and if compatible with the provisions of the network code(s), any national codes, standards and regulations which are more detailed or more stringent than the network code(s) should retain their applicability.*".

Changes to the Framework Guidelines: Several parts have been redrafted to reflect ACER's opinion.

Question 7. What key benefits and types of cost would you expect for compliance with these requirements? Please quantify from your point of view.

Respondents' feedback: Many stakeholders saw benefits from compliance with the requirements of the network code(s) in security of supply, market integration, and renewable energy integration. These benefits were seen as a result of the harmonisation process within and between *synchronous areas*. Several stakeholders identified different types of costs, they did however emphasise that the evaluation of the costs could not be conducted until the details of the requirements are known. Many stakeholders argued that compliance with these requirements should be justified by a cost-benefit analysis. Several stakeholders believe that cost allocation should be covered by the network code(s).

ACER's view: ACER reemphasises the criteria from the Framework Guidelines: *"Where the minimum standards and requirements, introduced by the network code(s) deviate significantly from the current standards and requirements, there should be a cost-benefit analysis performed by ENTSO-E that justifies and demonstrates additional benefits from requiring the higher standard".*

Changes to the Framework Guidelines: Several parts have been redrafted for clarity purposes.

Question 8. Should the Framework Guidelines be more precise on organisational aspects of *operational security*, in particular with regard to security assessment?

Respondents' feedback: Many stakeholders asked for more clarity i.e. details, rules, standard methodologies etc. in the Framework Guidelines, regarding the *security criteria*, the security assessment methodologies and the reliability margin. The main concern was the impact of the security assessment approach on cross border trade and the market.

ACER's view: ACER agrees that performance indicators need to be set out in the network code(s) to enable the monitoring of the implementation of the network code(s), to enhance the transparency and to ensure system security accordingly.

Changes to the Framework Guidelines: Several parts dealing with Criteria have been redrafted.

Specific Issues

Question 9. Are the implications for *significant grid users* clear and relevant?

Respondents' feedback: Many stakeholders requested for more clarity in the definition of *significant grid users* (and the implications resulting from this definition). They also expressed concerns regarding potentially unjustified requirements imposed by either ENTSO-E via the network code(s) or *TSOs* when enforcing the network code(s). Concerns were also expressed regarding the underlying costs incurred by *DSOs* and *significant grid users*.

ACER's views: ACER reemphasises the position already adopted in the frame of the evaluation of the responses to the Draft Framework Guidelines on Electricity Grid Connections:
1. Where the minimum standards and requirements, introduced by the network code(s), deviate significantly from the current international standards/requirements and practices, there should be a cost-benefit analysis that justifies this deviation and demonstrates additional benefits from requiring higher standard.

2. The definition of significance considers the impact of a grid user on the cross border system performance, regardless of the connection point voltage level. “A significance test” has been described. For *grid users* not deemed to be significant, the network code(s) does not apply.

The applicability of the standards and requirements to *pre-existing significant grid users* will be decided on at a national level by the National Regulatory Authority (NRA), based on a proposal received from the relevant *TSO* and after public consultation. The *TSO* proposal shall be made on the basis of a sound and transparent quantitative cost-benefit analysis that shall demonstrate the socio-economic benefit, particularly in case of retroactive application of the minimum standards and requirements. The format and methodology or principles of the cost-benefit analysis shall be set by the network code(s).

Changes to the Framework Guidelines: Several new chapters reemphasising the provisions set out in the Framework Guidelines on Electricity Grid Connections, have been introduced in the Framework Guidelines with Chapter 1.6 (Roles and Responsibilities), Chapter 1.7 (Derogations), Chapter 1.8 (Adaptation of existing arrangements to the network code(s)) now providing clarity in the definition of *significant grid users* and the implications resulting from this definition.

Question 10. Are the roles and responsibilities sufficiently addressed?

Respondents’ feedback: While several stakeholders considered roles and responsibilities to be sufficiently addressed in the Framework Guidelines, others saw significant space for improvement e.g. level of detail, clarity. Several stakeholders asked for more clarity in the definition of *DSO’s* roles and responsibilities in particular. Several stakeholders also requested for other market participants to be addressed in the Framework Guidelines (e.g. *balancing* responsible parties, aggregators, virtual power plants, etc.).

ACER’s view: ACER agrees with the arguments emphasising the need to clarify further roles and responsibilities. ACER agrees that a proper involvement of other market participants could deliver the same results with regard to information exchange at lower costs.

Changes to the Framework Guidelines: a new section has been introduced to clarify roles and responsibilities (Chapter 1.6).

Question 11. Are the individual provisions under Scope & Objectives, Criteria, Methodology & Tools, Roles & Responsibilities, Information Exchange and Implementation Issues, associated to the particular topic, adequate? Should there be any additional elements?

Respondents’ feedback: Stakeholders provided no major objections or arguments against the structure of the Topics. However, several stakeholders asked for more clarity with regard to a number of individual provisions in the different Topics of the Framework Guidelines.

ACER's views: The comments of the stakeholders more or less relate to the level of detail in the Framework Guidelines – see ACER's answer to Question 6. Furthermore, ACER recognised a lack of coherency in the Criteria and decided to distinguish between the Criteria for evaluation of network code(s) (now provided in Chapter 1.1) and the Criteria for network code(s) implementation (now elaborated in five Topics in Chapter 2).

Changes to the Framework Guidelines: several parts have been redrafted.

Question 12. Could you foresee any other relevant New Applications which should be mentioned in these Framework Guidelines?

Respondents' feedback: Many stakeholders identified a number of New Applications that should be included in the Framework Guidelines. Several stakeholders highlighted that some of the applications mentioned in the Framework Guidelines were already a part of today's *system operation* and that the network code(s) should be technology-neutral, flexible to accommodate new features, neither restrictive nor a barrier to innovation but allowing the integration of new applications with the requirements set at the level of principles rather than at specific processes.

ACER's views: ACER sees several strategic developments/innovation related to new technologies and applications that are relevant for System Operation. These issues should be considered when deciding on the flexibility of the network code(s), up to a degree that will support the future system operation. A separate network code for New Applications is not necessary, as the timeframe and the level of detail differ significantly from other Topics. The listed applications should be seen as examples of areas in which flexibility would be required.

Changes to the Framework Guidelines: Topic 6 (New Applications) has been replaced with Chapter 2.1 (New Applications) with a revised wording reflecting ACER`s views.

3 Other issues raised during the consultation process

The respondents also raised a number of other issues regarding the Framework Guidelines. The main issues have been grouped in 12 topics and are presented in the table below, alongside ACER's own views and the changes to the Framework Guidelines (FG), where relevant.

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
1. Challenges and objectives Covering additional objectives and challenges not identified in the draft FG.	
Few respondents addressed the need to modify the objectives in order to further focus on the market. Specifically, they proposed to modify objective 2 as follows: *"To deliver benefits to customers by supporting the functioning of a competitive market for electricity, especially in relation to the development of liquid and competitive day-ahead, intraday and balancing markets."*	Partly agree. The focus on the market has already been sufficiently outlined in the Scope, whereas relations to different timeframes do not bring any additional value. Stakeholders' concerns with regard to implications for the market are generally recognised and some changes to the FG have been introduced. The Criteria text under Topic 1 has been redrafted as follows: "*The network code(s) shall provide criteria (performance indicators) upon which monitoring of the Operational Security can be performed.*" The text of Methodology and Tools under Topic 2: Operational Planning and Scheduling has been redrafted as follows: "*The network code(s) shall define principles, requirements and methodology for the calculation of requirements on different categories of control reserves with the aim to optimize these requirements within synchronous area to meet the security criteria with minimum costs*". The Criteria text under Topic 3: Load-frequency-Control has been redrafted for clarity purposes: "*Criteria shall be defined in terms of technical needs, taking market requirements in due consideration*".
One respondent highlighted that invariable locally distributed generation was not (properly) identified as one of the important balancing sources in the future.	Partly agree. This technology could be an important balancing source. The network code(s) (NC) on Electricity System Operation will have to consider future innovative technologies as far as reasonably possible – Chapter 2.1 (New Applications) addresses this issue.
One or more respondents identified the following challenges for System Operation and Load-Frequency-Control to be covered in the FG and the NC: - Increasing amount of cross-border flows; - Integration of renewable energy sources; - Intermittent generation; - Distributed and variable generation; - Smart demand and smart response.	Agree. These challenges are mentioned in the Initial Impact Assessment and inherently addressed by the FG.

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
One respondent addressed the future challenge of long distance transmission, particularly with regard to offshore wind farms.	Partly agree. This is covered in Chapter 2.1 (New Applications).
2. Roles, responsibilities and liabilities Covering dual role of *DSOs*, CVPP, TVPP, real-time *TSO* actions.	
Whereas several respondents considered the roles and responsibilities to be sufficiently addressed, others highlighted a significant margin for improvement e.g. with regard to the level of detail and clarity of the roles and responsibilities. In particular, a call for a better definition of *DSO* roles and responsibilities was put forward. Some respondents expected the FG to address also other market participants (e.g. balancing responsible parties, aggregators, virtual power plants, etc.).	Agree. A new section has been added to the FG; Chapter 1.6 (Roles and Responsibilities). Some of the relevant parts of the FG have been redrafted for clarity purposes and to provide efficiency in arrangements of information exchange (Chapter 1.3 and the text for Information Exchange under Topic 1: Operational Security). Additionally, the definitions for *new grid users*, and *pre-existing grid users* have been added to the "Definitions" Chapter. The definition for *grid users* and *system operator* has been redrafted to ensure consistency with the FG on Electricity Grid Connections.
Some respondents expressed their concerns with regard to potentially unjustified requirements imposed on *DSOs* and *significant grid users* by either ENTSO-E via NC or *TSOs* when enforcing the NC and with regard to underlying costs incurred. One respondent highlighted that the 3rd package does not envisage application of NC to low voltage levels.	Disagree. ACER reemphasises the standpoint already presented within the evaluation of the responses to the Draft FG on Electricity Grid Connections: 1. Where the minimum standards and requirements, introduced by NC, deviate significantly from the current international standards/requirements and practices, there should be a cost-benefit analysis that justifies this deviation and demonstrates additional benefits from requiring the higher standard. 2. The definition of significance takes into account the impact of a *grid user* on the cross border system performances regardless of the connection point voltage level. A "significance test" has been described to identify *significant grid users*. The NC does not apply to *grid users* who are not deemed to be significant. 3. The applicability of the standards and requirements to *pre-existing significant grid users* shall be decided upon at a national level by the NRA, based on a proposal from the relevant *TSO* and after public consultation. The *TSO* proposal shall be made on the basis of a sound and transparent quantitative cost-benefit analysis that shall demonstrate the socio-economic benefit, particularly in case of retroactive application of the minimum standards and requirements. The

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
	format and methodology or principles of the cost-benefit analysis shall be prescribed by the NC. To avoid any doubt ACER introduced new chapters on Application, Roles and responsibilities, Derogations as well as Adaptation of the existing arrangements to the network code(s).
One respondent requested for clarification of *TSO* and *DSO* roles from the perspective of the different national laws.	Disagree. The NC developed according to these Framework Guidelines take precedence over the relevant national codes and international standards and regulations. Where there are proven benefits, and if compatible with the provisions in the European network code(s), national codes, standards and regulations which are more detailed or more stringent than the respective European network code(s) should retain their applicability. Still, as referred above, where the minimum standards and requirements, introduced by the NC deviate significantly from the current international standards/requirements and practices, there should be a cost-benefit analysis that justifies this deviation and demonstrates additional benefits from requiring the higher standard.
Many respondents highlighted several specific areas that should be addressed in these FG (e.g. power, voltage and frequency quality criteria, *system operation* performance indicators, liabilities and compensation mechanisms, redispatching and remedial actions, security of supply).	Partly agree. In general, ACER finds these areas to be out of the scope or too detailed for these FG. However, performance indicators need to be set out in the NC to enable monitoring of the NC implementation. Several parts of the FG have been redrafted; see accordingly the texts for Criteria under Topic: General System Operation Characteristics, Topic 1: Operational Security, Topic 2: Operational Planning and Scheduling and Topic 3: Load-Frequency-Control.
Several respondents emphasised the roles (monitoring, derogation grants, compliance monitoring) of NRAs and ACER which should be elaborated on.	Agree. The roles and responsibilities of NRAs and ACER are essential, to the extent covered by Regulation No 714/2009. ACER introduced new chapters on Application, Roles and responsibilities, Derogations as well as on Adaptation of existing arrangements to the NC.
Few respondents proposed to introduce a separate section covering a mechanism for coordination between *TSOs* and *DSOs*.	Disagree. High-level principles for coordination are already covered in the FG, Too stringent mechanisms could prove detrimental to the efficient implementation of the NC.
One respondent raised the question of the potential absence of harmonisation of *TSO* and *DSO* objectives during the system *restoration*.	Partly agree. Potentially diverging interests, stemming also from national legislation, could indeed arise. Maximisation of social welfare in a global context should be pursued; whereas, a community-wide NC prevail over national legislation.

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
3. Harmonisation Covering levels of harmonisation and rules within and/or between *synchronous areas.*	
There was no clear consensus on harmonisation issues among the stakeholders. While several stakeholders considered the proposed levels and/or details of harmonisation sufficient, many stakeholders argued that an increase in the level of harmonisation was not needed, and others that a higher level of harmonisation was required for market and renewable energy generation integration. A number of stakeholders argued that in order to ensure flexibility the FG should include only high-level principles (for both the FG and the NC), whereas, many stakeholders emphasised that harmonisation was more important within a *synchronous area*.	Partly agree. ACER's view on harmonisation is that this is not only a complex issue to implement but also that different levels of harmonisation are required for each topic of System Operation (see Table 1 in the FG). The diverging opinions that were expressed are a strong indication that a proportional approach as well as a subsidiarity approach are needed in order to achieve the appropriate levels of harmonisation. Several parts of the FG have been redrafted to emphasise the economic rationale in favour of harmonisation (see the texts for Methodology and Tools under Topic: General System Operation Characteristics and Topic 3: Load-Frequency-Control).
Respondents outlined the need to limit technical requirements to the level that is necessary to reach the set objectives. Additionally, the respondents considered the idea of always backing up the decisions to harmonize specific areas at the EU-level with a proper cost-benefit analysis and general justification for better system operation. Few respondents highlighted that additional rules for harmonisation between *synchronous areas* should not introduce any changes or impose any costs on *DSOs* or *grid users*.	Agree. The FG offer flexibility to choose the level of harmonisation on the basis of a cost-benefit analysis for specific areas of harmonisation.
4. Level of detail in the FG and the NC Covering the issue of the level of detail ranging from a high-level to a case-specific perspective.	
Respondents provided different opinions regarding the required level of detail of the FG. Several respondents considered the level of detail as adequate. Some respondents required a higher level of detail, as this would allow for a higher harmonisation level. Some respondents emphasised that the FG should stipulate only broad principles and be flexible.	Partly agree. ACER's view on the level of detail, hence the level of harmonisation, varies according to the concerned topics of System Operation; different levels of harmonisation are required for each topic of System Operation (see Table 1 in the FG). For this purpose, the FG shall introduce general principles.
Two respondents considered Topic 4: Staff training and certification to be too detailed.	Partly agree. Topic 4: Staff training and certification has been redrafted.

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
One respondent considered the definitions provided in the FG to be too descriptive.	Partly agree. Chapter "Definitions and Terms" has partly been redrafted. However, ACER believes that the current combination of definitions and descriptions is adequate for stakeholders to have a clear understanding of the words used in the FG.
Respondents provided different opinions regarding the required level of detail of the NC. Several respondents proposed to keep the NC at a functional level and to be flexible (taking into account the review process) as well as to allow implementation of appropriate local approaches (taking into account the subsidiarity principle). On the other hand, some respondents requested for as much detail as possible.	Partly agree. ACER's opinion is that the appropriate level of detail in the NC varies according to the concerned aspects of System Operation. Furthermore, the NC should be flexible and allow for the national Code(s) to be more detailed where needed.
Some respondents believed that the existing national codes and rules for *synchronous areas* should be used as the basis for the NC. One respondent proposed that one refers to the existing codes applicable for relevant *synchronous areas* as the reference document in the FG.	Disagree. Referring to the codes in the FG is not appropriate, since they would be too restrictive in the process of drafting the NC. Furthermore, the national and *synchronous area*-wide codes were not designed to act as the Community wide network code(s).
One respondent believed that with regard to the distributed generation connected to *DSO* networks, only frequency-related requirements should be covered in more detail in the NC.	Disagree. Such a limiting requirement would be too restrictive as far as the outcome of the cost-benefit analysis and the potential underlying issues are concerned. ACER's opinion is that ENTSO-E should define the appropriate level of detail in the NC for different aspects of System Operation in order to meet the objectives (presented in Chapter 1 of the FG), with respect to the principles set out in the FG.
5. *Operational security* Covering *security criteria*, security principles and reliability margins.	
Several respondents requested for more clarity (details, rules, standard methodologies) in the FG regarding (a) *security criteria*, (b) security assessment methodologies and (c) reliability margins. One respondent requested for the NC to include standard methodologies with respect to *security analysis* (preventing different approaches to the reliability margin assessment). One respondent requested for full transparency in the *TSO*'s security	Partly agree. ACER's opinion is that the FG should provide enough flexibility for the NC to deliver adequate level of detail/harmonisation supported by cost-benefit analysis where relevant. Nevertheless, high-level principles on *operational security* (criteria, assessment, etc.) should be provided by the NC. The requirements for transparency regarding the adopted methodologies have been further emphasised by redrafting the text for Methodology and Tools under Topic 1:

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
assessment methodologies.	Operational Security.
One respondent requested that the NC encompasses the "operational philosophy", i.e. defines the "satisfactory level of system security" that is aimed at and the means by which it should be achieved.	Disagree. The NC should enable the *system operators* to maintain at least the same level of security of supply as they provide today, in a more efficient and effective way.
Respondents provided different opinions on the level of harmonisation related to *operational security*. Opinions varied from limiting security principles and standards to *synchronous areas* to common definitions and principles across *synchronous areas* and common rules or standardized approaches. Some respondents saw the benefits of security principles harmonisation in supporting the cross border trade. One respondent outlined a potential conflict in Methodology and Tools under Topic 1: Operational Security. If it is acceptable that *security criteria* can vary among *synchronous areas* and that minimum standards are applied, it is in their opinion unclear why security rules need to be aligned as far as technically possible.	Partly agree. ACER's view on harmonisation is that this is not only a complex issue to implement but also that different levels of harmonisation are required according to the concerned topics of System Operation (see Table 1 in the FG). The diverging opinions that were expressed in the public consultation are a strong indication that a proportional, as well as a subsidiarity approach are needed in order to achieve the appropriate level of harmonisation. The harmonisation matrix from the FG provides a balanced approach on *synchronous area* and EU-wide harmonisation, depending on a specific topic. The text for Methodology and Tools under Topic 1: Operational security has been redrafted to include economic justification of the alignment of *operational security* rules throughout the EU.
One of the main concerns was the impact of a security assessment on cross border trade and the market. One respondent emphasised that reliability margin settings were not just a technical issue, but largely also a regulatory and a market issue, since there is always a trade-off between the margins and cross-border capacities.	Partly agree. Security margins could be a subject of security/welfare trade-off only where sufficient and adequate remedial actions are available to avoid the risk of network overloading.
One respondent emphasised the need for the FG and the NC on Electricity System Operation to ensure seamless cooperation of *TSOs*, including further development and consolidation of coordination centres as well as obligations on sharing reserves and netting system positions.	Partly agrees. Indeed, coordination and cooperation are very important for *system operation*, however issues like reserve sharing and netting of system positions have an important impact on *balancing*. Those issues shall be addressed accordingly in the FG and the NC on Electricity Balancing.
6. Market and *ancillary services*	
Covering integration and facilitation of the market, reservation of capacities for *balancing*, procurement, utilisation and market approach in *ancillary services*.	

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
Many respondents considered that the FG should further emphasise the market in the area of *load-frequency-control*, voltage control and black-start capability as well as demand control and load shedding. They insisted the procurement and usage of *ancillary services* in general to be based on market principles. Few respondents suggested that only principles to determine the quantity of reserves should be set out in the FG, which should then be procured in a market-based manner that is regulated by the FG on Electricity Balancing.	Partly agree. The NC on Electricity System Operation should only define the requirements for secure *system operation* which should be able to facilitate the market in *ancillary services* (procurement and usage). The relevant parts of the FG have been amended (Topic 3: Load-Frequency-Control).
Some respondents emphasized the need for standardization of *ancillary services'* products in order to enable cross-border market for *ancillary services*.	Disagree. This issue will be considered in the FG on Electricity Balancing.
One respondent emphasized the need for effective management and for a relationship between ancillary services market, balancing market and traded markets. Another respondent emphasised that ACER should limit the influence of system operators on the traded markets.	Partly agree. The NC should set out the principles that ensure transparent and efficient usage of *ancillary services*, *balancing* and traded markets in activities related to *system operation*.
One respondent believed it was necessary to provide the coordination of prequalification rules for grid connection and *ancillary services*, whereas another respondent believed that the addition of new requirements or specifications might create a temporary scarcity of the services, which could result in an increase of market prices.	Partly agree. Since the NC shall define the requirements for secure *system operation*, these requirements shall also serve as indication whether a service qualifies as ancillary service or not.
Many respondents viewed the facilitation of the market and market integration as one of the key challenges and objectives of the FG. This includes increased *TSO* cooperation, *TSO–DSO* cooperation, new market mechanisms, market based management of intermittent generation and *system operation* closer to its technical limits and within the security limits. Respondents were in general demanding of the introduction of a clear obligation for *TSOs* to develop and utilize market mechanisms for the purpose of *system operation*.	Agree. The FG have been amended so that the criteria for *load-frequency-control* put more emphasis on the requirements and usage of *ancillary services* to facilitate the market in *ancillary services.* The text in Methodology and Tools under Topic 2: Operational Planning and Scheduling has been redrafted: "- *Calculation of requirements on different categories of control reserves with the aim to optimize these requirements within synchronous area to meet the security criteria with minimum costs; - Exchange of ancillary services across interconnectors in terms of technical principles*". The text for the Criteria under Topic 3: Load-Frequency-Control has been redrafted for better clarity: "*Criteria shall be defined in terms of technical needs, taking market requirements in due consideration*".

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
Some respondents expressed a concern that the FG and the NC could impose new restrictions on the market, which would – except in extreme circumstances - deviate from the principle of self-dispatching. Instead, it was believed that redispatching should be used for system stability and congestion management.	Agree. In principle, the balance between *ex-ante* restrictions and ex-post corrective measures could be a subject of welfare maximization.
Some respondents opposed to the possibility of reserving cross-border capacities for the purpose of *balancing* and *ancillary services* in order to avoid negative impact on the market.	Partly agree. The text in Methodology and Tools under Topic 2: Operational Planning and Scheduling has been redrafted: "- *Exchange of ancillary services across interconnectors in terms of technical principles*"; however, the FG and the respective NC on Electricity System Operation shall not deal with the issue of cross-border capacity reservations. This is a subject for the FG on Electricity Balancing.
One respondent raised the question of the issue of market restoration after a *blackout*.	Agree. The FG already includes the provision for restoration of regular market operations after *restoration* in Topic 5. The security and quality of supply as well as the satisfactory functioning of the market should of course be restored without undue delay.
One respondent commented on the possibility of *DSO* intervening and on the possible implications of such possibility on the balancing management and settlement on *TSO* level.	Disagree. Financial considerations for *TSO* and *DSO* actions are beyond the scope of these FG (and the respective NC).
7. Transparency and information exchange Covering technical aspects, data protection, justification, transparency of *TSO* actions, and transparency of methodologies.	
Several respondents emphasised that transparency was required with regard to *TSOs'* actions as a major contribution to market functioning and to ensure non-discrimination between *grid users*. Several respondents requested for consistency between the transparency requirements (with regard to the comitology guidelines on Fundamental Data Transparency) and the information exchange requirements.	Agree. ACER's view is that in the NC there should be consistency between the transparency requirements (with regard to the Comitology guidelines on Fundamental Data Transparency) and the information exchange requirements. In the Chapter on General System Operation Characteristics, a new requirement has been introduced: "*The network code(s) shall foresee the publication of a yearly report on the evolution of system operation performance by ENTSO-E, allowing a detailed assessment of the performance per country, including the selected performance criteria and their evolution over time. The format and content of the report shall be approved by the NRAs and ACER*". ACER's

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
	view is that the above-mentioned requirement will ensure the proper level of transparency. Also a provision in General System Requirements has been added: "*Network codes shall set out the transparency requirements for TSO's actions with a major impact to market functioning and to ensure non-discrimination between grid users*".
Many respondents requested for the FG to be more specific regarding the information exchange provisions. The concerns related to: (a) the purpose and the level of information exchanged (*TSO* has to justify the need for specific information) (b) data security and disclosure issues. One respondent proposed the inclusion of a list of relevant types/parameters to be exchanged in the FG..	Partly agree. The FG will introduce general principles and not be overly prescriptive. The NC shall provide the appropriate level of detail. The FG have been amended for clarity.
One respondent believed that the suggestion for *significant grid users* to provide (potentially unlimited) real-time information was excessive and unnecessary.	Partly agree. Where the minimum standards and requirements, introduced by the NC deviate significantly (e.g. in terms of cost- and risk- allocation) from the current international standards, procedures and requirements, there should be a cost-benefit analysis that justifies this deviation and at the same time demonstrates additional benefits from requiring a higher standard. Chapter 1.5 – Application has been redrafted to describe the relevant issues and responsibilities.
8. Costs and benefits Covering benefits, costs and cost allocation of new arrangements in *system operation*.	
Many respondents emphasised the need to justify any changes, which may have negative impact on the market or particular class of stakeholders, with a proper cost-benefit analysis. Some of the respondents also believed that general cost-benefit analysis should be performed before drafting the FG and the NC.	Agree. Chapter 1.5 – Application has been redrafted in order to describe clearly all the relevant issues (ENTSO-E's and ACER's responsibilities, etc.) with respect to cases where the minimum standards and requirements, introduced by the NC, should deviate significantly from the current standards and requirements. As stated there, a cost-benefit analysis should be performed by ENTSO-E to justify and demonstrate additional benefits from requiring a higher standard.
Many respondents highlighted the necessity to define general principles and a methodology for the implementation of cost-benefit analysis. Some of the respondents suggested that this was covered within the governance guidelines, while others suggested that ACER	Partly agree. ACER is fully aware of stakeholders' concerns regarding cost-benefit analyses and recognises this as an important issue. The development of both the FG and the NC requires a high level approach to cost-benefit analysis which is, in ACER's opinion, provided in the Commission`s Impact Assessment Guidelines. Considering the broad spectrum of areas the

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
provided the required definitions and a methodology.	community-wide NC will cover, any further and more detailed description of cost-benefit analyses could hamper the development of the future NC.
Some respondents argued that requirements related to marginal benefits or those that cannot be enforced should not only give a possibility of enforcement to *pre-existing grid users*, but should not be proposed at all.	Disagree. This issue is duly addressed within the FG on Electricity Grid Connection.
Several respondents emphasised the need for costs induced by the new requirements to be properly considered by NRAs and included in the grid tariffs accordingly. One respondent emphasized that the NC should ensure the convergence of the existing rules; however, *DSOs* and *grid users* should not incur additional costs due to harmonisation. Another respondent believed that if new standards were applied to existing installations, the cost should be borne by the *TSOs*.	Disagree. Cost allocation is beyond the scope of this FG.
Few respondents called for proper mechanisms for adequate cost coverage of *ancillary services* and outage scheduling, while some specifically addressed the need to include such costs in grid tariffs.	Disagree. Cost recovery for *ancillary services* is not within the scope of these FG. Additionally, tariffs and cost-recovery are issues that are addressed at national level.
As an alternative to a cost-benefit analysis, other standards for harmonisation were proposed such as cost-benefit analysis when a *TSO* wants to apply stricter standards or when harmonisation strengthens the possibilities for cross border trade. One stakeholder did not see any reason for the introduction of a cost-benefit analysis when NC standards deviate from general *system operation* criteria, since there are no international standards in the field of *system operation*.	Disagree. ACER addresses "current standards and requirements" as existing practices in *system operation*, and relates them to minimum standards and requirements provided with respective NC; thus, the significant deviation from these practices require a cost-benefit analysis (see Chapter 1.5 – Application).
Some respondents were not satisfied with the notion that rules should be harmonised as far as technically possible, without any reference to the costs and benefits. Harmonisation on its own was considered to be an insufficient excuse to impose additional costs on *grid users*.	Agree. ACER's view on harmonisation is that this is not only a complex issue to implement but also that different levels of harmonisation are required according to the concerned topics of *system operation* (see Table 1 in the FG). The text for Methodology and Tools under Topic 1: Operational Security has been redrafted to include the economic justification of the alignment of

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
	operational security rules throughout the EU.
One respondent argued that *TSOs*` coordinated remedial action plans including cost-sharing principles cannot be submitted to NRAs for approval, since they are often prepared close to the real-time.	Disagree. Already today, *TSOs* agree on coordinated remedial and *restoration* action plans valid through longer periods and dedicated to envisaged alert and emergency scenarios. Obviously, for unforeseen situations such plans do not exist. The requirement for submitting cost-sharing principles complements the CACM FG asking CACM NC to ensure that *TSOs* implement coordinated cross-border redispatching/countertrade at least at a regional level, with fair allocation of congestion costs between countries/zones.
9. New applications Covering treatment of new applications in NC	
Several respondents alerted to a number of new applications listed in the FG that were already integrated in *system operation*, so that a further reference to them was not required. Furthermore, they emphasised the need to formulate the NC in a technology-neutral way, flexible to accommodate new features, neither restrictive, nor a barrier for innovation, but allowing integration of new applications with requirements set at the principle level rather than specific processes. Several respondents proposed additions to the existing list of new applications (storage, electric vehicles, smart demand, etc).	Partly agree. The NC should consider already existing new developments, as far as this is reasonable. ACER believes that flexibility in this area is crucial as stated in the new Chapter 2.1 replacing Topic 6: New Applications.
Regarding the necessity of a NC on new applications, a number of respondents highlighted that this issue should be addressed in the other NC. Additionally, it was suggested that a sentence should be added to clarify that New Applications did not need to be addressed in a separate NC.	Agree. Topic 6: New Applications has been redrafted and replaced by Chapter 2.1.
10. Involvement of stakeholders Covering *DSOs*, *significant grid users*, others.	
The majority of the respondents argued that the FG should provide for active involvement	Partly agree. Article 10 of The Regulation 714/2009 clearly states that (Article 10) "*While*

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
of non-*TSO* parties in due course of the NC drafting. Several respondents proposed that ENTSO-E establishes a user group similar to the one that has already been established to assist in the drafting of the market related codes. In particular, along with the substantial arguments, the involvement of *DSOs* was repeatedly advocated. One respondent requested for generators' involvement while another one proposed discussions with the relevant bodies working under the Standardisation Mandate № 490.	*preparing the network code(s), the draft Community-wide network development plan and the annual work programme referred to in Article 8(1), (2) and (3), the ENTSO for Electricity shall conduct an extensive consultation process, at an early stage and in an open and transparent manner, involving all relevant market participants, and, in particular, the organisations representing all stakeholders, in accordance with the rules of procedure referred to in Article 5(1). That consultation shall also involve national regulatory authorities and other national authorities, supply and generation undertakings, system users including customers, distribution system operators, including relevant industry associations, technical bodies and stakeholder platforms. It shall aim at identifying the views and proposals of all relevant parties during the decision-making process*". Bearing in mind ACER`s OPINION ON THE ENTSO-E STATUTES, RULES OF PROCEDURE AND LIST OF MEMBERS, as of 5 May 2011, ACER has already made a number of proposals to ENTSO-E with regard to the consultation process and the NC development process dealing with the very same issues raised by the respondents. Particularly with regard to *DSO* involvement in the drafting of the NC, ACER stated in its opinion that ENTSO-E's NC Development Process should include provisions to ensure a further involvement of *DSOs* for aspects affecting distribution network operations. ACER equally addressed ENTSO-E's proposed consultation practices, and emphasised the importance of holding prior informal consultations. However, ACER is not convinced that these particular issues should be addressed in the hereby FG. The FG aim to provide the main principles that need further development in the NC, and should avoid issues of NC development process as much as possible. However, as mentioned above ACER did subscribe the *DSO*'s concern in its opinion on the ENTSO-E Statutes, Rules of Procedure and List of Members. Its opinion was subsequently submitted to the European Commission for final consideration. In ACER's opinion, the involvement of stakeholders is of paramount importance. Within a period of three months from the day of the receipt of a NC, ACER may formally consult the relevant stakeholders, following which ACER shall provide a reasoned opinion to the ENTSO for Electricity on the NC.

Respondents' feedback	ACER's views and proposed changes in the FG where relevant
11. Drafting and other issues	
A number of drafting and other issues were raised by the stakeholders with respect to the FG. Several stakeholders proposed specific changes in the text or asked for further clarifications with regard to certain points. All of these issues were taken into consideration by ACER when preparing the final version of the FG. Many of the proposals of the stakeholders were accepted, especially for cases were it was found that clarity could be improved.	Several parts of the FG have been redrafted.

Annex 1 - ACER

The Agency for the Cooperation of Energy Regulators (ACER) is a European Union body established in 2010. ACER's mission is to assist National Regulatory Authorities in exercising, at the Community level, the regulatory tasks that they perform in the Member States and, where necessary, to coordinate their action. The work of ACER is structured around the working bodies, composed of ACER staff members and staff members of the national energy regulatory authorities. These working bodies deal with different topics, according to their members' fields of expertise.

This report was prepared by ACER Electricity Network and Market Task Force (AENM TF) of ACER Electricity Working Group (AEWG).

Annex 2 - List of Respondents

No	Organisation	Type
1	AEP	Association
2	BDEW	Association
3	CEDEC	Association
4	CENTRICA	Energy company
5	CEZ	Energy company
6	Distribution Code Review Panel of Great Britain	Association
7	EDF SA	Energy company
8	EDF Energy	Energy company
9	EFET	Association
10	Edison	Energy company
11	Electricity North West	DSO
12	ERDF	DSO
13	E.ON	Energy company
14	EnBW Kraftwerke	Energy company
15	Energy Norway	Association
16	ENTSO-E	Association
17	EURELECTRIC	Association
18	EWEA	Association
19	GEODE	Association
20	IWEA	Association
21	Oesterreichs Energie	Association
22	J.P.Morgan	Trading company
23	RWE	Energy company
24	Scottish Renewables	Association
25	SSE	Energy company
26	Energie-Nederland	Association
27	TGPE	Association
28	VIK	Association
29	Wärtsilä	Energy company
30	Anonymous	-
31	Anonymous	-