European Network of
Transmission System Operators
for Electricity

NETWORK CODE ON DEMAND CONNECTION

-

EVALUATION OF COMMENTS

21.12.2012

Contents

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Disclaimer

This document lists ENTSO-E's assessment of comments provided in the formal web-based consultation on the draft Demand Connection Code (DCC) in the period of 27 Jun. – 12 Sep. 2012. Rather than providing responses per individual comment received, an assessment of all input received is done on a clustered basis, e.g. per topic or paragraph, in order to give a coherent view on ENTSO-E's approach towards the final DCC. Minor items, such as editorials or restructuring of clauses have been assessed in the review but are mostly not mentioned in this document. The clustering of comments and summary of the initial issue is based on ENTSO-E's judgment, irrespective of the organization(s) providing the comment nor the number of times it was provided.

The Article numbering in this document refers to the Article numbering of the draft code published on 27 Jun. 2012. Where reference is made to the final DCC, in case of updated numbering, this is explicitly indicated.

In order to provide a clear oversight of comments and responses, the issues mentioned in this document may have been summarized with respect to the original comments provided. For a full overview of all comments provided in the web-based consultation, in their original formulation, please refer to https://www.entsoe.eu/consultations/

This document is not legally binding. It only aims at clarifying the content of the final network code on demand connection, based on feedback provided during the formal consultation period. This document is not supplementing the final network code, nor can it be used as a substitute to it.

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RESPONDENTS

The following table lists all respondents who provided comments in the web based consultation. For a full overview of all comments, please refer to https://www.entsoe.eu/resources/consultations/

The respondents are listed in alphabetical order, based on the name of the organization indicated.

Name	*Respondent Organization*
-	AB LESTO
Patrick Liddy	Activation Energy
Karl Diethelm	AXPO Group, further organization and affiliates includes: Axpo AG CKW AG EGL AG Swissnuclear Kernkraftwerke Leibstadt AG Kraftwerke Hinterrhein AG Kraftwerke Linth-Limmern AG Kraftwerke Sarganserland AG Kraftwerke Ilanz AG Kraftwerke Vorderrhein AG Kraftwerke Mattmark AG Forces Motrices Mauvoisin SA
Pilar Barrera	BEWAG Netz GmbH
-	CECED
Marc Malbrancke	CEDEC / Eurelectric DSO / Geode / EDSO for Smartgrids
Vigneron Catherine	CENELEC
Ricky Hill	Centrica
Gunnar Kaestle	Clausthal University of Technology
Allan Norsk Jensen	Danish Energy Association
Joris Soens	Eandis
Jasmina Pierre	EDF
John Costa	EdF Energy
Andrea Pompa	Edison
Mike Kay	Electricity North West
Steve Wilkin	ELEXON Limited
Jonathan Härer	EnBW
Michel D'Ausilio	Enel Group
Siegfried Wanzek	EON AG
Ina Lehto	Finnish Energy Industries
Suckow Jan	Forum Netztechnik/Netzbetrieb im VDE (FNN)
Marcel Cailliau	GDF Suez
Lars Jope	IFIEC Europe

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Alan Creighton	Northern Powergrid
Oesterreichs E-Wirtschaft	Oesterreichs E-Wirtschaft
Eamonn Bell	Open Energi
Daniel Gronert	RWE Deutschland
-	Smart Energy Demand Coalition
Graeme Vincent	SP Energy Networks
Garth Graham	SSE Generation Ltd
Johan Lundqvist	Svensk Energi
Christoph Maurer	Swiss Electricity Industry Association and Swisselectric
-	T&D Europe
Per Norberg	Vattenfall Eldistribution Nordic
Johannes Elwardt	Vattenfall Europe Distribution Berlin GmbH
Jörg Kaiser	VGB PowerTech e.V.
Christoph Bier	VIK e.V.
Tony Berndes	Western Power

NETWORK CODE RESTRUCTURING

The following table provides a comparison between the Article numbering of the draft published for consultation and the final DCC.

Art.	*draft code 27 Jun. 2012*	*final code*
-	PURPOSE AND OBJECTIVES	PURPOSE AND OBJECTIVES
1	SUBJECT MATTER	SUBJECT MATTER
2	DEFINITIONS (glossary)	DEFINITIONS (glossary)
3	SCOPE	SCOPE
4	REGULATORY ASPECTS	DEMAND FACILITIES AND DISTRIBUTION NETWORK CONNECTIONS
5	CONFIDENTIALITY OBLIGATIONS	DETERMINATION OF SIGNIFICANCE OF EXISTING DEMAND FACILITIES AND EXISTING DISTRIBUTION NETWORK CONNECTIONS
6	RELATIONSHIP WITH NATIONAL LAW PROVISIONS	REASSESSMENT OF SIGNIFICANCE OF EXISTING DEMAND FACILITIES AND EXISTING DISTRIBUTION NETWORK CONNECTIONS
7	GENERAL FREQUENCY REQUIREMENTS	NEW DEMAND FACILITIES AND NEW DISTRIBUTION NETWORK CONNECTIONS
8	GENERAL VOLTAGE REQUIREMENTS	SIGNIFICANCE OF NEW DEMAND FACILITIES AND NEW DISTRIBUTION NETWORK CONNECTIONS

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9	SHORT CIRCUIT REQUIREMENTS	REGULATORY ASPECTS
10	REACTIVE POWER REQUIREMENTS	RECOVERY OF COSTS
11	PROTECTION AND CONTROL	CONFIDENTIALITY OBLIGATIONS
12	INFORMATION EXCHANGE	RELATIONSHIP WITH NATIONAL LAW PROVISIONS
13	DEVELOPMENT, MODERNIZATION AND EQUIPMENT REPLACEMENT	GENERAL FREQUENCY REQUIREMENTS
14	DEMAND DISCONNECTION FOR SYSTEM DEFENCE AND DEMAND RECONNECTION	GENERAL VOLTAGE REQUIREMENTS
15	GENERAL DEMAND SIDE RESPONSE	SHORT CIRCUIT REQUIREMENTS
16	DEMAND SIDE RESPONSE ACTIVE AND REACTIVE POWER CONTROL AND TRANSMISSION CONSTRAINT MANAGEMENT	REACTIVE POWER REQUIREMENTS
17	DEMAND SIDE RESPONSE SYSTEM FREQUENCY CONTROL	PROTECTION AND CONTROL
18	DEMAND SIDE RESPONSE VERY FAST ACTIVE POWER CONTROL	INFORMATION EXCHANGE
19	POWER QUALITY	DEVELOPMENT, MODERNIZATION AND EQUIPMENT REPLACEMENT
20	SIMULATION MODELS	DEMAND DISCONNECTION FOR SYSTEM DEFENCE AND DEMAND RECONNECTION
21	GENERAL PROVISIONS	GENERAL DEMAND SIDE RESPONSE
22	PROVISIONS FOR DISTRIBUTED CONNECTED DSR AT OR BELOW 1kV	DEMAND SIDE RESPONSE ACTIVE AND REACTIVE POWER CONTROL AND TRANSMISSION CONSTRAINT MANAGEMENT
23	COMMON PROVISIONS FOR DISTRIBUTED CONNECTED DSR ABOVE 1kV and TRANSMISSION CONNECTED DEMAND FACILITIES AND DISTRIBUTION NETWORKS	DEMAND SIDE RESPONSE SYSTEM FREQUENCY CONTROL
24	PROVISIONS FOR DEMAND UNITS WITH DSR WITHIN A DEMAND FACILITY CONNECTED ABOVE 1000V	DEMAND SIDE RESPONSE VERY FAST ACTIVE POWER CONTROL
25	PROVISIONS FOR TRANMISSION CONNECTED DISTRIBUTION NETWORKS AND DEMAND FACILITIES	POWER QUALITY
26	ENERGISATION OPERATIONAL NOTIFICATION (EON) FOR TRANSMISSION CONNECTED DISTRIBUTION NETWORKS AND DEMAND FACILITIES	SIMULATION MODELS
27	INTERIM OPERATIONAL NOTIFICATION (ION) FOR TRANSMISSION CONNECTED DISTRIBUTION NETWORKS AND DEMAND FACILITIES	GENERAL PROVISIONS

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28	FINAL OPERATIONAL NOTIFICATION (FON) FOR TRANSMISSION CONNECTED DISTRIBUTION NETWORKS AND DEMAND FACILITIES	PROVISIONS FOR A DEMAND UNIT WITH DSR WITHIN A DEMAND FACILITY CONNECTED AT OR BELOW 1000V
29	LIMITED OPERATIONAL NOTIFICATION (LON) FOR TRANSMISSION CONNECTED DISTRIBUTION NETWORKS AND DEMAND FACILITIES	COMMON PROVISIONS FOR DEMAND FACILITIES AND DISTRIBUTION NETWORKS OFFERING DSR SERVICES AND CONNECTED ABOVE 1000V, AND TRANSMISSION CONNECTED DEMAND FACILITIES AND TRANSMISSION CONNECTED DISTRIBUTION NETWORKS
30	GENERAL PROVISIONS	PROVISIONS FOR DEMAND UNITS WITH DSR WITHIN A DEMAND FACILITY CONNECTED ABOVE 1000V
31	RESPONSIBILITY OF THE DEMAND FACILITY OPERATOR OR DNO	PROVISIONS FOR TRANMISSION CONNECTED DISTRIBUTION NETWORKS AND TRANMISSION CONNECTED DEMAND FACILITIES
32	TASKS OF THE NETWORK OPERATOR	ENERGISATION OPERATIONAL NOTIFICATION (EON) FOR TRANSMISSION CONNECTED DISTRIBUTION NETWORKS AND TRANSMISSION CONNECTED DEMAND FACILITIES
33	COMMON PROVISIONS ON COMPLIANCE TESTING	INTERIM OPERATIONAL NOTIFICATION (ION) FOR TRANSMISSION CONNECTED DISTRIBUTION NETWORKS AND TRANSMISSION CONNECTED DEMAND FACILITIES
34	COMMON PROVISIONS ON COMPLIANCE SIMULATIONS	FINAL OPERATIONAL NOTIFICATION (FON) FOR TRANSMISSION CONNECTED DISTRIBUTION NETWORKS AND TRANSMISSION CONNECTED DEMAND FACILITIES
35	COMPLIANCE TESTS FOR DISCONNECTION FOR SYSTEM DEFENSE AND RECONNECTION	LIMITED OPERATIONAL NOTIFICATION (LON) FOR TRANSMISSION CONNECTED DISTRIBUTION NETWORKS AND TRANSMISSION CONNECTED DEMAND FACILITIES
36	COMPLIANCE TESTS FOR INFORMATION EXCHANGE	GENERAL PROVISIONS
37	COMPLIANCE TESTS FOR SYSTEM DEFENSE AND RECONNECTION	RESPONSIBILITY OF THE DEMAND FACILITY OPERATOR OR DNO
38	COMPLIANCE TESTING OF DEMAND SIDE RESPONSE FOR DEMAND FACILITIES OR	TASKS OF THE NETWORK OPERATOR

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	CLOSED DISTRIBUTION NETWORKS	
39	COMPLIANCE TESTS FOR INFORMATION EXCHANGE	COMMON PROVISIONS ON COMPLIANCE TESTING
40	COMPLIANCE SIMULATIONS FOR REACTIVE POWER RANGES OF TRANSMISSION CONNECTED DISTRIBUTION NETWORKS	COMMON PROVISIONS ON COMPLIANCE SIMULATIONS
41	COMPLIANCE SIMULATIONS FOR REACTIVE POWER RANGES OF DEMAND FACILITIES	COMPLIANCE TESTS FOR DISCONNECTION FOR SYSTEM DEFENCE AND RECONNECTION
42	COMPLIANCE SIMULATIONS FOR VERY FAST ACTIVE POWER CONTROL OF DEMAND FACILITIES	COMPLIANCE TESTS FOR INFORMATION EXCHANGE
43	COMPLIANCE MONITORING FOR TRANSMISSION CONNECTED DISTRIBUTION NETWORKS	COMPLIANCE TESTS FOR SYSTEM DEFENSE AND RECONNECTION
44	COMPLIANCE MONITORING FOR DEMAND FACILITIES	COMPLIANCE TESTING OF DEMAND SIDE RESPONSE FOR DEMAND FACILITIES OR CLOSED DISTRIBUTION NETWORKS
45	GENERAL PROVISIONS	COMPLIANCE TESTS FOR INFORMATION EXCHANGE
46	REQUEST FOR DEROGATION	COMPLIANCE SIMULATIONS FOR REACTIVE POWER RANGES OF TRANSMISSION CONNECTED DISTRIBUTION NETWORKS
47	DECISION ON DEROGATION	COMPLIANCE SIMULATIONS FOR REACTIVE POWER RANGES OF TRANSMISSION CONNECTED DEMAND FACILITIES
48	COMPLIANCE OF EXISTING DEMAND FACILITY OR EXISTING DISTRIBUTION NETWORK	COMPLIANCE SIMULATIONS FOR VERY FAST ACTIVE POWER CONTROL OF DEMAND FACILITIES
49	REGISTER OF DEROGATIONS TO THE NETWORK CODE	COMPLIANCE MONITORING FOR TRANSMISSION CONNECTED DISTRIBUTION NETWORKS
50	AMENDMENT OF CONTRACTS AND GENERAL TERMS AND CONDITIONS	COMPLIANCE MONITORING FOR TRANSMISSION CONNECTED DEMAND FACILITIES
51	ENTRY INTO FORCE	GENERAL PROVISIONS
52		REQUEST FOR DEROGATION
53		DECISION ON DEROGATION
54		COMPLIANCE OF EXISTING DEMAND FACILITY OR EXISTING DISTRIBUTION NETWORK
55		REGISTER OF DEROGATIONS TO THE

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	NETWORK CODE
56	AMENDMENT OF CONTRACTS AND GENERAL TERMS AND CONDITIONS
57	ENTRY INTO FORCE

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PURPOSE AND OBJECTIVES

Many comments, attributed to no specific Article, gave general comments or referred to cover letters with no link to a specific clause of the draft code published for consultation. No specific responses are given on these comments in this document.
Some comments, attributed to no specific Article, referred to the where-as section of the draft code. It is noted that this section is only descriptive in nature and not legally binding.

Use the same text in the "Purpose and Objectives" section as in NC RfG.	Partially accepted	The wording is largely in line with that of NC RfG, based on close relation between both. Small modifications are made for the demand connection context.
Whereas (4) should also indicate obligations for TSOs to meet the requirements of this code.	Partially accepted	Article 1 states that the code puts obligations on network operators as well. Also clear obligations on Network Operators are prescribed throughout the code in various proceses.
Remove the definition of installation document containing information re. Demand Unit with DSR below 1000 V as there should not be compliance monitoring for Demand Side Response below 1000v.	Partially accepted	Compliance obligations for the RNO for DSR-SFC is not prescribed by this code (wording has been revised for clarification). For other DSR services (remote control) and which are in the scope of this code, the Installation Document provides the minimum process to enforce compliance and guarantee that the service can be activated when needed.
General comment: significant demand should be redefined: 1) it should not include e.g. ordinary household load; 2) it should be connected at 110 kv or above 3) it only comply to active control from a frequency dependent perspective.	Rejected	See supporting documents, especially FAQ 7, 23 and 31.
The definitions in DCC are not consistent with NC RfG: a separate definition document should be created with definitions for all NCs should be created	Partially accepted	Definitions are aligned to the maximum extent to avoid ambiguous interpretations. Article 2 explicitly indicates where different definitions may exist compared with earlier ENTSO-E Network Codes.

From standardisation viewpoint we recommend to use the already proven tools and working groups in CEN and/or CENELEC. This would further enhance the quality and safety as all participating parties in Smart Grid standardisation are involved and contribute. Further active participation of ENTSO-E experts would widen the horizon of the working groups, prevent parallel developments and ensure that ENTSO-E requirements are integrated in the proven standardisation process. E.g. the actually intended mandatory DR function to react on frequency drop by switching off power of household refrigerators and possibly other appliances conflicts with already existing standardisation on communication between household appliances.	Partially accepted	The DCC prescribes basic functional capabilities, to be further developed into technical specifications and standards. Including direct reference to standards could contradict the handbook approach (everything covered by the FWGL should be included in the NC and adopted though comitology). Early interactions between ENTSO-E and CENELEC (5 Dec. 2011) founded an understading on this principle. No clear arguments of where DCC requirements contradict other standardization activities have not been provided. It is clarified that DSR-SFC does not result in switching on/off appliances; also, as it operates autonomously, the conflict with remote control is not understood.
The code should only focus on cross border issues. Local issues such as voltage stability and reactive power capability should not be referred to as cross-border issues	Rejected	Please refer to FAQ 20
Incomplete explanatory note. It does not include sufficient CBA elements (especially costs and benefits for all stakeholders).	Rejected	
Comment relates to Article 15, 16, 17 Scope of the NC: provisions on voluntary DSR should be transferred to a market design code and/or Operational security code (it is not a connection issue)	Rejected	The relation between connection, operation and market codes is given in document … Whereas market mechanisms on how to procure voluntary DSR services are indeed out of scope of this code, the basic functional capabilities (information exchange, notification, withstand capability to ensure delivery of DSR, etc...) are considered clear connection requirements.
Scope of the NC: some issues, such as pumping and hydropum storage, should be covered by NC RfG since they are generating issues	Partially accepted	If a single module provides both pumping and generation mode, it is indeed covered by NC RfG. If pumping operation is performed by a separate, individually operated module, it is covered by DCC. Note that the comment that some hydro units cannot comply with all NC RfG requirements in pumping mode is out of scope of this code and covered in the justifications for the final NC RfG.

Suggestion to adapt the definition of Demand Facility, in order to clarify the status of Closed Distribution Network.	Rejected	The definition of Demand Facility explicitly excludes a Distribution Network. The definition of Distribution Network explicitly includes a Closed Distribution Network. Hence, the definition of a Demand Facility excludes a Closed Distribution Network.

SUBJECT MATTER

References to generating units from the rest of the network code should be removed to ensure consistency between all codes.	Accepted	All references to Power Generating Modules are removed from the DCC and its definitions.
Avoid risks for existing equipments.	Partially accepted	A transparant process (including assessments of costs and consultation) is given in the code for when existing equipment would need to comply with this code.
Applicability of DCC to power generating modules in relation to their consumption?	Rejected	Auxiliaries of Power Generating Modules are excluded from the DCC (see definition of Demand Facility) and are covered by the NC RfG.
Clarification of Significant Demand Facility, e.g. based on minimum sizes or explicit exclusion of domestic, and reference to the connection agreement.	Partially accepted	Article 3 has been revised listing all possible instances of significant users throughout the code. It is to be understood that significance is to be seen in the context of a specific requirement. E.g. for frequency ranges all demand is considered signicant, for the voltage range requirement only transmission connected (>110kV) is significant.

DEFINITIONS (GLOSSARY)

Many comments proposed amendments for changed definitions. Comments have been assessed based in the following often recurring feedback and review:

- Article 2 now clearly indicates how the definitions of DCC relate to the preceding Network Codes RfG and CACM.
- Definitions have been aligned with NC RfG to the maximum extent possible. Remaining discrepencies are based on the fact that RfG definitions explicitly refer to Power Generating Modules and Power Generating Facilities, whereas DCC refers to Demand Facilities and Distribution Networks.
- Definitions of the 3rd package have not been repeated and are deemed aligned.
- Proposed new terms to be defined have only been accepted if this is deemed to provide a substantial added clarity to the code itself.
- It is noted that many of the definitions have been discussed in bilateral meetings with the DSO Technical Expert Group. See Minutes of Meetings on https://www.entsoe.eu/resources/network-codes/demand-connection/

SCOPE

Many comments on Article 3 (Scope) indicated possible ambiguities in which users are referred to in the code and which requirement applies to whom. The scope has been drastically revised to bring more clarity in the type of users addressed, existing users, and new users. An overview of which requirements applies to who would require an extensive table which is not suited in the legal text a network code is to be. More info on the relation 'user versus requirement' can be found in FAQ 34

REGULATORY ASPECTS

4.1-1	1) Electricity suppliers to be expressly mentioned as "involved parties"; 2) "Involved parties" term to be defined explicitly including suppliers and balance responsible parties.	Rejected	The reference to all involved parties is considered open enough. Specification or a further definition of the term would rather create the risk that some parties may be overlooked.
4.2-2	Clarify the wording of Art 4(2) and clear up that different treatment is based in objective differences.	Accepted	Wording is revised accordingly.

4.2-3	The expression "shall be balanced" should be defined as the principles of non discrimination and optimisation cannot be questioned or limited.	Rejected	The meaning of "balance" is clear no definition is needed.
4.3-4	Missing reference to some of the paragraphs of Directive 2009/72/EC, (11),(12),(15),(16) and (17), specially (12) referring to consultation with stakeholders.	Rejected	Article 4(3) only defines the entitites that are in charge of determining terms and conditions for connection and acces to the networks, it does not deal with processes that are for granted those described in national regulation implementing Directive 2009/72/EC. The absence of reference to those albeits does not and cannot exclude their applicability.
4.4-6	Delete Article 4(4) as it is already covered by national legislation.	Rejected	It specifically foresees the possibility of additional requirements in national law in all Member States to ensure the TSOs responsibility to ensure sysem security, is respected in decisions by other network operators. As such it is not contradicting, nor redundant.
4.5-5	1)The new requirements for new and existing facilitites, require additional costs, manpower and equipment mainly at demand level (DSO),which are not mentioned through the document. 2) Simplify article 4.4. by saying only that the costs will be recovered according to the provisions of the applicable national law. 3) possible conflict with national law. 4) The costs should be ECONOMIC and EFFICIENTLY incurred and not just reasonable and proportionate.	Rejected	1)Article 4 (5) refers to the costs borne by regulated Network Operators, among which are the DSOs 2) It is not always national law that prescribes how tariffs are approved 3) EU regulation prevails over national legislation. Also, no clear proof of this statement is given 4) The application of these principles is already foreseen in article 4(1).

CONFIDENTIALITY OBLIGATIONS

5.0-1	Alignement of the wording with the one from NC RfG, as well as the correction of some typos.	Accepted	Changes made to Article 5 to align with the NC RfG and the typos corrected
5.1-1	The definition of the Relevant DSO is lacking	Accepted	Term no longer used

RELATIONSHIP WITH NATIONAL LAW PROVISIONS

(none)

GENERAL FREQUENCY REQUIREMENTS

7.1-1	Delete table 2 in article 7 or justified diferences with EN 50160 and IEC 60034 The frequency range imposed by the NC must be compatible with the frequency ranges defined by the standards for both network and industry equipments, so as transformers, asynchronous motors including “EX” ones, electronic variable speed drivers, ... Let’s say that more as 99%.of the hours, the frequency must be compatible with equipment standards; if, in exceptional circumstances, the frequency variation exceeds these limits, Demand Site must be authorized to disconnect incompatible equipments.	Rejected	The table is in line with the ranges of IEC 60034. Note that this requirement is not a withstand capability, but states which frequencies could occur in the system in case of system events and which are to be dealt with in the design of a facility. EN50160 prescribes a quality of supply standard, not the situation which demand should be able to cope with in extreme situations. As this requirement is not a withstand capability requirement, it is not relevant to give an indication of expected occurrences of extreme events beyond the prescribed ranges.
7.1-10	Does Article 7(1)a)3) apply to all downstream DNOs?	Partially accepted	This clause has been removed from this article and placed in context of Article 20 on Systemd Defence measures. There, it is also clarified that it applies to Transmission Connected Distribution Networks only.
7.1-11	What does happen if the parties concerned do not agree? There should be a dispute resolution arrangement put in place.	Rejected	Dispute resolutions are covered by national legislation. See FAQ 15.

7.1-12	Current requirements between DSO and TSO shall be considered. This automatic disconnection will have an impact on existing/future installation and it will bring unecessary costs to Demand Facilities (and DSO) without any technical justification or demonstrated efficiency gains. Therefore, this requirement shall be left open, automatic or manual, to be decided on a national level	Partially accepted	Manual disconnection at specified frequencies is out of scope of this requirement and can still take place based on other arrangements. Note also that the clause has been shifted to Article 20.
7.1-13	Some safety standards for existing power plants (such as NPP) does not allow a frequency below 48 Hz Safety reasons for many industrial facilities do not allow operating at frequency below 48 Hz	Partially accepted	The code does not prescribe that demand in an industrial facility needs to be capable of operating down to 47,5Hz. The code prescribes that the possibility of 47,5Hz needs to be covered in the design of the plant/protection.
7.1-3	It is necessary to include "significant" in the begining or article 7	Accepted	Wording and application is revised. It is now indicated that for the purpose of this Article Transmission Connected Demand Facilities and all Distribution Networks have to be designed to cope with the prescribed ranges. Demand Facilities and Closed Distribution Networks providing DSR have to be capable to withstand these deviations (See Article 22 of the final DCC)

7.1-4	If a Demand Facility for instance provides the necessary frequency relay protections to be disconnected at frequencies below 49 Hz, it should not longer be able to withstand the frequency ranges below this value. A Demand Facility should in no case be obliged to be designed for extreme frequency ranges as it is suggested in this article.	Rejected	LFDD settings can be changed during the lifetime of a Demand Facility based on continuous system security assessements. As such the requirement of Art 7, aiming at the design phase of a facility, is still valid. Note also that the clause has been shifted to Article 20.
7.1-5	Change Demand Facility by Dermand Facility Operator and Distribution Network by Distribution Network Operator in the last sentence.	Partially accepted	Wording has been clarified throughout the document.
7.1-6	Proposal for clarification the table 2 in article 7 using simbols <, >	Rejected	Table is considered clear as it is. If a measurement would be at e.g. exactly 48.5Hz (though not realistic), the shortest time frame would apply by consequence.
7.1-7	Disconnection of distribution networks or demand facilities may result in disconnection of net-production. Automatic load shedding at under frequencies must be carried out at a level deeper down in the distribution networks/demand facilities.	Accepted	The automatic disconnection prescriptions of Art 7 are based on agreement and individual cases, e.g. to cope with possible islanding risks. Note that the clause is now shifted to Art 20 on System Defence which also covers Low Frequency Demand Disconnection schemes where the impact of present net production has been taken into consideration.
7.1-8	Change the wording to clarifywho the agreement is made with.	Accepted	Wording revised accordingly.
7.1-9	Clarification on the term Network Frequency.	Accepted	Term is replaced by simply Frequency.

GENERAL VOLTAGE REQUIREMENTS

8.1-1	Request to clarify wich Demand facilities are in the scope of this article.	Accepted	Wording is revised that the requirement applies if the Demand Facility is connected to the Transmission Network AND connected at 110kV or above.
8.1-2	The requirement is incompatible with existing norms (EN 50160, IEC 60034, EN 50341).	Rejected	Please refer to FAQ 20 for further explanations.
8.1-3	Selection of the requirement in transition values in voltage ranges (use of '<' or '<=')	Partially accepted	Table is considered clear as it is. If a measurement would be at e.g. exactly 1.10pu (though not realistic), the shortest time frame would apply by consequence.
8.1-4	The voltage range up to 1,15 pu will require installation modification and/or retrofit of new on load tap changers du to risk of overvoltage in distribution networks	Rejected	Requirement only applies to new Demand Facilities Connections or new Distribution Connections. The comment on modification or "retrofit of new OLTC" is not clear.
8.1-5	Suggestion to use one only voltage range with an unlimited time period	Rejected	The voltage range requirements and corresponding time limits for operation are needed to cope with severe system events in which demand disconnection (including its connected generators) could worsen the situation.
8.1-6	Clarification for wording in automatic disconnection at specified voltages. Requirement should exempt DSOs with generation feeding power into the transmission system.	Partially accepted	Wording is revised to clarify who comes to an agreement. As it is based on an agreement, specific situational considerations can be taken into account.

8.1-7	A dispute resolution process should be included.	Rejected	Dispute resolutions are covered by national legislation. See FAQ 15.
8.1-8	The specified voltage ranges would not be a problem for both industrial and Distribution networks, but may be incompatible with industrial load equipments. By principle, voltage ranges imposed by the NC must be compatible with the voltage ranges defined by the standards for industry equipments, including “EXe” asynchronous motors and power electronic variable speed drivers, ... The NC may not oblige a EXe asynchronous motor to continue to run whilst le voltage is too low, provoking its overheating in an explosive area ! We may consider, and the NC may explain, that - more than 99%.of the hours, the frequency must be compatible with equipment standards; - if, during exceptional circumstances, the frequency variation exceeds these limits, the Demand Site operator is authorized either to disconnect incompatible equipments or to bring down the over / under-voltages on internal voltage plans by adapting reactive power injection or OLTC position.	Partially accepted	The NC DCC requires that only the equipment at the connection point (if at 110kV or higher) of any Transmission Connected Distribution Network or Transmission Connected Demand Facility is capable of withstanding without disconnecting from the network a defined voltage range within specified time periods. The code puts no requirements in devices withing the site (such as the example of asynchronous motors). For an analysis of the voltage range requirement in perspective of existing standards, please refer to FAQ 20 As this requirement is a connection requirement, not an access or operational condition, no frequency of occurrence of extreme events can eb given.

	- We also would like to suggest that there should be a maximum number/year.		
8.1-9	Consistency between NC RfG and NC DCC voltage range requirements	Partially accepted	The ranges given in the DCC are consistent with that of RfG. In addition the RfG prescribes an extreme additional range for 0.85 to 0.90 pu for generators which is deemed not relevant for overall application to all transmission connected demand as of 110kV connected. Thos does not impede case-by-case measures for these low voltage ranges. An inconsistency did exist for the values of the Baltic region which is now corrected in DCC.

SHORT CIRCUIT REQUIREMENTS

9.1-1	Consistency with terminology used in earlier parts of the code as to responsible party. Requirement should address operator, not owner.	Partially accepted	Short circuit requirements are (clarified to be) restricted to transmission connections. Embedded distribution networks, demand and generation within a transmission connected distribution network will be reflected in the information provided at the transmission connection point. Restriction of short-circuit levels to existing level is not possible as these will increase naturally as demand growth and also embedded generation increases. Also clarification on asset ownership / operator responsability is given throughout the code.

9.1-2	Minimum short-circuit values should be provided	Partially accepted	Maximum short circuit values are provided as a fixed target for a withstand capability. For minimum values only an estimate can be provided, e.g. for protection settings by the demand owner. Wording is revised accordingly in line with NC RfG.
9.1-3	Percentage or scale of change that is justifiable to be notified to the Relevant TSO, in order to avoid the obligation for many (useless) notifications of minor changes.	Accepted	Wording revised to include a threshold over which the short circuit data is to be provided to be set at a national level in line with Article 4(3).
9.1-4	Not appropriate to notify such changes after they have been made.	Accepted	The Article now makes a distinction between planned and unplanned events.
9.1-5	Provide extra calculated information for unbalanced faults and calculation of harmonics	Partially accepted	The existing wording of the requirement is not restrictive to either balanced or unbalanced short-circuit data. The provision of zero-sequence impedence data necessary for compliance is also not covered by this code.
9.1-6	Remove short circuit requirements from this code.	Rejected	Inclusion of short circuit requirements in grid connection codes are prescribed in section 2.1 of ACERs Framework Guidelines for Grid Connections. In the context of DCC it is clarified now that it only applies to transmission connected users.

REACTIVE POWER REQUIREMENTS

10.1-1	apply Art 4(3) for DSO networks too	Accepted	The clause on Transmission Connected Distribution Networks is in methodology aligned with that on Transmission Connected Demand Facilities.
10.1-10	Requirement applies for Transmission connected Demand Facilities, not for distribution connected.	Accepted	Wording is clarified accordingly. Reactive power provisions for controllable distribution connected demand are covered under the DSR requirements.
10.1-11	If the facility has a net a consumption, the DCC should apply; if it has a net generation, then RfG should apply.	Partially accepted	As stated in Art. 1, the onsite generation shall be compliant with the provisions of RfG. In situations where generation and demand co-exist in a Demand Facility or Closed Distribution Network, all demand requirements within this code will be evaluated on the basis that the generation is not present. The provisions defined for the Demand Facility at the Connection Point shall permit the use of the reactive capability of the generation unit.
10.1-12	In off-peak periods, when there is an oversupply of reactive power in the grids, taking off reactive power from the distribution network to feed it back into the transmission network should be limited because the reactive power in-take counteracts voltage rises and should be allowed as usual. Industrial networks in particular need reactive power	Accepted	Wording is revised so that only export from the Distribution Network is limited. The principle rationale for this requirement (check FAQ 22 and 25) is to limit reactive power spilling in the Transmission Network at low load.

	from the upstream network in off-peak periods, too. If they were required to discontinue reactive power supply in off-peak periods, industrial networks would be forced to install unnecessary compensation facilities.		
10.1-15	Definition of "active Power Maximum Import Capability" needed	Accepted	The Maximum Import Capability is defined in Art. 2. The paragraph has been reworded for clarification.
10.1-16	Reactive power requirements for voltage levels different from nominal values	Partially accepted	Reactive power is indeed influenced by the actual voltage level, but impact is minimal. Wording is not adapted.
10.1-17	Cancel Art 10.1.b because the limits of the exchanges have to be defined on the basis of a CBA	Rejected	This is a requirement for the design of the new connection, tested by simulation. Reactive power compensation of cable networks is needed at low loading situations. Allocation of compensation at the lower voltage level is based on the same cost arguments as the general reactive power requirements. See FAQ 22 for further details.
10.1-18	Need to define a period of time to consider reactive power exchange	Accepted	The Article on Compliance Testing for this requirement states that the time frame is to be defined by the TSO.
10.1-19	Controlled mode of reactive power can lead to inadequate investments.	Rejected	This controlled mode is based on an agreement of principles, cost assessment, security analysis and roadmap. Wording is clarified so that in case this controlled mode applies, paragraph a) no longer applies.

10.1-2	Replace "Use of other methods" by "use of other metrics "to define reactive power	Accepted	Wording revised accordingly.
10.1-20	Initiation of the actively controlled mode by the DSO	Partially accepted	The TSOs is responsable for the overall reactive power management on the transmission grid, based on a wider system view. Any reactive imbalance must be compensated by the TSO. Therefore the TSO is prescribed as being responsible to initiate this actively controlled mode when appropriate. This does not impede DSOs to propose alternative methods if deemed relevant based on local generation, reactive power sources, etc...
10.1-21	Justification for the actively controlled mode is missing	Rejected	The justification will include both technical aspects and economic efficiency. This mode is optional and respects Article 9(3).
10.1-22	add reference to art 4(3) for the method of the controlled mode	Partially accepted	Reference to Article 9(3) is made in the preceding sentence already, where the need for justification is explicitly mentioned.
10.1-23	Financial incentive for controlled mode is missing	Rejected	Financial incentives/penalties/mechanisms are out of the scope of the code, which deals with technical capabilities only.
10.1-3	Sanctions or diconnection associated to wider reactive power range	Rejected	Out of the scope of this code.
10.1-4	Clarification needed: Importing/exporting Power Factor, Maximum Import/Export Capacity	Accepted	Definitions of Maximum Import and Export Capacity are stated in Article2. The wording of this paragraph has been changed to bring clarification.

10.1-5	typos	Accepted	Wording revised accordingly.
10.1-6	point 0 MVAR at 25% is not reachable and will induce useless investments for compensation devices	Partially accepted	Wording is revised to avoid confusion on the 'maintain 0Mvar'. It is again stressed that this is to be checked by simulation and does not require a control method to continuously target 0Mvar.
10.1-7	This new reactive requirement of paragraph b shall be left open, to be decided on a national level.	Rejected	This requirement is included with minimum criteria only, based on the argumentation that reactive power management is a cross-border issue. Further specifications or alternative manners (if justified) can be provided at national level.
10.1-8	DSOs are often connected with several connection points. The reactive power exchange at low load of paragraph b shall be defined globally.	Rejected	The requirement is a design requirement, checked by a simulation for one or more specific cases. The requirement does not impose limits on operational situations.

PROTECTION AND CONTROL

11.1-1	Reference to art 4(3) to define the settings necessary to protect the Network	Partially accepted	Reference is made in the next sentence which covers schemes and settings.
11.1-2	Paragraph b is not prescriptive unless it says how mandatory requirements are defined and for which	Accepted	Sentence is added that the devices are to be defined by the RNO.

	devices.		
11.1-3	Add subparagraph to exchange the models of their network around the Connection Point to permit efficient protection.	Partially accepted	This is covered by the requirement on simulation models (Article 26)
11.1-4	Application only to Transmission connected Demand Facilities	Accepted	Wording is revised accordingly.
11.2-1	The relation must be bewteen RNO and grid user, not directly between the TSO and the grid users if there is a DSO involved.	Partially accepted	As the wording is revised to clarify that it only covers transmission connected users, the RNO is the TSO.
11.2-2	Does this paragraph covers reconnection devices?	Rejected	Devices for reconnection are covered by Article 20.
11.2-3	Add more cases to be taken into account in this paragraph: - isolated (Network) operation: with a part of the relevant network and the Demand Site / Distribution Network; - damping of oscillations; - disturbances to the Network. - automatic switching to emergency supply and come-back to normal topology; - automatic circuit-breaker re-closure (on 1-phase faults). - circuit current limitations (coming from the (T)SO's underlying grids).	Partially accepted	Clause is adapted for two items. "circuit current limitations" is too specific to be included in the list. Isolated (Network) operation effectively means an island operation with a part of the network and the demand Facility or the Distribution network.

11.3-1	Add" Island of (a part of) the Demand Site with critical loads" to the priority ranking, before Power restriction	Partially accepted	The right to island the Demand Facility with critical loads is already covered in art.3 (6) h).
11.3-2	Proposal to delete Article 11 on protection and control because out of the scope regarding the Framework Guidelines	Rejected	"Requirements for protection devices and settings" are in the scope of this code regarding Section 2.1 of the Framework Guidelines.

INFORMATION EXCHANGE

12.1-1	Relevance of Article 12 in the NC DCC considering the future existence of an Operational Network Code	Rejected	The NC DCC only defines that the Transmission Connected Demand Facilities and Transmission Connected Distribution Networks shall be equipped according to a standard to be defined and who are the entities responsible to define the information exchange standard. It does not stipulate which data to transmit, when, to whom, etc...
12.1-2	Request to clarify which Demand facilities are in the scope of this article.	Accepted	Wording revised accordingly, i.e. only transmission connected. Note that concerning DSR, specific request for information exchange on distribution connected demand providing DSR are prescribed in the relevant Articles as well.
12.1-3	Request to clarify who makes standards available.	Accepted	Wording revised accordingly in paragraph a and b.

12.1-4	Request for the Relevant TSO to agree particular information exchange standards with every Transmission Connected Distribution Network and Transmission Connected Demand Facilities	Rejected	This requirement covers only the equipment and exchange standard, not the content of info to be exchanged, which can be covered by other codes, national rules or agreements.
12.1-5	Request for protection and confidentiality in data to be exchanged	Partially accepted	Confidentiality is related to the content of the information. This article does not refer to the content. In general, there is an article on Confidentiality obligations that applies to the whole code.

DEVELOPMENT, MODERNIZATION AND EQUIPMENT REPLACEMENT

13.1-1	Distribution Connection is not defined.	Accepted	Wording is revised to Distribution Network Connection.
13.1-2	This Chapter applies to all demand facilities including those connected to the Distribution Network. This Article 13 applies to 'Existing Demand Facilities' and indicates that developments have to be notified to the Relevant Network Operator. This is a very onerous burden on domestic consumers.	Partially accepted	Wording is clarified that it only applies to Existing Distribution Network Connection, an Existing Transmission Connected Demand Facility, an Existing Demand Facility providing DSR or an Existing Closed Distribution Network providing DSR. This is in line with the requirements provided in this code.

13.1-3	Reference should be made to increasing the capability of plant rather than increasing plant	Rejected	Paragraph 1 refers to expanding the facility or network ('increasing plant'). Paragraph 2 refers to replacement or modernization which could also be understood to increase the capability of the facility or network.
13.1-4	Clarification that it is only the new equipment / facilities provided by the new equipment that needs to comply rather than the entire network downstream of the connection point.	Rejected	Wording is maintained. Whether modifications downstream result in a need to comply with the code depends on the requirement itself and may indeed be needed for LFDD/LVDD schemes or simulation models.
13.2-1	Application of DCC requirements to existing demand facilities or distribution networks, require a positive CBA. This paragraph is a backdoor for requiring compliance with the DCC code without a positive CBA.	Rejected	The process is considered clear. No valid proposal is given to 'close backdoors'.
13.2-3	Plant and equipment are changed all the time. Only changes that have a significant impact on performance and compliance shall be reported.	Partially accepted	'Significant impact' does not add more clarity than the present wording. Spare parts could indeed be covered as being existing equipment, in analogy with existing users. This possibility is also expressed in FAQ 9

DEMAND DISCONNECTION FOR SYSTEM DEFENCE AND DEMAND RECONNECTION

14.0.-1	Need for some precisions about the treatment of the potential impact of DSR services on Balance Responsible Parties. As expressed by the aim of assignment to the real originator of the costs, it would not be acceptable that Balance Responsible Parties support every imbalance cost potentially induced by a modification of the demand as a consequence of the activation of a DSR service.	Partially accepted	This code does not cover the operational rules how to activate demand disconnection for system defence, nor how this may impact possible market responsibilities or actions.
14.0.-2	Power Generating Facilities should be excluded or at least be dealt as high priority customers.	Partially accepted	The principle that there may be high priority loads is accepted. To cover this the code mentions a 'rule set defined by the TSO while respecting the provisions of Article 9(3).'

14.0.-3	the whole article to be adopted 1) In the DCC only technical capabilities have to be defined. The basis for design of a System for Demand Disconnection for System Defence and Demand Reconnection should be laid in the Network Codes for System Operation 2) Decisions have to be made in agreement between TSO and DSO and not by TSO alone. 3) Embedded production has to be taken into account. "	Partially accepted	Agree on all three points. Wording is deemed correct accordingly.
14.1.a-1	Demand disconnection due to low frequency has to take place deeper down in the distribution network, in order to avoid simultaneously disconnection of distributed generation. Hence it can't be done at the connection point. It should be left to the DSOs to design the disconnection scheme based on the topology and customer composition of the local network. Article 7 must be changed accordingly.	Partially accepted	The Article gives flexibility to the DSO to make arrangement in the distribution network to enable the LFDD/LVDD scheme. The code does not prescribe simple disconnection at the T/D connection point.

14.1.a-10	Current requirements between DSO and TSO shall be considered. This automatic disconnection will have an impact on existing/future installation and it will bring unecessary costs to Demand Facilities (and DSO) without any technical justification or demonstrated efficiency gains. Therefore, this requirement shall be left open, automatic or manual, to be decided on a national level.	Rejected	Manual disconnection of load is out of the scope of Demand Disconnection schemes. Impact on existing installations is in limited by the eventual NRA decision on retrospective application.
14.1.a-11	"This requirent is linked to Sysstem operation and sholud be set in the related codes, in DCC only the related technical capabilties should be set. This is a matter foremost of importance to the TSO regarding system security and the TSO should therefore take potential costs. Must be made consistent with article 7 The is no use in requiring an automatic frequency disconnection of DSOs and an automatic frequency disconnection of load below DSO connection point."	Partially accepted	Specifications on when system defence measures are activated are indeed out of the scope of this code which deals with equipment requirements, not the operational rules. The article on frequency ranges has been revised to avoid ambiguity with System defence requirements.
14.1.a-2	This is a matter foremost of importance to the TSO regarding system security and the TSO should therefore take potential costs.	Rejected	Cost allocation is out of scope

14.1.a-3	There should be no automatic disconnection dependent of the frequency. This article is contrary to the the German energy law (paragraph 13 (1), (2) EnWG) where a contractual agreement is foreseen.	Rejected	Automatic low frequency demand disconnection schemes are also applied in the German system. Measures for disconnection of specific users based on agreements are not impeded by this system based requirement.
14.1.a-4	a percentage of demand to be specified by the TSO, WHILE RESPECTING THE PROVISIONS OF ARTICLE 4 (3), in coordination with adjacent TSOs	Partially accepted	Comment taken into account by adding "This specification shall be based on a rule set defined by the TSO while respecting the provisions of Article 9(3)."
14.1.a-5	In Britain we have, within our Grid Code Operating Chapter (OC) 6.6.n, specific requirements that DNO disconnections of loads should give priority to, i.e. disconnect last, protected categories of load (such as hospitals). We would like to see this continue in GB – if so this possibility at a Member State level may, notwithstanding the stated general principle of allowing for superequivalencing in the national implementation of these new European energy codes, need reflection in the DCC code – as the concept of prioritisation is not currently reflected in the draft DCC	Partially accepted	Prioritisation of certain demand and national choices are reflected by the added sentence 'This specification shall be based on a rule set defined by the TSO while respecting the provisions of Article 9(3).'

14.1.a-7	The proposed article by ENTSO-E gives the monopoly to the TSO for deciding the frequency ranges and amount of MW that shall be tripped. This must be done in agreement with the DSO, and the NRA shall guard that the specifications by the TSO are reasonable and supported by a Cost Benefit Analysis. A possible requirement by the TSO for switching off DSO demand in steps of, say, 40 MW, as a function of system frequency is disproportionally refined, compared to the requirements that are set for all cooling equipments. An automatic device for tripping all fridges etc at a given frequency leads to hardly predictable effects. The TSO can impossibly at every moment estimate the amount of MW actually consumed by fridges, that thus will be tripped in case of frequency disturbances. It is then not reasonable that the TSO should impose to the DSO a very refined load disconnection in small steps. Unilaterally obliging DSOs by article 14.1a to invest in equipment for tripping MW in multiple steps may lead to high costs - that shall in any case not be beared by the DSO alone - but with only a negligible effect on the frequency control, compared to the effect by the tripping of fridges.	Rejected	This requirement deals with equipment for disconnection, it does not define the steps for disconnection, nor is the article expressed as unilateral TSO decisions. Flexibility is left to the DSO on how to implement the scheme within the network. The general rule set to select demand is safeguard by the principles of Article 4(3).

14.1.a-8	The customer (Transmission Connected Demand Facility (TCDF) or the Distribution Network Operator (DNO) should be able to verify whether he is able to make such disconnections for the specified amount, and he should also be aware of the number of such disconnections as this can strongly influence the commercial status of his facility; as this status can change from time to time, a yearly update/negotiation is necessary. On the same basis, for Low Voltage Demand Disconnection, and in particular for TCDF, the values should be agreed, also with regards our amendments made under article 8, table 3.1 and 3.2 (voltage ranges)	Partially accepted	Consideration for the transmission connected demand facility can be taken into account in the arrangements prescribed in this article. No frequency of occurrences can be expressed in this connection code.
14.1.a-9	The point may be agreed in principle but, as it is, is conflicting with article 7 (see comment: there is no use in requiring an automatic frequency disconnection of DSOs and an automatic frequency disconnection of load below DSO connection point). It can be left here, with the proposed amendments, provided article 7 is also amended accordingly	Rejected	The referred to clause in Article 7 on frequency ranges has been deleted as it considered part indeed of the procedures to select demand for wider demand disconnection schemes.
14.1.b-2	It is not appropriate to specify that the stages should be in the relay. It must be in the scheme. It is for the scheme designer to decide if to implement it in relays or in the scheme logic.	Accepted	All notions of 'relay' are replaced by 'scheme'.

14.1.c-1	"This notification demand will produce a lot of paper work. If there is an national made specification (e.g. a ""FNN-Anwendungsregel"") that can be regarded as state of the art"" there should be no need for yearly notification It is part of the compliance monitoring"	Rejected	The annual notification is of importance for the TSO to ensure settings of the scheme. If it is compliant with an already existing process, this process could evidently continue.
14.1.d-1	Cooperation is the best way.	Partially accepted	Geographical distribution of demand disconnection is to be approved by the TSO who bears the responsibility for system security and has the system view. An agreement is as such not always practicable. For the overall percentage and other specifications Art 9(3) is referred to.
14.1.d-2	Where there is disagreement between the TSO and DNOs, there should be a right of appeal to the NRA to resolve the disagreement.	Rejected	See FAQ 15. Right for appeal is covered by national legislation and is out of scope of the NC.
14.1.d-5	The concept of "acceptability" is unclear. The arrangement must be agreed upon by the TSO and DNOs.	Accepted	Wording revised as 'approved'

14.1.e-2	"In distribution networks with multiple connection point, the amount and trip levels can't be specified for each connection point but only for a group of connection points. Specification per connection point hinders solutions where demand disconnection schemes adapt seasonal changes or other changes in the load/production composition. This is not a connection related requirement, and it should be transferred to operational security code. "	Rejected	- Indication per connection point can still make a nuance for seasonal changes. - Wording has been discussed with DSO Technical Exert Group and agreed to leave it in the DCC. - See also other comments/responses on flexibility for DSO to implement this within the distribution network.
14.1.e-3	Yearly report for the all details regarding the automatic Low Frequency Disconnection doesn't seem necessary.	Rejected	The annual notification is of importance for the TSO to ensure settings of the scheme.
14.1.e-5	Actual demand will vary with load,season, time of year etc. hence can only be specified as a %.	Accepted	The wording is revised as '…will be initiated and the percentage of demand disconnected …'
14.2.a-1	Current requirements are for lockout to be set within the range 55-90%. Unclear why this needs to be extended to 30%.	Rejected	A value within the range can be selected. The lower value of 30% is e.g. presently applied in Ireland.

14.2.a-10	"If this value of 0.05Hz is the operational setting at which the device must act, please note that: 1 - LFDD exists in all former UCTE adherent countries, last events (nov 2006) showed that the most important question was the respect of existing requirements, rather than modification of these requirements.Disconnecting demand by steps of 0,05 Hz (and even more son 0.01 Hz) is unjustified. LFDD should not be a means of frequency control. Disconnecting demand as soon as frequency is under 50Hz (49,99 - 49,98...) would make demand disconnection a daily event. This paragraph has to be rewritten taking into account existing requirements In any cases: 2-The voltage lockout requirement is not understandable. 3- Direction of Active Power Flow must be defined more precisely 150 ms is too ambitious even for new installations. It has to be clarified that this requirements are only relevant for new applications.	Partially accepted	1. The code does not prescribe the operational rules on when to activate demand disconnection. The principle is agreed that a first stage disconnection at 49.95Hz is not reasonable and not in line with today's practices (See CE Technical Defence Plan report which refers to 49 and 49.2Hz for first stages) 2. and 3. are clarified in the text. The objective for this code to apply to new users (exceptionally to existing) is an overlying principle.

14.2.a-4	Linking the underfrequency function and active power direction function should be required only where an active load flow is possible in both directions. For frequency-dependent load shedding of consumption-only facilities (such as large industrial motors), it is not necessary to determine the direction of the active power.	Rejected	Onsite generation can be installed at a later stage in which case a bidirectional measurment would be needed. The scheme for a new Network/Facility needs to take this already into consideration.
14.2-1	Too detailed. The specification of the relais should comply to the implemented load shedding scheme. The idea behind this paragraph is to ensure that the individual steps are not too high and well distributed in order to avoid related dynamic instabilities in the case of activation	Accepted	The information is needed to ensure safe operation of the schemes. The requirement ensures that capabilities exist for setting appropriate schemes.
14.4.a-2	Phrase is ambiguous and could be interpreted as LVDD is applicable even for Distribution Network connected DSOs	Partially accepted	The code only states that the distribution of demand disconnection needs to be equitable over all associated distribution networks.
14.4.a-3	The need and the realisation of the LVDD is unclear and need more explanation.	Rejected	Please refer to FAQ 26
14.4.c-1	Its unclear what the assessment / standards relate to	Accepted	Wording is revised to "Based on the TSO assessment of system security"
14.4.c-2	Subparagraph c and d should be merged.	Rejected	The subparagraphs are seperated for clarity. Par c) describes the need for LVDD and OLTC blocking. Par d)

			refers to the implementation.
14.4.c-4	Design should be coordinated between TSO and the DSO or demand facility owner.	Rejected	The need is specified by the TSO but the design can be coordinated.
14.4.c-5	Referring to here-above remark on Art.8-1-a-1, the NC may not impose to block OLTC of a Demand Site Network.	Rejected	The OLTC function is there to prevent system breakdown which would result in even lower voltage, as such it is a needed concept in this code. The selection of which users to install this scheme is taken pursuant to Article 4(3), respecting possible local conditions in which OLTC blocking could be hazardous. Note, if OLTC blocking would be considered dangerous, the demand would likely have to disconnect completely in case of a strong voltage sag.
14.4.d-1	If the decision is taken to install a Low Voltage Demand Disconnection scheme, it's installation should be coordinated between the RNO and the TSO.	Rejected	Coordination is indeed expressed in the clause.
14.4.e-1	This level of detail appears excessive in the context of the grid code. It is up to the network operators (TSO and DSO) to chose the best options.	Rejected	Wording has been revised for clarification.
14.4.f-1	Delete 14.4.f	Rejected	Wording has been revised for clarification.
14.5.a-1	TSO should not dictate a specific solution, but only require a functionality, and leave the design of the solution to the DSO.	Rejected	The functionality is prescribed in a general way. The need for this functionality is defined by the TSO who bears the responsibility for system security and has the wider system view.

14.6.a-1	clarification that the disconnection relates to one at a connectrion point only.	Partially accepted	Whether or not the requirments focuses on a single connection point or more, is covered under "the conditions under which a Transmission Connected Demand Facility and Transmission Connected Distribution Network is entitled to reconnect to the Transmission Network"
14.6.b-1	The article should start with “if generation unit is connected to Demand Site / Distribution Network, then …	Rejected	The capability of the scheme should be able to cope with possible later integration of local generation. (See also other comment/response on LFDD scheme specifications with direction of Active Power Flow)
14.6.b-2	It is unclear, if it is practicable that reconnection must be possible in the entire frequency set in table 2. Even in 30-min-areas?	Rejected	Reconnection of demand/generation that have been disconnected may have to be done at frequencies deviation from the normal operating point.
14.6.c-1	Disconnection is by the TSO not the RNO	Accepted	Wording is revised to Relevant TSO
14.6.d-1	This will transfer costs from Transmission System Operators onto Distribution System Operators. Should be subject to a full CBA (performed by an independent third party apointed by the NRA) and tested against the development by TSOs of an equivalent function on TN.	Rejected	The methodology to set this is in line with Article 9(3).
14.6.d-2	There is no possibility to controll the circuit Breaker by the DSO in Germany. The synchronisation is also the task of the TSO.	Partially accepted	The requirement does not state who controls the breaker.

GENERAL DEMAND SIDE RESPONSE

15.1-1	Impact of DSR on DSO grids needs to be assessed.	Accepted	As often the relevant system operator the DSO has a active role in assessing the application of requirements. The requirements of this code cover the capabilities that are needed for DSR, not the application of the service, and as such not the possible conflict with local conditions that may eventually exist. Also the DSO Technical Expert Group, extensively involved in the drafting process to ensuring DSOs interests are safeguarded, has not expressed concerns on the technical capabilities as such.
15.1-2	Include Vary Fast Active Power Control in list in Article 15.1a	Accepted	Wording revised accordingly
15.2-1	DSR offered demand can not be used as part of a LFDD or LVDD network plan	Rejected	Demand offered in as DSR is available for reduction and hence can be used as part of a LFDD or LVDD plan. For the avoidance of doubt as part of a LFDD or LVDD scheme the facility does not have to be disconnected.
15.2-2	Typo	Accepted	Wording revised accordingly
15.2-3	DSR requirements not in the scope of this code	Rejected	Requirements in this code specify the functional capabilities and principles for connection of demand.

15.3-1	DSR has not had adequate analysis to justify 'mandatory' or 'voluntary' requirements	Rejected	Stage 1 consultation (Call for Stakeholder Input - April 2012) information and responses have been used to examine this issue. Requirements in DCC are based on extensive CBA studies, feedback provided in the Call for Stakeholder Input, and prescribe a process to initiate national/European specification and catagorisation.
15.3-10	Insufficent time to develop standards from application of requirements	Rejected	The time of 2 months is only a part of the time for implimentation of the requirements in the DCC, time for development of standardisation is explictly included within the introduction of the code and would be part of the considerations when defining the devices within the signficance test appraisal.
15.3-11	Typo on 'elaborate'	Rejected	Elaborate is the right word
15.3-12	Framework guideline does not allow for mandatory frequency services	Rejected	Section 2.1.2: "The network code(s) shall set out necessary minimum standards and requirements to be followed when connecting a consumption unit to the grid, to enable demand response and/or participation of consumption units in other grid services, on a contractually-agreed basis."
15.3-13	Small aggregated demands are not a cross border issue	Rejected	Aggregated demand is no different to single large scale equivalent demand and therefore must be considered in the same context. The situation is deemed equivalent to select mandatory requirements for small-scale generation.

15.3-14	DSR SFC shall aim to be delivered in a socio-economic efficient manner, while ensuring that potential markets are not foreclosed and market arrangements have been evaluated.	Partially accepted	The DCC proposed significance test evaluates the implications before designating temperature controlled devices as significant. Market issues should form part of this appraisal.
15.3-15	Typo	Accepted	The term 'Significant Temperature controlled devices' is added as definition in Article 2.
15.3-2	Mandatory and Voluntary requirements are not clear in parapraph 3.	Accepted	Wording revised accordingly
15.3-3	Expansion of existing requirements may impact on availability of users to provide DSR	Rejected	Requirements are to provide adequate capabilities to operate the system, as such it is necessary for users including DSR to be able to provide these capabilities. For the avoidance of doubt the capabilites of the existing DSR is outside of the DCC.
15.3-4	Costs for payment of DSR services must be fully recoverable by DSOs	Rejected	Market payment structure is outside of scope of this code.
15.3-5	Methodology for significance test of DSR devices should be nationally defined not in code	Rejected	ACER Framework guideline specifies the inclusion of the methodology of defining significance, including coordination with adjacent countries and NRA approval, to be within the DCC.

15.3-6	Standards must be developed in coordination with the requirements in DCC	Accepted	From early bilateral and stakholder users group consultation, industry in standardisation has been involved throughout the development of the DCC. In addition, the requirements of functional capabilities are to be further elaborated in technical specifications, preferably by standardization.
15.3-7	Demand facilities should be explicitly noted as a stakeholder for the consultation on identification of significant DSR APC	Accepted	Wording modified accordingly
15.3-8	NRAs should be involved in delivery deadline of signficance test for DSR devices. The deadline should be set by the NRAs, rather than having to be agreed jointly by the TSOs, who may, depending on the proposal, have a vested interest in delaying the proposal.	Rejected	Argument of vested interest in delaying the proposal is not understood. If there is no delivery of a proposal, there is no device indicated as significant by default.

DEMAND SIDE RESPONSE ACTIVE AND REACTIVE POWER CONTROL AND TRANSMISSION CONSTRAINT MANAGEMENT

16.1	Wording	Accepted	Added the word 'only'.
16.1	Typo	Accepted	Changed 'security' to 'safety'
16.1	Editorial	Rejected	Wording considered to be clear. Art 16.1.b implies that in some circumstances Demand Facilities and Distribution Networks are excluded from the possible identification by TSOs in Art 16.1.a
16.1	Combine clauses a) and b)	Rejected	Split in two items considered to bring clarity.
16.1	Agreement on reduced frequency ranges is not deemed feasible in mass market products.	Rejected	DSR does not only focus on mass market products. In any case, the alternative range depends on an agreement.
16.1	Editorial	Accepted	Changed demand to demand facilities

16.1	The requirement precludes aggragators to provide DSR and needs to be rephrased.	Rejected	The clause does not prevent aggregated demand to offer frequency response. It aims at guaranteeing that within certain ranges, DSR provision can be guaranteed per facility. The contractual arrangement, information exchange, etc… can be arranged via an intermediate aggregator party.
16.1	no technical analysis has been carried out to regarding the requirements	Rejected	There are no existing standards that define or deal with the proposed requirements, although several R&D projects have already explored this domain. Further arguments on why a mandation of this requirement is deemed justified and not a voluntary uptake or industry based standardization is presented in the Call for Stakeholder Input and FAQs.
16.1	"Demand facilities providing DSR with a connection point to a network owned or operated by a TSO at or above 110 kV shall…"	Rejected	The notion of transmission connected is not relevant here as DSR requirements target all users, irrespective of whether these are transmission or distribution connected. Only the threshold of 110kV is deemed relevant to limit the requirement to large demand.
16.1	Par f: This provision is a mix of elements from design of DSR market and related products and texchnical requirements.	Rejected	Comment not understood.
16.1	Meaning of DSR, LFDD & LVDD not clearly understood.	Accepted	Please refer to FAQ 26

16.1	Some paragraphs of Article 16 are deemed not connection related.	Rejected	DSR services and their capabilities needed for arranging power system management should be in DCC.
16.1	Par j: change 'usage' to 'drawn' and TSO to NO.	Rejected	Wording considered appropriate
16.1	Change defined to contracted.	Accepted	Wording revised accordingly
16.1	Par a: Not the TSO but the relevant network operator responsibility or TSO & relevant network operator.	Rejected	DSR services in this code only related to services with crossborder impact, hence the TSO is the appropriate entity for defining the need. Usage of the service can be based on mechanisms involving other parties.
16.1	Change concerned to contracted	Partially accepted	Wording revised accordingly.
16.1	Need to define force majeure	Partially accepted	Reference to exceptional circumstances (indicated as force majeure) is deleted as it is legal consideration potentially relevant to non-compliance of any requirement.
16.1	Par m: Being mindful that 'modify' includes increasing or decreasing demand; how will the domestic user be notified 'once a modification to demand usage has taken place' that they can modify their demand?	Partially accepted	Wording revised for clarity.
16.1	Some paragraphs belongs into operational code or DSR market design.	Rejected	These are key functional requirement(s) which allows the relevant TSO to ensure that significant demand facilities or closed distribution networks will deliver their contracted service.

16.1	"implement instructions for modification of demand immediately upon receipt (i.e. less than 1 second) although implementation can be delayed as agreed by the Relevant network Operator."	Rejected	The proposed or recommended wording puts extra requirements which may not be necessary.
16.1	Par o: Use 'significant demand facilities' to prevent all demand facilities needing to comply with this.	Partially accepted	Wording revised for clarification.
16.1	Impact of DSR on BRP to be considered in the code.	Rejected	Impact on market parties in procurement of the service is out of scope of this code.

DEMAND SIDE RESPONSE SYSTEM FREQUENCY CONTROL

17.1.10	A better definition an explanation of the DSR-SFC concept is needed.	Rejected	Please refer to FAQ 23 and 31.
17.1.6	Add "maximum deviation from nominal value"	Accepted	wording revised accordingly.

17.1-1	Requirement to include other energy storage The clause shall not concentrate only on temperature controlled devices such as electrical boilers and fridges, but should cover all devices which are able to shift power for a few seconds to minutes due to an storage for end or effectice energy. This comprises e.g. air pressure tanks of compressed air systems and batteries of plug-in vehicles, which may be much more numerous in the later life of the code. The DCC is a chance to avoid a problem similar to the 50,2 Hz issue on the consumer side during the ramp up phase of EVs as mitigation of the Peak Oil decline phase.	Rejected	The SFC concept is restricted to devices with an inherent heat storage based on the fact that the energy consumption is not altered, no noticeable impact on consumers is envisaged and the technology of the devices is largely present and very mature. DSR on non-mature devices, e.g. EVs, may be covered by voluntary services, or potentially the significance test for mandatory DSR APC.
17.1-2	The operation of interconnected regions could be complex if their respective CBAs lead to different specifications for demand side response system frequency control. There is a need for coherence of rules in terms of frequency control within one synchronous area.	Partially accepted	The process described in Art 15 requires coordinated action. Coordinated NRA approval cannot be enforced by this code.

17.1-3	- SFC chokes future smart grid solutions. - CBA should illustrate future needs. - impact on BRP. - Description is too detailed. - Prescriptions could result in a monopoly for existing patented solutions. - Industrial control systems are already optimized and may be rendered inefficient with this autonomous control. - the process of identification of significant devices should explicitly take market solutions into account.	Partially accepted	Please refer to FAQ 23.
17.1-4	[If Article 17 is not deleted – see previous comments] As stated at the Brussels Public Workshop (and the GB stakeholder Workshop) this paragraph relates to the operating temperature range of the electrical device; i.e. fridge or freezer etc.; and it was clearly stated that this paragraph would not impact on the temperature range operating set points for each device (as set by the manufacturer / national health & safety regulations).	Rejected	Further specifications and other possible constraints in ranges are not specified by this code. The DCC gives the general Europe-wide significance test for a general functionality aiming at crossborder system support in the decades to come.
17.1-7	With this redaction of 17.1.g, the service seems to be asymmetrical. The system could also benefit from DSR assistance in case of high frequency, when system frequency is above the deadband.	Accepted	wording revised accordingly.

17.1-9	Any 'dispensation' (which is, in effect, a time limited derogation) to complying with any condition in the Network Code should only be given by a regulatory body.	Partially accepted	The addition of "This time period is defined in the process prescribed in Article 15(5)" should be clear.

DEMAND SIDE RESPONSE VERY FAST ACTIVE POWER CONTROL

18.1-1	Request to define "DSR Very Fast Active Power Control"	Partially accepted	Definition is also included in Article 2 Definitions (glossary).
18.1-2	Request to clarify requirement concerning responsabilities and purpose	Partially accepted	Wording revised accordingly.
18.1-3	Request to safeguard impact on the Distribution Network of the VFAPC operating principle and the associated performance parameters	Partially accepted	The article wording considers the involvment of the Relevant NO in the agreement of the service.
18.1-4	Market issues concerning VFAPC delivery of service	Rejected	Out of the NC DCC scope.
18.1-5	Request to remove the article on the basis of being market orientated	Rejected	The article establishes the technical conditions for the provision of VFAPC and the responsabilities for the definition of the associated technical requirements .

POWER QUALITY

19.1-1	1 -Quality parameters are specified in the EN 50160 which has to stay valid without any interference. The ENTSO-E codes can't change international standards relevant for equipment in power industry and installations for usage of power. 2- the DCC should not describe Power or Voltage Quality in parallel to internatiinal standards and/ or regulatory provosions. There is no need for additional defintions. They are creating ambiguity and therefore dangerous. 3 -It is crucial to coordinate planning levels between TSO and DSO to guarantee the quality of supply for the low-voltage customer 4- point of view of responsibilty	Partially accepted	Relation between DCC and existing international standards is given in FAQ 10. This requirement is not a wild card to specify in general different criteria. Coordination between TSO and DSO on planning standards to ensure adequate quality of supply to LV customers is not impeded by this clause.
19.1-2	It must be possible, according to the state of the art, to define exceptions to avoid high investments without a real benefit to the entire system and no crossborder influence.	Rejected	The Relevant Network Operator may specify the applicable power quality requirements, consistently with national and international technical rules in force, and taking into account the costs and benefits expected from the application of such requirements.

SIMULATION MODELS

20.1	The requirement for dynamic simulations may be too detailed and demanding for certain users, and such requirement should be justified.	Rejected	This information is needed by the TSOs to accurately assess the system performance for ensuring its security. The dynamic behaviour of DSR applications may have significant cross-border impacts. It has to be noted that corresponding equivalent information may be regarded sufficient, especially in the case of smaller demand units and the level of detail requested by the TSOs shall be practicable. ALso the requirement is non-mandatory. For further elaboration on this topic, please refer to FAQ 30.
20.1	This requirement should only apply to Network Operators and should be restricted to Significant Demand Facilities, and not on domestic, commercial and industrial loads.	Rejected	The requirement is restricted to users connected directly to the Transmission Network.
20.1	Some DSOs possibly do not have the capability and systems necessary for the required dynamic calculations.	Rejected	Execution of computation is not required, only the provision of simulation models or equivalent information (based on revised Article). The concept is further explained in FAQ 30.
20.2	This is not a connection requirement but refers to type certification. DSR-SFC should not be a part of the DCC.	Rejected	Wording is revised. It relates indeed to type certification, but covers specifically the need for a simulation model to be part of this. The reasoning for DSR SFC in general to be in scope of this code and needed for system security is provided in FAQ 23 and 31

OPERATIONAL NOTIFICATION

21.1-2	Simplify operational notification process for existing Demand Facilities and Existing Transmission Distribution Networks	Rejected	Process does not apply to existing Demand Facilities and Existing Transmission Distribution Networks
21.1-4	Is it possible to further simplify operational notification process for existing demand facilities, existing transmission distribution networks, domestic demand facilities and small-scale units providing DSR?	Rejected	The process does not apply to existing Demand Facilities and existing Transmission Distribution Networks at all, while it applies only to Domestic Demand Facilities providing DSR services. Installation document is site specific and therefore can not be completed by a manufacturer or retailer, however most of the information required can be provided by means of equipment certificates. The present process is as simple as possible whilst ensuring compliance with requirements are retained as per ACER Framework Guideline requirements for compliance enforcement.
21.1-6	Clarify the applicability of requirements to only significant Demand Facilities	Accepted	
21.1-7	Need for more detail in Operational Notification procedure to make demonstration of compliance possible	Partially accepted	The Relevant Network Operator may elaborate further details of the procedure.
22.1.1	DSR SFC should not be included in existing Operational Notification Procedures	Accepted	DSR SFC is explicitly excluded from Operational Notification Procedure. Wording is modified to bring more

			clarity.
22.1-2	Remove all paragraphs for equipment connected below 20kV voltage level, as per ACER Framework Guideline.	Rejected	ACER Framework guideline does not exclude sub 20kV connections as such, applicability of requirements is dependent on the signficance test described in ACER Framework Guideline section 2.1.
22.3-1	Permit the contracted DSR suppliers to interface with System Operators	Partially accepted	Agreed to permit this, but as interface supplier is not guarenteed and dependant on market structure both options should be retained. Wording modified accordingly.
22.3-2	DSOs should not recieve installation documents and DSR compliance documents	Rejected	This is in line with the requirements in paragraphs 2.1.1 and 2.4 of the ACER Framework Guidelines on Grid Connection. The referred paragraphs set out the responsibility of the DSOs to connect Signficant Grid Users in line with the requirements in the DCC, and to perform the compliance checking of these.
22.3-3	Clarify the number of DSR units installed before Article 22 applies	Rejected	Wording is considered to be already clear that each DSR unit needs to fulfil Article 22.
23.1-1	DSO substations and grid components can't solely provide services compliant to the code. This makes the MD&PTC an invalid proposal for a transmission connected distribution network.	Partially accepted	Wording revised to refer to proving compliance of parts of the Distribution Network connection (substation),but not the whole substation (consistent with Demand Facilities). All references to MD&PTC replaced by Equipment Certificate.

23.1-2	request for clarification on the use of the MD&PTC	Accepted	All references to MD&PTC replaced by Equipment Certificate.
23.1-3	The RNO should assist its customers and publish all information that is acceptable to be used as certificate of compliance.	Accepted	Publication of all relevant information for compliance enforcement (including certificate information) is prescribed under the tasks of the Network Operator in Article 38(3).
23.1-4	Distribution Networks cannot provide DSR services	Rejected	Distribution Networks include Closed Distribution Networks (e.g. An industrial facility), which in turn may provide DSR.
24.1-2	A dispute resolution process should be laid down for the case the RNO and a grid user do not agree on the applicability of a requirement or any relevant decision.	Rejected	In general, a NC as European law does not lay down provisions for dispute resolution, as these are dealt with at national level, see FAQ 15.
24.1-3	DSOs should not be involved in compliance enforcement of DSR services	Rejected	This is in line with the requirements in 2.1.1 and 2.4 of the ACER FRamework Guidelines on Grid Connection. This sets out the responsibility of the DSOs to connect Signficant Grid Users in line with the requirements in the DCC, and require compliance checking of these. Note that the DCC covers capabilities, not the procurement of the service.
26.1.-1	Energisation Operational Notification (EON) shall entitle the Demand Facility Operator or DNO to energise its internal Network by using the Network Connection Point.	Accepted	The wording has been changed accordingly

27.1.-1	Connection to a transmission grid will never be interim because of the extensive investment costs. If a connection to the transmission grid is planned then it should follow ordinary operational procedures. ION could possibly be intended as a quick-step before FON, but is not described in that manner.	Partially accepted	If all requirements applicable to the network connection can be fulfilled at the time of initial energization, there is nothing preventing the RNO to handle all steps of the outlined process at short time frame. It is acknowledged that in terms of timing, the three phase process of a distribution network connection may proceed more swiftly than that of a large power generating facility.
27.3.-1	Dynamic models of distribution networks is only developed in rare and special cases, typical for small sub-networks with high penetration of generation. Development of dynamic models of transmission connected distribution networks are extremely resource consuming - and probably not technical possible. Network operators have practically no knowledge today of the dynamic behaviour of apparatus and generators connected to the distribution network. This new requirement will have an impact on existing/future installation and it will bring unecessary costs to Demand Facilities (and DSO) without any technical justification or demonsrated efficiency gain Hence: development of dynamic models for distribution network is probably impossible, and a requirement to make the attempt, must be backed up by a full CBA.	Partially accepted	This information is needed by the TSOs to accurately assess the system performance for ensuring its security. The dynamic behaviour of DSR applications may have significant cross-border impacts. It has to be noted that corresponding equivalent information may be regarded sufficient, especially in the case of smaller demand units and the level of detail requested by the TSOs shall be practicable. See also FAQ 30.
27.3.b-2	The provisions of Article 4 (3) should apply to all items not specified in this Network Code that are to be defined / established etc., after this Network Code enters into force.	Accepted	Covered by Article 27(2)

28.0.-1	The process of Operational Notification should be better set in a code for connection procedure planned for the future. Availability of dat is questionable.	Rejected	LON process is needed at same time as the DCC code is introduced in order to ensure clarity of when and how requirements will be enforced and tested in the process. Inclusion in code does not ultimately impede the inclusion in the Connection Procedure Code. See also FAQ 27.
28.3.-1	For the avoidance of doubt, derogations from obligations etc., in this Network Code should only be issued by regulatory bodies.	Accepted	Article 53 of the final text of the code clarifies this.
29.4-2	Inclusion of Network Regulatory Authority in paragraphs decision body	Partially accepted	NRA will ultimately make decision as part of derogation procedure which may extend period of LON. Responsibility of NRA clear in process in Title 5 on derogations.
30 .1-1	The notion of low/high benefit and low/high cost used in preparatory stage needs more clarification, and the decision shall be taken with the involvement of a third party (appointed by NRA) or DSO.	Partially accepted	The qualitative and internal process that is meant here is explained in detail in FAQ 11. For consistency and unambiguosity, wording in the code changed to assess whether a reasonable prospect of demonstrating a positive cost/benefit can be expected from applicability of a requirement. Further elaboration such as a preliminary CBA for assessing whether a CBA is needed is not seen as a practicable and viable solution. At last, the principle of independence of TSOs and the relevant points of ACER Framework Guidelines are referred to when appointing the relevant TSOs to carry out such assessments.

30. 2-1	Transition period for applicability should not be prescribed at 2 years.	Partially accepted	Wording changed to "Such **proposed** transition period should not exceed two years...", thus being in line with the requirements of ACER Framework Guidelines. In DCC, the period to be proposed by the TSO is restricted to 2 years while NRA discretion is still possible.
30.1-5	Change from "existing DF" to "existing transmission connected DF" regarding the assessment of advantages of the applicability of any requirement set forth in this Network Code	Rejected	It is not necessarily only transmission connected demand facilities that are deemed significant for the application of requirements, see also Article 5.
30.1-6	These general provisions regarding CBAs should not be restricted to cases examining the applicability to existing facilities but should be the rule for CBAs in general (also when considering formulating requirements deviating from existing standards).	Rejected	Process for existing users is in line with the framework guidelines and NC RfG.
30.2-2	CBA should be carried out by third party appointed by NRA	Rejected	Process is according to ACER framework guidelines.
30.2-3	General provisions regarding CBA should not be restricted to cases examining applicability to existing facilities.	Rejected	In context of derogation, Article 51(1) refers to the CBA process in Article 36 in terms of applicability and requirement for consultation.
30.3-1	DSO should be able to recover the costs incurred due to data requests for CBA from the TSO requesting such data.	Accepted	Article 10 addresses cost recovery in general.
30.3-4	NRA can be asked to resolve if TSO wants earlier	Rejected	Dispute resolutions are covered by national legislation.

	and cannot agree.		See FAQ 15.
30.4-1	Other calculating principles for CBA should be provided for and other types of benefits/costs to be included.	Rejected	The listed are recognised mathematical methods and it is deemed important to specify these for consistency of approach when undertaking CBA. In terms of the benefits and costs listed, the items explicitly mentioned are without prejudice to include any further items as the relevant TSO deems necessary.
30.6-2	A procedure for the case the relevant NRA rejects a request is needed.	Rejected	No need for specific procedure is foreseen here. General standpoint on dispute resolution is explained in FAQ 15, while specific provisions exist in the relevant Articles to the time period after which a re-assessment of a decision can be initiated.
30.7-1	Timeframe for applying the changes in contracts and/or relevant clauses in general terms and conditions, consequent from an NRA decision, should be specified in the decision itself and not prescribed as 3 years generally.	Rejected	The Article is consistent with NC RfG. Also, paragraph 2.3 of the ACER Framework Guidelines requires this "figure to be specified in NC but not exceeding 3 years".

COMPLIANCE

31.0-1	Restructure Title 4 as difficult to follow - provisions regarding monitoring/testing/simulation should be grouped together.	Rejected	The structure of the Title is consistent with that of similar parts of RfG.
31.1-2	A threshold for the applicability of requirements for demand facilities is required.	Partially accepted	In each Article it is clearly stated to which facilities it applies. In this sense, Article 37 refers to all *applicable* requirements.
31.3-1	Concern on implications for notifying modifications to domestic equipment	Accepted	DSR SFC is explicitly excluded from compliance monitoring responsibility of the network operator.
31.6-2	Costs of RNO participation shall be kept at a reasonable level and the possibility for a demand facility to seek NRA adjudication shall be ensured.	Partially accepted	Overall principle of optimization is described in Article 9(1). See also FAQ 15 for general information on dispute resolution.
32.1-3	Change "shall be allowed to monitor" to "shall regularly assess compliance" as RNO role.	Rejected	Wording in line with ACER Framework Guidelines, explicitly setting out the difference between generation and other grid users.
32.2-1	Cost of lifetime tests shall be borne by RNO.	Rejected	Cost allocation to non regulated Network Operators is out of the scope of this code, no scheme is precluded.
32.2-2	Obligations regarding lifetime tests should be subject to protection of Article 9(3)	Accepted	Wording changed , suggested reference has been added.

32.2-5	Change "possible" to "demonstrated" or "foreseen" regarding the effects of modifications to equipment.	Rejected	The referred tests are required to demonstrate such impact, therefore cannot be set as a prerequisite. The wording foreseen is not deemed to improve clarity of the paragraph.
32.3-2	list should be prepared with ref to art 4(3)	Partially accepted	Covered by general provisions on operational notification procedure.
32.5-1	Assignment of compliance monitoring tasks to third parties should be subject to NRA approval.	Rejected	The article mentions "provided for by national legislation", deemed to sufficiently answer the issue.
32.6-1	Paragraph should also allow for circumstances being outside of control of Demand Facility Operator.	Accepted	Wording changed accordingly.
33.1-1	Testing of transmission connected distribution networks" is unclear. How is this supposed to work out regarding primary equipment tests? Moreover, some provisions can only be demonstrated by a monitoring (article 37).	Accepted	Wording changed accordingly, with reference to the applicable articles.
33.1-2	It should be clarified that only **Transmission Connected** Demand Facilities shall be tested	Rejected	Units providing Demand Side Response, connected to Distribution Networks also need to undertake Compliance Tests for applicable requirements of this code.
33.2-1	It is unclear how Demand Facility Operators or DNO shall carry out an alternative set of tests, clarification requested.	Rejected	It is rather the requirements for the tests that are set, any alternative set of tests can be chosen as long as it fulfills the requirements (Efficiency, demonstrating compliance with the requirements under the NC etc.).

33.3-1	Add following text: When testing procedures are expected to be heavy and/or costly, a cost-benefit analysis must be performed. From this analysis, it can be agreed between relevant network operator and demand facility owner or DNO that other compliance validation manners, such as the use of simulation models without testing, are sufficient.	Rejected	The code in itself already strikes the balance between tests and simulations. Exceptions are to be covered by the derogation process and not to the network operators discretion.
33.4-1	Who is responsible for the safety of persons and plant during the tests?	Partially accepted	Paragraph 39(4) sets out responsibility in general. If according to national legislation other parties also can be held liable, they can take regress to the operator, as he has the power to decide if, how and when the test will be done.
33.6-1	Not all tests can be monitored from Network Operator's Control Room	Accepted	addition of "if possible"
33.7-1	Clarification ecxpected, that art. 33.7 (Right to specify test methods) relates to art. 10.	Accepted	Wording revised with explicit references to the applicable requirements.
33.7-2	For Distribution Networks, only simulation is possible, testing is only possible for Demand Facilities.	Rejected	This refers to an active control mode of reactive power for which it is essential that it can be demonstrated in practice.
33.7-3	Limitation of this right to transmission connected Demand Facilities only	Partially accepted	With the reference to art. 10 it is limited to transmission connected Demand Facilities and transmission connected Distriution Network. Note that this also refers to DSR RPC which can be valid for distribution connected demand as well.

33.7-4	DSOs and NRA shall participate for the definition of the method	Rejected	It is the TSO that is ultimately responsible for the Reactive Power exchanges on a system level. The technical details must therefore be determined by the TSO.
34.3-1	The requirement for the Demand Facility Operator to provide simulation results relevant to each and any individual Demand Units goes to far as it could impose such requirements on domestic consumers.	Rejected	Compliance simulations for DFs only cover Transmission Connected and (voluntary) VFAPC.
35.0.9, 35.0.14, 35.0.16, 35.0.18	LFDD cannot be performed at the connection point	Rejected	In some cases LFDD is indeed carried out within the embedded network, however a TSO and a DSO may agree to deploy and assess overall performance of LFDD at a connection point.
35.1.1	Clarify that the verification is via a desktop exercise for the whole scheme	Rejected	Field tests may be needed for some LFDD/LVDD checks (e.g. testing of signals, communication links, …), as long as this does not imply the disturbance of customers, therefore shall not be excluded in general.
35.2.4, 35.2.5, 35.2.6, 35.2.7, 35.2.8, 38.1.4	It seems impossible to understand how MD&PTC can fulfill compliance, even partly, when the article referes to system defence and reconnection. It may be feasible for smaller facilities but not for transmission connected power systems.	Rejected	The term MD&PTC is no longer used in the final text of the code. The RNO will register the demand which this will be applicable to. DCC allows the usage or part usage of such a document.
36.0.2	This Article 42 should also be binding for TSO	Partially accepted	Principle agreed. This code however covers connection requirements of demand.

36.0.6, 36.0.7, 36.0.8	Information exchange is described in the Operational Security Network Code. Requirements must be coordinated bewteen both code	Partially accepted	Principle accepted. Information exchange in the context of this code covers only the needed equipment and to be defined standards. See earlier comments/responses on this topic.
38.1.1, 38.1.2, 38.1.6, 38.1.7, 38.1.8, 38.1.9, 39.0.7	DSO should not be a part of compliance testing of commercial system services	Rejected	The Relevant Network Operator is the responsible party for compliance enforcement of users connected to its system. Compliance in the context of this code does not cover delivery of market services but the technical capabilities to be able to do so.
39.1.1	Clarification that it is the DNO that demonstrates compliance	Rejected	Article 39 is part of Chapter 3 "Compliance Testing for Demand Facilities"
39.1.3, 39.0.5, 39.0.6	Remove Article	Rejected	This is an important technical capability in question and according to the Framework Guidelines, requirements shall be complemented by defining means of compliance monitoring as well.
40.2-1	Incapacity to meet the requirement on reactive power and to construct and provide a complete simulation model of the DSO-network with all customers	Rejected	See clarification of Art. 10 and FAQ 22 for justifications on reactive power requirements. Also note that it is not required to map each customer in the simulation model, existing (aggregated) models used for e.g. load-flow, state estimation shall be sufficient. The capability at the Connection Point is key.

40.2-3	Contradiction between simulation requirements and art. 1 regarding onsite generation	Rejected	Article 46 deals only with simulation of Transmission Connected Distribution Networks, hence there is no inconsistency with Article 1 (?), referring to this issue at Demand Facilities with onsite generation, excluding DSO networks.
40.2-4	What does MW in "25% of the **MW** of the Maximum Import Capacity " means?	Accepted	Wording has been changed to be more precise.
41.1-1	Clarify that that the requirements apply to Transmission Connected Demand Facilities only	Accepted	Wording revised accordingly
41.2-1	wrong reference to the reactive power requirements of Art. 10	Accepted	Wording revised accordingly
41.3-1	Clarify that that the requirement on actively controlled reactive power exchange apply to Transmission Connected Demand Facilities only	Partially accepted	Paragraph 3 concerns the actively controlled reactive power exchanges as described in Art. 10 (c) , which applies only to Distribution Networks. This paragraph has been moved to Art. 40.
42.1-1	Change "*The model of the Demand Facility shall demonstrate its capability to simulate*" by "*shall demonstrate its capability to provide"*	Partially accepted	Wording revised to: a): "…shall demonstrate sufficient level of detail and capability to simulate…", b): "...provided that the results of the simulation carried out demonstrate…"
43.1-2	Direct measurement of Power factor is not possible.	Accepted	Wording changed accordingly, measurement of the active and reactive power is considered sufficient.

43.1-3	The party concerned is the Relevant NO not SO	Rejected	If the power factor is not used as a definition of the reactive power range, the limit of reactive power exchange is specified by the Relevant TSO (see Art. 16. 1(a))
43.1-4	misunderstanding on PF and the limit specified by the Relevant SO	Rejected	Wording simplified for better understanding.
43.1-5	Specification of the time schedule shall not be imposed by the TSO	Accepted	Reference to Art. 9(3) made in this respect.

DEROGATIONS

45.1-1	The Article is not clear to understand (who can be granted derogation and who can be submitting the request for derogation).	Accepted	Wording changed in order to better distinguish between the individual and class derogations, as well as the entities entitled to submit the request for derogation.
46.0-1	The manufacturers should be in the position to aaply for derogations as well.	Partially accepted	The possibility for the manufacturers to apply for derogations is not foreseen in the relevent FWGL. Note that this practice is also in line with NC RfG.
46.1-1	The Article is not easy to understand and seems to imply that if the Demand Facility Operator is connected to the Transmission Network, it needs to submit its request for derogation to the Relevant Network Operator (which might not be TSO).	Accepted	The wording of that Article has been corrected in order to avoid misunderstandings.

47.1-1	Derogation reguest should be submitted to solely to the relevant TSO	Rejected	The process of derogation cannot skip DNO, in particular when the facilities are connected to distribution system. The intervention of the relevant TSO in the process shall be made inaccordance with Article 53 (4).
47.1-2	For the avoidance of doubt, it should be made clear that Article 47(1) does not apply to applications under Article 46(3), (4), (5) and (6).	Rejected	Wording is deemed correct as it is. In case of request by DNO, the TSO (or another DSO) is the RNO. In case the TSO submits the request, there is no RNO.
47.1-3	CBA should be carried out by the entity requesting the derogation or by a third party to avoid a conflict of interests.	Rejected	The principle of independence of TSOs and the relevant points of ACER Framework Guidelines are referred to when appointing the relevant NOs to carry out such assessments.
47.2-2	In the interest of fairness, transparency and non-discrimination, the applicant should be entitled to see what the RNO submits to the NRA in case they wish to challenge their assessment.	Rejected	The present text is in line with the similar procedure of NC RfG. General principle of transparancy and likely existing national practices still apply.
47.4-1	It is the Distribution Network Assets/ Transmission Network Assets for which the presumption of compliance applies (and not to Demand Facilities and Demand Networks)	Accepted	Wording amended in order to be more precise.
47.4-2	Demand Facilities to which the DNO derogation applies need to be informed if they are deemed compliant.	Accepted	Covered by statement "are deemed as compliant"

47.5-1	CBA should be preformed by TSOs and not DSO.	Rejected	In particular in the cases when the Demand Facility and/or Demand Connection is to be connected to the Distribution Network, it is desirable to ensure that the specific expertise of the DSOs is utilised in the process. The process is as such also aligned with NC RfG.
47.8-1	NRA shall issue and publish motivated decision granting or rejecting derogation	Accepted	The obligation to motivate and publish the decision on derogation is covered by Article 55 "Register of derogations to the Network Code".
48.2 - 1	Clarification requested as to the purpose and consequences of this paragraph (end consumers may be impacted by the decision to refuse the operation of the existing distribution network)	Accepted	Generally, it is foreseen that demonstration of compliance or a request for derogation will be made well before disconnection actually may happen. In particular, the process assumes 1) applicability of a given requirement and 2) absence of a request for derogation, the conditions under which the disconnection can be implemented needs to be submitted to additional conditions: 1) prior notice to conform with with the requirement or to apply for a derogation ; 2) reasoned decision ; 3) possibility to appeal against the decision.
48.2 - 2	Specify that the sanction applies following the absence of a request for derogation in accordance with Article 52 (1) and 52 (2)	Partially accepted	Paragraph 54 (3) specifies this clearly.
49.1 - 1	Delete words "with a copy to ENTSO-E"	Rejected	According to Article 8.8 of Regulation 714/2009, ENTSO-E shall monitor and analyse the implementation of the network codes.

49.1 - 2	Specify that NRAs shall maintain the register of derogations **in line with the principles of transparency, proportionality and non-discrimination, publish and** maintain a register of all Derogations (…)	Partially accepted	The principles of transparency and non-discrimination shall apply in general and it is not deemed necessary to specify it at this level, furthermore the compliance to referred principles can be verified following publication. The requirement for publication of the register has been added.

FINAL PROVISIONS

51 - 1	General remark: clarification of this Article is required	Partially accepted	Reference is corrected. This refers to the provisions of a user not yet connected at the day of Entry into Force of the NC.