

**EREGG Public Consultation on
Draft Pilot Framework Guidelines on
Electricity Grid Connection**

Evaluation of responses

**Ref: E10-ENM-18-04a
7 December 2010**

INFORMATION PAGE

Abstract

On 14 July 2010, ERGEG launched a public consultation on a pilot framework guideline on electricity grid connection (E09-ENM-18-04). The report outlined ERGEG's draft proposals following a request from the European Commission.

This document (E10-ENM-18-04a) accompanies the final ERGEG Pilot FG on electricity grid connection (E10-ENM-18-04) and provides the evaluation of the responses received to the public consultation on the draft proposals. The final framework guidelines are intended as input to ACER, which becomes fully operational on 3 March 2011.

Related Documents

CEER/EREG documents

- "ERGEG Pilot Framework Guidelines on Electricity Grid Connection," 7 December 2010, Ref: E10-ENM-18-04, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/ELECTRICITY/Pilot%20Framework%20Guideline%20Electricity%20Grid%20Connection/CD/E10-ENM-18-04_EGC-FG_7-Dec-2010.pdf
- "ERGEG Guidelines of Good Practice on Electricity Grid Connection and Access", ERGEG, 10 December March 2009, Ref. E09-ENM-16-04, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/ELECTRICITY/GGP%20Electricity%20Grid%20connection%20%20Access/CD/E09-ENM-16-04_GGP-GridConnection_10-Dec-09.pdf
- "Implementing the 3rd Package: next steps", CEER/EREG, 18 June 2009, Ref. C09-GA-52-06a, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_EREG_PAPERS/Cross-Sectoral/2009/C09-GA-52-06a_Implementing_3rdpackage_18-Jun-09.pdf

External Documents

- Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0055:0093:EN:PDF>
- Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0001:0014:EN:PDF>
- Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0015:0035:EN:PDF>

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1 Introduction

In July 2010, ERGEG launched a public consultation on the Pilot Framework Guidelines (FG) on Electricity Grid Connection (Ref. E09-ENM-18-04). The purpose of this consultation was to present to stakeholders the outcome of ERGEG's first electricity project of the so-called interim period until the Agency for Cooperation of Energy Regulators (ACER) becomes fully operational, in order to simulate the development of framework guidelines according to the provisions of the 3rd Package and to solicit feedback from stakeholders on the regulators' approach to date.

A workshop was held on 16 April 2010 during the preparatory work of the pilot FG to discuss the issues with stakeholders. The public consultation ran from 14 July to 24 September 2010. 31 responses (of which one was confidential) were received. The present document summarises the issues/positions of the respondents and addresses each of the main issues in turn.

1.1. Responses

Broken down by sector, there were:

- 3 respondents from those representing the interests of equipment manufacturers;
- 4 representing the interests of national associations;
- 8 representing the interests of generators;
- 5 representing the interests of DSOs;
- 2 representing the interests of TSOs;
- 1 representing the interests of gas suppliers; and
- 8 representing European associations.

Annex 3 provides a list of all the respondents by their country of origin and activity.

2 Response per question

In the public consultation, ERGEG posed 9 questions to stakeholders. The responses to each of these questions and other issues raised by respondents are addressed below. Where appropriate, the respondents' views are discussed and, in light of this, ERGEG's own developed thinking is presented.

Due to the large number of responses, an exhaustive analysis of each response is not included here. Instead, the key points have been addressed accordingly. Should a respondent require more detailed information, they can request this from the CEER/ERGEG Secretariat.

Question/Issue	Respondents' feedback	EREG's developed thinking
Question 1: Are there additional major problem areas or further policy issues that should be addressed within the Grid Connection Framework Guideline?		
Overview	<p>In response to whether there are any major problems or further policy issues that should be addressed within the framework guideline, many commented that the scope was appropriate. However, there were also a range of opposing views varying from those that thought the scope should be more detailed and extensive, to those that felt it should not focus on the technical requirements of connection. These concerns are highlighted and addressed below along with several other common concerns not directly addressed in our questions but raised by a number of respondents.</p>	
Additional topics to be included in the scope	<p>Several respondents identified additional areas that they felt should have been included in the scope of the framework guideline. A common theme in these responses was a call for issues related to connection - grid charging, terms for grid connection, and charging for grid reinforcement and balancing costs - to be included in the scope. With respondents arguing that these were the major elements of the grid connection regime that affected cross-border trade.</p> <p>Others called for the inclusion of other requirements such as planning and consents and environmental responsibilities to be harmonised.</p> <p>One respondent called for the detailed technical requirements for standards, testing and commissioning to be included in the FG. Another requested that a special case be made for their specific geographic location.</p> <p>Several respondents requested that the issue of how to allocate the costs of compliance with the network code should be addressed in the FG.</p>	<p>EREG recognises that there are other areas closely related to grid connection that could have been taken up in this FG. Issues such as grid access and charging are addressed in the IIA, where this is highlighted. The problem identification for this FG has a strong focus on the technical challenges caused by un-coordinated technical grid connection requirements and this is the focus of the FG. These other issues (access, charging) will be addressed by future FGs/NCs. EREG also notes that there are a number of system operation issues that – although touched on in this FG – will be fully addressed in the system operation FG. The same is true of balancing issues, where a separate FG will be created dedicated to these issues.</p> <p>Where respondents have called for more detailed specification of technical requirements or for attention to specific geographic detail, EREG notes that the role of the FG is to set out the high level principles of what needs to be done to address the problems identified in the IIA. The network code developed by ENTSO-E will set out how this should be implemented and will provide more technical detail where appropriate. This will be consulted on by ENTSO-E so there will be a separate opportunity to comment on technical detail.</p>

Question/Issue	Respondents' feedback	ERGEG's developed thinking
<p>Clarification of the role of the Distribution System Operator (DSO)</p>	<p>A large number of respondents commented on the lack of clarity throughout the FG document on the role of the Distribution System Operator. They highlighted that the DSO is both a grid user (of the transmission system) and a System Operator (SO) in its own right.</p> <p>There was concern that this dual role is not well set out in the FG and that the roles and responsibilities of the DSO as an SO are not clear in terms of how DSOs might interact with grid users at a distribution level to ensure compliance with the minimum standards. In most instances, the role of the SO appears to refer only to the TSO.</p> <p>One respondent highlighted concerns that the DSO should not be given powers to exercise direct control over demand users – but only those users that had identified themselves as responsive units. Other respondents echoed the concerns that only demand units that identified themselves as responsive should be mandated to adhere to minimum standards for grid connection related to providing grid services.</p>	<p>ERGEG accepts that this is a problem throughout the document. This issue will be addressed in the next final version of the FG document and greater clarity will be provided on the dual role of the DSO.</p>
<p>Governance of the FG / NC process</p>	<p>Several respondents highlighted the need for clarity on how the FG would be transposed into a network code. Respondents noted that this was a valid concern for all FGs, and asked that the status of the FG, and the process by which it would be turned into a network code should be further elaborated and they highlighted that more detail is needed on the adoption of EU network code by national TSOs.</p>	<p>ERGEG has taken on board this comment, and has included a new section in the FG that details the governance arrangements between the FG and the NC. This governance structure could be applicable to all future FGs.</p>
<p>Question 2: What timescale is needed to implement the provisions after the network code is adopted? Is 12 months appropriate or should it be shorter or longer?</p>		
<p>Overview</p>	<p>Most of the respondents state that 12 months would be too short to implement the provisions. There were only 2 respondents who found that 12 months to be appropriate. 24 months is considered as a minimum for many. Many felt that there should be differentiation between new and existing users when setting a time scale and that there was a role for ENTSO-E to elaborate on which time frame could be appropriate for particular users.</p> <p>Other issues also raised in response to this question are highlighted below</p>	<p>ERGEG acknowledges the views of the majority of respondents in highlighting that 12 months is not sufficient time for implementation of the standards. The FG will now divide the implementation timing into that for new users and for existing users and a clear requirement will be set out for the network code to include guidance for TSOs on setting transition periods for existing users.</p> <p>This is now detailed in Compliance, Monitoring and enforcement (1.16 ff). The timeframe (how many months in detail) should be consulted on by ENTSO-E in the network code drafting process.</p>

Question/Issue	Respondents' feedback	EREG's developed thinking
Equipment manufacture design cycle	Several respondents from the equipment manufacturing sector highlighted a concern that the design cycle required to implement changes in equipment is usually between 2-5 years. They requested that this be factored in to any decision on a minimum time for implementation of the minimum standards.	EREG acknowledges that 12 months may not be sufficient.
Role of ENTSO-E in determining timing for implementation	<p>Most respondents felt that the timing required for implementation of the NC was not generic across grid users. Many noted that this would be more straightforward to implement for new users, whilst existing users would face greater challenges in meeting an implementation deadline</p> <p>Some respondents identified a role for ENTSO-E in defining the criteria by which the compliance period for connected units could be evaluated, and also setting out criteria by which a transitional period could be defined or exemptions granted – e.g. in the case of obsolete installations or those close to the end of their operational life.</p>	EREG acknowledges that there is a requirement to allow some latitude in the timescale for implementation of the standards for existing users. See comments above. ENTSO-E have to (in the network code) provide guidance on this matter.
Question 3: Should harmonisation of identified issues be across the EU or, perhaps as an interim, by synchronous area?		
Overview	<p>The predominant opinion is that there is a need for EU-wide harmonisation of grid connection issues. Most respondents commented that for the initiative to have a positive impact on the aims set out in the IIA, Europe wide harmonisation was the most appropriate way forward.</p> <p>There should also be a stepwise approach of harmonisation or at least an appropriate interim phase. From a technical point of view, many respondents noted that it is important to have harmonisation at synchronous level but for market issues harmonisation should be at EU level.</p> <p>A number of other issues were also raised.</p>	EREG concurs with the view that the benefits of harmonisation are maximised if this occurs at an EU level. EREG also see the benefits of a stepwise approach that sees fast implementation of the standards at a synchronous level, followed later by full implementation at EU level. A new article will be added in the FG (after article 1.6), explaining that there will be a stepwise approach to European harmonisation
Stepwise approach to harmonisation	Many respondents supported a stepwise approach to harmonisation at a European level, starting with quick implementation at the level of synchronous areas. However, not all respondents were satisfied with this approach. Some were concerned that the introduction of interim steps could introduce market distortions and might prevent the successful implementation of the standards at a European level.	See above comments
Variation of requirements by synchronous area	Some respondents highlighted the potential need to allow for specific requirements to accommodate particular characteristics at the synchronous area level.	
Costs	Some respondents highlighted the issue of cost of implementation which may escalate if the requirements cover all new and existing grid users across the EU.	The issue of costs is addressed in question 4.

Question/Issue	Respondents' feedback	ERGEG's developed thinking
Question 4: Should the requirements apply to existing grid users? How should it be decided? To which existing users should the requirements apply? How should timelines for transitional periods be set? Who should bear any costs of compliance?		
Overview	<p>There was strong support for the requirements to apply to all grid users, however there was also a clear message that if this is to be the case then care must be taken to ensure that implementation is only required from users that have a significant impact on grid security and where there will be significant benefit that outweighs the cost of compliance.</p> <p>There were mixed views on which parties should bear the cost of compliance.</p> <p>A number of other detailed concerns were also highlighted by respondents.</p>	<p>ERGEG believes that to ensure maximisation of the benefits of the harmonised minimum standards for grid connection these standards should apply to existing users. However, ERGEG recognises that there is a clear need for evaluation of the benefits (and costs) of compliance for these users – to ensure that the initiative is cost-effective and proportional. ERGEG recognises that there may be some grid users for whom compliance will only add a marginal benefit at inefficient costs. To address this, ERGEG proposes that the network code sets out guidance for national TSOs to make this evaluation of existing grid users.</p> <p>This will sit alongside a process for granting a derogation from the standard in cases where it is clearly not cost-effective to implement (e.g. in very old or obsolete plant etc.), and guidance on determining a transition period (as described earlier).</p>
CBA to evaluate applicability of requirements to existing users	<p>Most respondents argued for some form of cost benefit analysis be applied (typically by the national TSO) in evaluating whether the requirements should be applied to existing users. Respondents recognised the benefits that would come from existing users adopting the requirements, but highlighted that benefits were not clear in all cases and careful evaluation would be needed to ensure that only cost-effective measures were mandated.</p> <p>One respondent proposed that ENTSO-E (through the network code) set out the high level criteria for evaluation of existing units to see whether they should be compliant with the new requirements.</p> <p>For those that did not meet this requirement, a process for granting derogation would be required. For those that did meet the requirement a – process for determining the transition period to implementation of the standards is needed.</p>	See response above.

<p>Case for exemptions/ derogations from the requirements</p>	<p>A number of respondents felt that there needed to be a clear method statement to grant exemptions / derogations from the requirements. Particularly for plants that were obsolete or nearing the end of their operational life.</p> <p>Some felt that this analysis should be done by the grid users seeking exemption from the standard; others felt that it should be done by the national SO seeking cost-effective implementation of the standard. One respondent suggested that the network code should set out guidelines for national TSOs in evaluating and granting exemptions.</p>	<p>See response above.</p>
<p>Potential for damaging investor confidence</p>	<p>Several respondents thought that the requirements should not apply to any existing users. There were also those that thought that it should only apply to existing users when they were undertaking significant refurbishment or if they had a significant impact on system security.</p> <p>Of those that did not agree with applying the standards to existing users, a common reason cited for this position was the potential for this kind of intervention to damage investor confidence. It was noted that mandating all users to take on potentially costly refurbishment of old equipment, if not clearly cost-effective, could send the wrong signal at a time when more investment is needed. There is also a danger that rather than take on these costs some old plants will close prematurely, which may threaten system security.</p>	<p>ERGEG recognises this concern and would highlight that ERGEG sees the CBA of the case for existing users to comply with the standard as an important tool in ensuring that only economically-rational measures are taken that contribute towards the overall objectives of the initiative in a cost-effective manner.</p>
<p>Allocating the costs of compliance</p>	<p>There were very diverse views on the cost of compliance. Several respondents felt that the costs should be borne by those that own the grid connected units. Others felt that these costs should be socialised across all grid users, as the entire system would benefit from improved system security. Others felt that because the SO would benefit from improved system services they should bear the costs of compliance. It was also highlighted that because the TSO would be responsible for determining who should be compliant in the first instance – that they should have a strong incentive to ensure that any changes are cost-effective.</p> <p>Some noted that the portion of costs attributed to SO activities to ensure compliance with the requirements should be socialised to grid users via tariffs and that there was a role for regulators in overseeing this.</p>	<p>Some statement on cost allocation is included in the FG.</p>

Question 5: The framework guideline identifies intermittent generation, distributed generation and responsive demand as requiring specific grid connection guidelines. Is it appropriate to target these different grid users? How should the requirements for intermittent generation, distributed generation and responsive demand differ from the minimum requirements? Is there a need for more detailed definition / differentiation of grid users?		
Appropriate target	Depending on the respondents' origin, generators state in more cases not to have too strict requirements and to differ between existing and new generation units and renewable and conventional technologies. Meanwhile, grid operators want to leave more determinations to the NC.	It is necessary to leave the door open to ENTSO-E to write more and different codes if it turns out to be necessary.
How should requirements differ from minimum requirements	Most of the respondents agree with the need for minimum standards that apply to all types of grid users. Special requirements for different kinds of user should be possible whereas some respondents think that the categories should be stated in the FG and others think that it should be up to the NC addressing also the necessary level of detail of the FG.	There will be some restructuring on the sections 1 and 3 stating more clearly that minimum requirements apply to all kind of grid users and what exactly are the minimum requirements.
Need for more detailed definition of grid users	Only a few think that the level of detail is not appropriate. There are different opinions on how to build those categories of grid users. Many of the respondents are satisfied with the categories stated in the FG while others even thought of sub-categories of the 3 defined in the FG, like e.g. wind - large wind. Some respondents share the opinion that the preferred way of categorising should be according to the voltage level the user is connected to and some think that the rules should be set according to the technology. More definitions are asked by a number of respondents.	The FG should include more on definitions
Question 6: Is it necessary to be more specific regarding verification, compliance and reinforcement?		
	The predominant share of respondents felt that it is necessary to have more detailed requirements on this point in the FG, especially concerning commissioning, certification and connection contracts	Governance will be better specified in the FG. Clearer definitions of roles and responsibilities should be contemplated.
Question 7: What are the key benefits and types of costs (possibly with quantification from your view) of compliance with these requirements?		
Benefits	Respondents see as benefits: <ul style="list-style-type: none"> • Same minimum requirements for all grid users; • Clear conditions for the whole of Europe; • Facilitating competition and pressure on innovation; • Response of generators better coordinated; 	

	<ul style="list-style-type: none"> Improved overall system security; Better market dynamics; Efficient and coordinated system; Reduction in manufacturing costs; Facilitation of integration of intermittent and distributed generation. 	
Costs	Most of the respondents find it hard to specify the costs at this stage. Some think that retrofitting and compliance monitoring will cause higher costs.	
Question 8: How should significant generation and consumption units be defined?		
Definition of significance	Respondents think either that significant units should be defined according to a percentage of the minimum load of the synchronous zone; a certain value (most mentioned 50 MW, but with the problem of how to deal with generation parks) having an impact on system security; or that the definition should be taken by each single TSO or voltage level. Almost all doubt that a EU-wide threshold can be defined.	The "significance" should be elaborated by the TSOs and defined in the NC.
Applicability of rules	Some respondents think that for new installations rules should apply to all sizes of users while others think that standardisation could bring benefits for smaller plants by not needing to apply to all rules.	
Question 9: For what real-time information is it essential to improve provisioning between grid users and system operators? Do you envisage any problems such greater transparency? What are the costs (or types of costs) and benefits you would see associated with this?		
Information	<p>More real-time information is asked for by both sides, generators and system operators, on the market, grid user and system operator state:</p> <ul style="list-style-type: none"> Cross-border capacity Network data (state) Measurements at the point of connection of grid users Status of grid users Set points Market price Planned outages Active and reactive power feed-in/withdrawal <p>A not insignificant of the respondents also state that there is no need for further information exchange and that if it should be set out in the transparency guidelines.</p>	

Confidentiality	The only problem that is seen is that the confidentiality of data must be ensured. It should be clear that only necessary data has to be provided.	
Costs	No one dares to state costs at this stage but the prevailing view is that the costs need to be analysed and justified beforehand.	

3 Adjustments to the FG resulting from further comments and responses to the public consultation

Due to the innovative aim of the electricity pilot project, it is no surprise that the documents (IIA and FG) generated a wide range of welcomed comments, from high level to detailed. Moreover, the public debate raised questions on a large set of general and specific critical issues. Some of them are out of the scope of the FG on grid connection and will be focused on in the future work (e.g. System Operation FG, Grid Access FG, etc.). ERGEG found the public consultation very useful in terms of comments and proposals, all of them taken into high consideration. Therefore, ERGEG reviewed the ERGEG consultation documents in order to better organise, explain and integrate the FG. In this paragraph, a summary of the most substantial changes in the final pilot FG is reported.

General issues and needs for changes	Changes in FG
<p>The whole set of comments and suggestions requires a change in the structure of the FG.</p>	<p>The structure is revised as follows:</p> <ul style="list-style-type: none"> • Scope • Governance Issues • Minimum Requirements for Connection of all Transmission Grid Users • Promoting (real time and other) exchange of information between parties and improved coordination • Connection regime for specific grid users • Additional provisions to be addressed within the scope of system operation <p><i>(see Structure)</i></p>
<p>Some stakeholders asked for a clear identification of the scope addressed in the FG in the sense that many issues are related both to grid connection and to system operation.</p> <p>The FG on grid connection shall address issues which involve active participation, from a technical point of view, of grid users. On the contrary, if an issue affects only system operators but not the grid users, that issue will be addressed in the system operation FG.</p>	<p>The scope section is revised as follows:</p> <p>Terms and roles (as network and grid, grid users, system operators) have been clarified.</p> <p>In order to decide whether to deal with a specific issue in these FG or in the System Operation FG, a criterion has been selected and applied.</p> <p>A final section (Additional provisions to be addressed within the scope of system operation) has been added in order to ensure technical coherence and compatibility of some provisions.</p>
<p>Responses to the public consultation focus on very important issues concerning the governance of the process. Briefly summarised, these topics relate to stakeholder involvement during the development of the NC, the share of responsibilities between system operators and grid users (e.g. double role of DSOs) on the connection point (and its definition), the entry into force of the NC, possibilities for derogations, identification of infringement situations, amendment procedures, overlaps with other network codes and monitoring activities.</p> <p>EREGEG reckons that those topics must be considered explicitly in the NC and therefore, when not mentioned in Regulation 714/2009/EC, the IIA and the FG shall</p>	<p>A new section on governance is introduced. It concerns the following issues:</p> <ul style="list-style-type: none"> • Development of network codes (NC) • Entry into force of the NC • Derogations to the NC • Infringements to the NC • Amendments to the NC • Overlapping with other network codes • Relation with national codes for grid connection • Monitoring <p><i>(see Governance Issues)</i></p>

General issues and needs for changes	Changes in FG
<p>contain a section addressing them.</p> <p>The governance of the process is a subject of general importance, within these and all the future framework guidelines and codes.</p> <p>According to the consultation responses, at this stage the time frame for the implementation of the network code is hard to predict in a reasonable way. The stakeholders' view is mainly oriented towards a medium to long term (2 to 5 years). For this reason, the FG shall indicate that the NC, during its development phase, shall present and consult on its roadmap, containing the steps of the implementation procedure following the formal approval.</p>	
<p>A general issue from the public consultation is related to definitions and references. The stakeholders explained their importance, so the FG shall clarify that the NC must contain a section with a glossary and definitions of relevant terms and expressions as well as a section with the list of all relevant security standards/regulations at European level to be adopted by grid users and system operators.</p> <p>It is important to set the definition of the connection point in order to share responsibilities between grid users and system operators.</p> <p>Public consultation responses proposed different definitions of significant generation and consumption units, especially related to their capacity or to the voltage level of the connection point. The FG shall set the general principle that the NC must clarify this definition.</p>	<p>In the new section on governance a point considering "Definitions and references" is introduced. <i>(see revised section on Governance Issues, ix)</i></p> <p>The network code(s) shall moreover define:</p> <ul style="list-style-type: none"> • the physical connection point between the grid user's equipment and the network to which (point) these FG apply • significant (generation and consumption) units in order to determine the degree of impact of these users on the system. <p><i>(see revised section on Minimum Requirements for Connection of all Transmission Grid Users, 1.1 and 1.2)</i></p>
<p>From a technical point of view, harmonisation at synchronous level is important but this might not be sufficient. Concerns from the public consultation are mainly related to the speed of the implementation process. The FG aim to target harmonisation at EU level in order to support the internal electricity market, also according to most stakeholders' views. The proposal is therefore in line with the IIA preferred policy option, however the FG shall explicitly empathise a stepwise approach.</p>	<p>The section Minimum Requirements for Connection of all Grid Users has been revised.</p> <p>In order to reach a smooth transition to the European-wide harmonisation, a stepwise approach shall be pursued in the adaptation of the existing arrangements and the application of the new provisions to already connected grid users.</p> <p><i>(see revised section on Minimum Requirements for Connection of all Transmission Grid Users 1.1 and 1.6)</i></p>
<p>In principle, existing grid users can not be excluded by the FG and NC in the sense that they are part of the system. However, this being one of the most critical points from the consultation, ERGEG agrees that the FG shall specify that the cost benefit analysis, to be conducted by the TSOs/ENTSO-E, is an indispensable instrument to support any evolution and modification of existing installation's status.</p> <p>Costs are not addressed in the FG because of the technical nature of the NC, although ERGEG their importance.</p> <p>The consultation highlighted support for the</p>	<p>The section Minimum Requirements for Connection of all Grid Users has been revised, paying more attention to:</p> <p>Existing grid users A quantified analysis of the impacts (costs/benefits, organisation, timing, etc.) of NC requirements on the existing grid users shall be made beforehand. When defining a particular solution, the NC shall always require the SOs to optimise between the highest overall efficiency and lowest total cost for all involved actors. If transitory periods are needed, a procedure for evaluation of applicability to the existing users shall be described in the network code(s).</p>

General issues and needs for changes	Changes in FG
<p>requirements to apply to all grid users, taking into account, however, that implementation is only required from users that have a significant impact on the grid.</p>	<p>The NC shall also consult and define the time frame within which customers have to apply to changed rules and standards. <i>(see revised section on Minimum Requirements for Connection of all Transmission Grid Users 1.1, 1.19, 1.20)</i></p> <p>Different type of grid users Minimum standards shall be defined for each type of grid user (i.e. conventional, wind or distributed or intermittent generation, demand response users, or DSOs), and take into account the voltage level at which the grid user is connected to the grid. Where a particular class of grid user, technology, size of user or user in a specific location is not deemed significant in terms of impact on the system, a procedure shall be defined within the NC, according to which a derogation from aspects of the minimum standards can be decided for such a class of grid users set out in the network code(s).</p> <p><i>(see revised section on Minimum Requirements for Connection of all Transmission Grid Users 1.5)</i></p> <p>A section on the connection regime for specific grid users is foreseen. Where additional requirements above those defined in the minimum standards are required for particular classes of grid user, technologies, size of user, or user in a specific location, the network code(s) shall set out and justify these additional requirements. <i>(see Connection regime for specific grid users)</i></p>

Annex 1 – ERGEG

The Council of European Energy Regulators (CEER) is a not-for-profit association in which Europe's independent national regulators of electricity and gas voluntarily cooperate to protect consumers' interests and to facilitate the creation of a single, competitive, efficient and sustainable internal market for gas and electricity in Europe. CEER acts as a preparatory body for the European Regulators Group for Electricity and Gas (ERGEG).

ERGEG is the European Commission's formal advisory group of energy regulators. ERGEG was established by the European Commission, in November 2003, to assist the Commission in creating a single-EU market for electricity and gas. ERGEG's members are the heads of the national energy regulatory authorities in the 27 EU Member States.

The work of CEER and ERGEG is structured according to a number of working groups, composed of staff members of the national energy regulatory authorities. These working groups deal with different topics, according to their members' fields of expertise.

This report was prepared by a drafting team under the Electricity Network and Market Task Force (ENM TF) of the Electricity Working Group (EWG).

Annex 2 – List of abbreviations

Term	Definition
ACER	Agency for Cooperation of Energy Regulators
CEER	Council of European Energy Regulators
CG	Comitology Guidelines
DSO	Distribution System Operator
ENTSO-E	European Network of Transmission System Operators – Electricity
ERGEG	European Regulators Group for Electricity and Gas
FG	Framework Guidelines
IEM	Internal Electricity Market
NC	Network Code
NRA	National regulatory authority
SO	System Operator
TSO	Transmission System Operator

Table 1 – List of Abbreviations

Annex 2 – List of Respondents

Organisation		Country of origin
AEP	Association	EU
Alstom Grids	Equipment Manufacturer	France
BDEW	Association of energy and water companies	Germany
Beacon Power	Equipment (storage) manufacturer	US
BNE	Association	EU
Cogen	European Association of the promotion of cogeneration	EU
EDF	Energy company	France
EDF Energy	Energy company	France
Edison	Energy company	Italy
Electricity North West	SO	United Kingdom
Elering OU	Association	Norway
E.ON	Energy company	Germany
ENA	Energy Networks Association	United Kingdom
EnBW	Energy company	Germany
ENERCON	Wind generation equipment manufacturer	EU
ENTSO-E	European Network of Transmission System Operators for Electricity	EU
ERDF	Distribution system operator	France
EURELECTRIC	Union of the European electricity industry	EU
EUCC	Association	EU
EWEA	European Wind Energy Association	EU
N.N.	CONFIDENTIAL!	
GEODE	Association of European independent gas and electricity distribution companies	EU
Iberdrola	Energy company	Spain
IFIEC and CEFIC Europe	International Federation of Industrial / Chemical Energy Consumers	EU
Liander	Distribution system operator	Netherlands
Nordenergi	Energy company	Norway
ODE Vlaanderen	Association of energy companies	Belgium
PSE Operator	Transmission System Operator	Poland

Organisation		Country of origin
RWE	Energy company	Germany
Swissgrid	Transmission System Operator	Switzerland
Wartsila	Energy company	Sweden