European Network of
Transmission System Operators
for Electricity

Network Code on Forward Capacity Allocation

Explanatory Document

An explanation of updates & improvements to the network code on Forward Capacity Allocation in light of stakeholder comments

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1 Purpose & Objectives

1.1 Purpose of the document

This document is provided alongside the final network code on Forward Capacity Allocation (NC FCA). It seeks to outline the changes which have been made to the document in light of comments from stakeholders made as part of the formal public consultation which took place between 29 March and 29 May 2013 and views expressed during workshops and meetings prior to and after that date.

The document is provided for information only and has no binding legal status. It does not seek to duplicate information provided in the consultation document which accompanied the draft network code and should be read in conjunction with that document. To the extent possible, it explains the rationale for the changes introduced into the network code; as well as providing context about the role of the NC FCA within the wider European energy policy framework.

1.2 Structure of the document

The document has 4 subsequent chapters and 5 annexes.

The 4 subsequent chapters of the document:

- Section 2 briefly summarises the process that has been followed in developing the NC FCA;
- Section 3 provides a summary of the structural, consistency and content related changes that have been introduced into the network code in light of comments and highlights elements which were not included in the previous version. It is designed to provide the interested reader with an overview of the improvements which have been made to the network code and the rationale for making those changes.
- Section 4 briefly summarises the steps that will take place between the code being submitted to ACER and becoming law.

The document has 5 annexes:

- Annex 1 provides a high level summary of the intention of each article and outlines the reason it has been included in the NC FCA .
- Annex 2 provides an article by article summary of comments received via the public consultation. In each case, the annex summarises views received, explain the changes made (or not made) in light of comments and provide a brief rationale for making or not making the change.
- Annex 3 provides more detail on the Long Term Capacity Calculation and possibilities for coordinated capacity calculation methodologies.
- Annex 4 updates the list of Frequently Asked Questions provided in the consultation document in light of comments and questions received during workshops and public consultation.

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- Annex 5 provides an updated table showing how the requirements of the framework guidelines are met.

2 THE FCA NETWORK CODE

2.1 NETWORK CODES

The NC FCA is the seventh network code to be developed by ENTSO-E and submitted to the Agency for the Cooperation of Energy Regulators (ACER). The network code has been developed in a manner consistent with the requirements of Regulation (EC) 714/2009, and covers “cross-border network issues and market integration issues” covering the long term market timeframes and the process for calculating capacities in a coordinated manner in this timeframe.

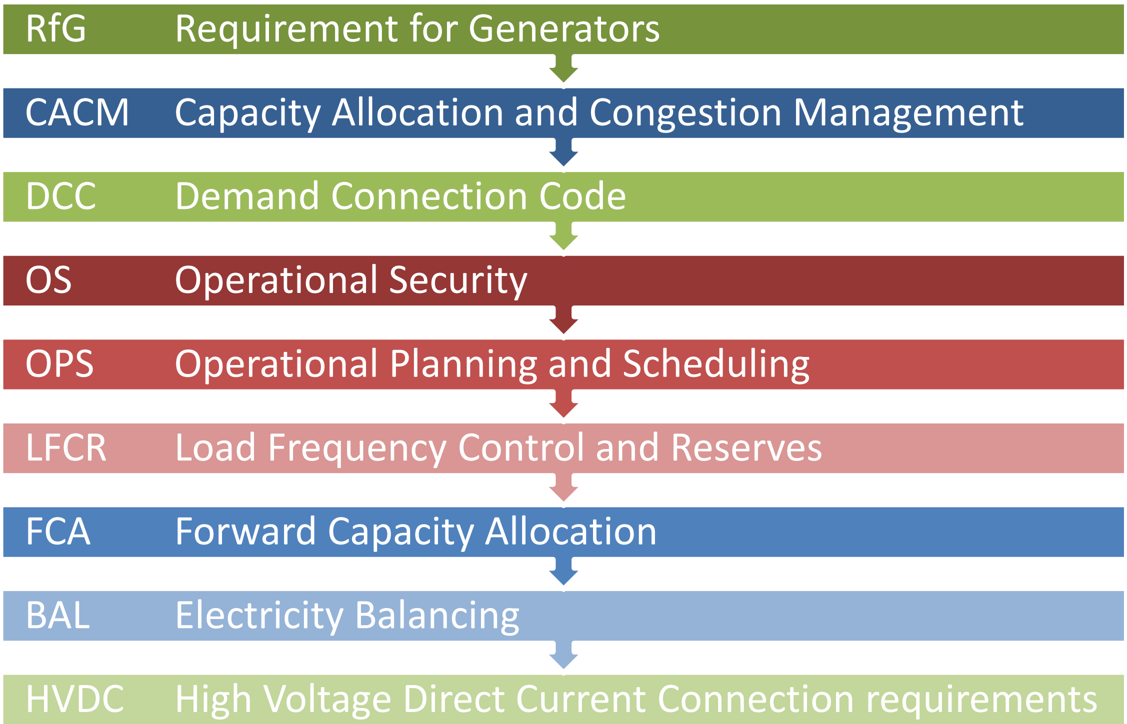

FIGURE 1. ORDER IN WHICH THE NETWORK CODES HAVE BEEN PROGRESSED.

2.2 SCOPE OF THE NC FCA

The NC FCA is the second of the network codes which will define a common set of European market rules (the other two being the network codes on Capacity Allocation and Congestion Management –NC CACM- and the network code on Electricity Balancing –NC EB). It outlines the architecture which needs to be in place to enable risk hedging opportunities and explicit long term auctions to take place and provides rules for the operation of the forward

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capacity allocation. It also sets rules for defining and reviewing bidding zones and for calculating capacities in a coordinated manner, consistent with the approach taken for the Capacity Allocation and Congestion Management network code. The scope of the network code has been defined by the ACER framework guideline on CACM which acts as the terms of reference for the code. Annex 5 to this document demonstrates the way in which the NC FCA complies with this framework guideline.

2.3 APPROACH TO DEVELOPING THE NETWORK CODE

Consistent with the process for developing network codes specified in the third package, ENTSO-E has had twelve months to develop the NC FCA. Throughout this period ENTSO-E has sought to work closely and collaboratively with regulators, stakeholders and the European Commission and to employ a transparent and inclusive approach.

The forum for discussing the network code with stakeholders has been the ENTSO-E Stakeholder Advisory Group (SAG). This group, which includes representatives from the Association of European Energy Exchanges (Europex), Eurelectric, the European Federation of Energy Traders (EFET), the International Federation of Industrial Energy Consumers (IFIEC), and Merchant Interconnectors has met throughout the course of developing the network code and has proved very useful in critiquing drafts and identifying areas where more clarity or changes in position were required. We would like to thank the participants in the group for their useful and constructive comments throughout the process.

Alongside the stakeholder group meetings we have held numerous bilateral meetings with interested parties and held two open workshops to allow interested parties to comment on, and ask questions about, the network code. Information has consistently been made available via the ENTSO-E website.

The open and transparent approach which was taken to stakeholder engagement has exposed the code to considerable challenge and scrutiny which has increased the overall quality of the product delivered to ACER.

2.4 RELATED NETWORK CODES

The NC FCA is one of several codes being developed by ENTSO-E. In total ENTSO-E will work on circa 15 network codes. While each code is delivered as a single project, they are all part of the same programme of work and have the intention of coming together to form a coherent and comprehensive set of rules. As such, there are inevitably interactions between various network codes which require careful management. In the case of the NC FCA, we have identified the following interactions:

- *The Network Code on Capacity Allocation and Congestion Management* – The framework guideline on Capacity Allocation and Congestion Management (CACM) covers day-ahead and intraday markets in addition to forward markets. The NC CACM will be merged with the European Commission's Governance Guideline. As both network codes deal with the allocation of cross zonal capacity there are very strong interactions between the FCA and CACM network codes, in particular the overlaps between the long term and day-ahead timeframes and on Capacity Calculation and Bidding Zones. For the purposes of clarity the NC FCA contains cross-references to the articles of the NC CACM which shall be applicable to all timeframes and thus, also to the NC FCA.

- *The Network Code on Electricity Balancing* – Balancing is an important aspect of creating a well functioning pan-European market. ACER has developed a separate framework guideline on balancing. ENTSO-E published a draft of the Electricity Balancing code as part of the public consultation which closed on 16 August. Although the links between the FCA and Electricity Balancing codes are not as strong as they are with NC CACM there are some links, particularly regarding the calculation of capacity and the possibility to reserve cross-zonal capacity for balancing purposes.

We have identified a number of, relatively small but nevertheless important, interactions with other network codes:

- *The Network Codes on Operational Security and Operational Planning and Scheduling* – The network code on operational security will set out the technical basis for operating the European power system. The requirements of this network code will have a significant bearing on the way capacity is calculated (for example the calculation of the reliability margin). Both the capacity calculation section of NC FCA and the operational security code use a Common Grid Model which clearly require the two to be aligned.

ENTSO-E has also developed a network code on Requirements for Generators[1] and is developing a network code on Demand Connection[2]. We have not identified direct interactions between the NC FCA and these documents. However, clearly the market design needs to facilitate the participation of generation and load with the characteristics specified in these two codes.

2.5 Conclusions

The NC FCA constitutes a vital building block in current efforts to make the European power transmission system more robust and competitive and to provide risk hedging opportunities to the market. The common rules set in the NC provide a spur to extend existing initiatives across Europe and to create a single, competitive forwards market across the continent.

1 www.entsoe.eu/resources/network-codes/requirements-for-generators
2 www.entsoe.eu/resources/network-codes/demand-connection

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3 SUMMARY OF CHANGES TO THE DRAFT NETWORK CODE

3.1 INTRODUCTION

This section of the document provides a summary of the comments received as a result of publication, via workshops and in discussion with stakeholders and regulatory authorities. It is intended to provide interested parties with an explanation of the most significant changes which have been made to the code. More detailed explanations are provided in an Annex 2 of this document.

3.2 SUMMARY OF COMMENTS

In total ENTSO-E received just over 1,240 individual comments as part of the public consultation. Those comments were varied and, as shown in the diagram below, covered most parts of the network code. However, comments were focused on risk hedging opportunities, bidding zones and capacity calculation, Allocation Platforms and Harmonised Allocation Rules and Firmness in particular.

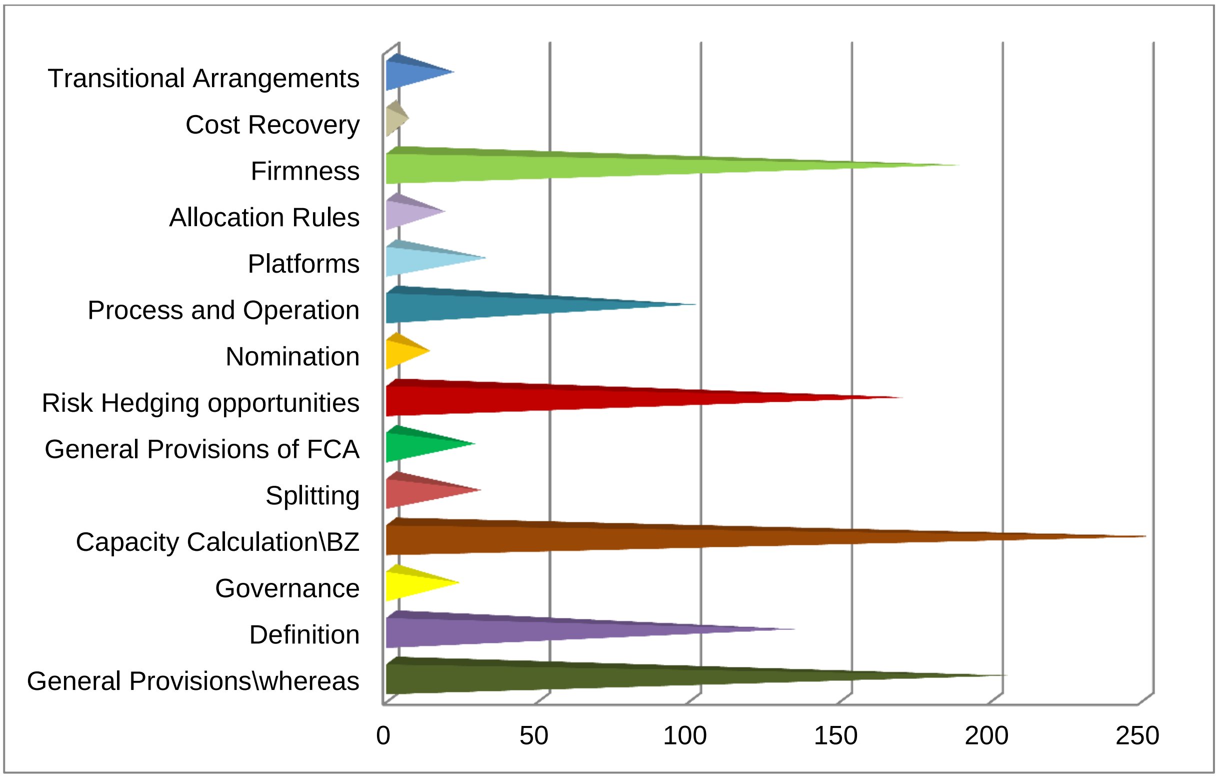

FIGURE 2. SUMMARY OF COMMENTS.

As the summaries in Annex 2 demonstrate, each comment was considered and assessed and decisions were taken about whether there was a need to update the network code. Themes which occurred frequently in responses were:

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- all key documents referred to in the code need to be consulted on and require regulatory approval;
- issues covered also in the NC CACM, especially for capacity calculation chapter, were raised even though they were outside the scope of the NC FCA to make necessary changes herein;
- call for explicit reference to merchant interconnectors;
- limited role for TSOs in secondary trading;
- requirement to have TSOs issue long term transmission rights unless appropriate risk hedging opportunities existed;
- principle of revenue adequacy;
- firmness regime;
- possibility for reverse auctions and TSO buy-back;
- capacity calculation methodology and alternative statistical approach;
- regional auctions;
- possibility to include synthetic FTRs;
- provision of multiannual products;
- symmetrical obligations on TSOs and market participants; and
- single point of contact for secondary trading.

This list is by no means exhaustive and does not reflect the views of all respondents. More details on comments can be seen in Annex 2. However, they are points where ENTSO-E was particularly encouraged to focus during the stakeholder meetings which were held during and immediately after the public consultation.

3.3 CLARIFICATION ON SOME ISSUES

On reviewing the comments received from the public consultation it became apparent that there were a number of common misperceptions between what the code was actually saying and what some stakeholders perceived it to be saying. These common misperceptions were in the following areas:

- *Consultation & Approvals* – all documents prepared within the code are subject to consultation with stakeholders and regulatory approval by the NRAs. In order to facilitate a streamlined and efficient process a number of items have been bundled into a single consultation or approval process rather than dealing with them individually. A good example of this is the Harmonisation Allocation Rules that covers rules on a number of different areas covered in the code.
- *CACM text* – the draft of the code provided to stakeholders for the public consultation contained sections in grey text. This was to distinguish the parts of the code that were common with the NC CACM and therefore were not subject to change via the NC FCA public consultation process. Despite this ENTSO-E received comments on the grey text requesting changes. The approach taken in reviewing the comments has been to assess whether the comment referred to an issue common to both NCs FCA and CACM and therefore should be part of the NC CACM comitology process. Where the comment identified an area where the approach for NC FCA was or could

potentially be distinguished from that taken for the NC CACM and should be accordingly taken into account in the NC FCA the comment was assessed in the post consultation phase.

- *Merchant Interconnectors* – there were numerous requests from stakeholders looking to have Merchant Interconnectors specifically mentioned and defined in the code. Our understanding is that Merchant Interconnectors are either certified as TSOs or, where this is not the case, they are operated (although not owned) by TSOs, therefore Merchant Interconnectors are implicitly covered in the code.
- *Secondary Trading Platform* – some comments called for TSOs having a limited role, or indeed no role, in the secondary market. Based on feedback ENTSO-E received during the Stakeholder Advisory Group and public consultation meetings we had already provided that TSOs would have a much more limited role in the secondary market. Although the Framework Guideline requires TSOs to provide a platform for secondary trading, the approach taken is to provide a bulletin board to help market parties to identify other parties willing to trade in the secondary market. The code also leaves the door open for other non-TSO entities to establish a trading venue for secondary trading. Please note also the merger of the single platforms which is explained in section 3.4.

3.4 Structural Changes in Light of Comments

As we mentioned above, many of the comments we received focused on the need to increase clarity and avoid duplication within the network code. We carefully considered these changes and made the following structural changes in the updated version:

- *Grey text* – We have provided a standalone code, separate from CACM but referenced relevant articles of the CACM code to ensure a transparent and consistent approach enabling stakeholders to easily reference common areas in both the FCA and CACM codes.
- *Single Allocation Platform* – based on feedback from stakeholders we have merged the Single Allocation Platform and Platform for Secondary Trading so that TSOs have a light-handed role in the secondary market by simply providing a bulletin board to facilitate secondary trading rather than a full platform for secondary trading. This approach has enabled us to change the code so that now only one Single Allocation Platform is required for the primary allocation of capacity and facilitation of secondary trading by means of the bulletin board while alternative non-TSO developed secondary trading platforms are still allowed.
- *Amendments* - to decrease the number of articles and to include requirements of same issue within one article for a clarity ENTSO-E merged articles of amendments to main articles dealing with the issue in question.
- *Splitting of long term capacity now a section in Capacity Calculation chapter*- For clarity we decided to include provisions on methodology for splitting long term cross zonal capacity as a section within the chapter of capacity calculation. Although the methodology for splitting Long Term Cross Zonal Capacity is to be developed separately, the deadline for submission of this methodology for regulatory approval is

aligned with the deadlines for the capacity calculation methodology; thus, TSOs may submit these two methodologies for consultation and approval simultaneously.

3.5 Changes made to align with changes to CACM

Articles from 1 to 10 of NC FCA have been drafted to comply with CACM code. Furthermore, special attention has been paid to the following topics to comply with the NC CACM:

- *Amendments* - We have merged articles on amendments to main articles to be consistent with the CACM NC.
- *Regulatory approvals* – We have amended the FCA code to include approvals at three levels – pan-European, regional and case-by-case. This is consistent with the approach used for the CACM code.
- *Roles in Forward Capacity Allocation* – We have replaced System Operator with Transmission System Operator to be consistent with the CACM code.
- *Establishment of Stakeholder Committee for Forward Capacity Allocation* - We have established also a Stakeholder Committee for Forward Capacity Allocation to be consistent with NC CACM, which established Stakeholder Committee to deal with DA and ID issues.
- *Capacity Calculation* - ACER has in its qualified opinion on CACM code proposed changes to capacity calculation chapter. As there are many common issues for Long Term capacity calculation the changes proposed for CACM code has to be reflected also in FCA code.
- *Bidding Zones* - We shall apply the same Bidding Zones in all timeframes; thus, the NC FCA only makes reference to the NC CACM. However, rules for reimbursement for existing Long Term Transmission Rights holders are defined in case of Bidding Zone merger.
- *Cost Recovery* - Provisions for cost recovery are included in the NC FCA and aligned with the text of the NC CACM.
- *Whereas section* – While not legally binding, several respondents pointed out that the recitals (whereas) section is important to understand the code and may be used in the event of a dispute. As such, ENTSO-E focused more on this section, to provide an explanation of the code within the framework of European legislation, such as the congestion management guidelines, third package etc. The NC takes into account many of the proposals made by stakeholders and a modified Whereas section addresses these points and ensures the link to the relevant legislation.
- *Multiple Transmission System Operator within a Member State* - We have included in article 1 a paragraph clarifying the scope of application of the NC in Member State with more than one operating TSOs. At the same time, the provision entitles Member States to assign the obligations described in the code to one or more TSOs in their territory where one TSO does not have the function to fulfil such an obligation. Same text will be included in all network codes.

3.6 ENHANCING CONSISTENCY

We have sought to respond to comments about inconsistencies in the network code and have made considerable efforts to ensure it reads like a single document. Particular focus has been given to the following:

- The code does not contain anymore the former article 69 ("Structure and Process for the Establishment of Harmonised Allocation Rules"), as it neither required regulatory approval nor implied a direct consequence for market participants or the establishment of the harmonised allocation rules. This change reduces the bureaucratic burden for TSOs while the market relevant requirements in relation to harmonized allocation rules (current article 55 and 56) have remained in the network code.
- The code contains the term *Long Term Capacity Calculation* in the context of capacity calculation and the term *Forward Capacity Allocation* in the context of capacity allocation to clarify that there shall be at least annual and monthly capacity calculation timeframes in addition to timeframes applied for DA and ID capacity allocation.
- The term *Long Term Cross Zonal Capacity* is used for the capacity until the DA capacity allocation phase. In the allocation process the Long Term Cross Zonal Capacity is transferred to Long Term Transmission Rights.
- The definition of different types of Long Term Transmission Rights (PTRs, FTR options and FTR obligations) was adapted to highlight common aspects and important differences in product characteristics.
- Previously the terms *secondary trading* and *secondary market* were used interchangeably. The draft network code now only refers to the term *secondary trading* which is precisely defined in article 2. This also prevents potential collisions with other legislation where the term *secondary market* is used.

3.7 MOST SIGNIFICANT CONTENT RELATED CHANGES TO THE NETWORK CODE

The points above outline the areas stakeholders focused on in the public consultation. This section provides a summary of the changes that have been made to the code to address the concerns of stakeholders with a more detailed description provided in Annex 2.

3.7.1 CHAPTER 6 – FIRMNESS

Taking into account the comments received from stakeholders ENTSO-E has worked on the firmness regime. Firmness has been increased as compensation of curtailments is capped market spread-based only. It has also been clarified that the Long Term Firmness Deadline shall be implemented by each TSO and the timing of the Long Term Firmness Deadline has been specified for Physical Transmission Rights and Financial Transmission Rights. Also caps are described now in detail.

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It is also highlighted that the revenue adequacy principle is not related to the compensation of curtailed capacities.

Reasons for the chosen firmness regime:

- Many different factors influence the transmission grid which is a complex system including market participants such as generators, consumers or traders.
- TSOs calculate capacities for the long term allocation taking into account all relevant security constraints that affect operations. Still it may happen that the long term allocated capacity is not available if due to markets processes, this capacity needs to become fully firm before the data needed for TSOs to finally calculate it becomes existent -for example final RES profiles and others). Long-term transmission rights are based on the physically available capacity, which cannot be fully guaranteed until this capacity has been definitively calculated by TSOs.
- In these circumstances TSOs may use curtailment of already allocated capacities, only as a measure of last resort and for reasons linked to system security.
- In rare situations the market spread can exceed its average by a multiple. The maximum hourly price spreads registered in CWE between January 1st 2011 and June 30th 2013 have been of 2937€ at the BE-FR border, 2932€ at the BE-NL border, 1838€ at the FR-GE border and 247€ at the GE-NL border. This represents a substantial risk when multiplying these differentials by the offered Long Term capacity at each of these borders. Other borders have also experienced high market spreads (CWE being only one example).
- If curtailment becomes absolutely necessary for system security, all stakeholders shall bear a part of this firmness risk. It should not be normal practice (nor transmit a correct economic incentive) that TSOs and end-customers ought to bear all risk, whilst other stakeholders (being also part of the system themselves and potentially having means to influence it) shall remain completely unaffected in case of curtailment. Considering that curtailment usually brings about high market spreads (and consequently high compensations) any unaffected market party would not have any incentive to collaborate with TSOs in order to avoid these situations. Before Day-Ahead Firmness Deadline Market Participants have the time to adjust their positions. If full firmness was provided to these market participants before Day-Ahead Firmness Deadline, no incentive would exist for them to make use of other options and contribute to system security.
- Besides, it needs to be considered that the risk after the Day Ahead Firmness Deadline (with capacity having been fully confirmed by TSOs) is already borne 100% by TSOs/end consumers. The risk before the Day Ahead Firmness Deadline has to be shared by all stakeholders as they are all a part of the same system.
- This risk sharing can be done via caps, with capacity becoming more firm (evolving towards full market spread after the Day-ahead firmness deadline) as more information becomes available about the capacity available for the market.
- Firmness risk and the related costs can be evaluated by market participants when bidding at the auctions for these products and such risk/cost does not prevent them from having sufficient hedging opportunities. On the other hand, TSOs cannot price the

costs for guaranteeing firmness as the prices for LTRs are defined in auctions (which have no minimum prices). Further, it is important to distinguish between LTRs and other pure hedging tools existing on the market, as LTRs offered by TSOs are not pure hedging products; they are in principle related to the physical transfer of electricity and can to a certain extent be used for hedging the risk of market participants .

- Caps are designed to protect TSOs in extreme situations and thus, they practically cap the market spread compensation only in rare situations; as a result, the impact on the market is as small as possible as the caps only prevent TSOs from having to reimburse more than what they have collected. Failure to comply with this would imply a redistribution among market parties (from end-customers towards traders and generators); consequently, this would lead to financial difficulties for the involved TSOs until these funds are recovered via tariffs, since any potential surplus are already affected in advance to investment and redispatch (reduction of costs) on efficiency grounds during the tariff calculations with regulators.

Potential scenarios:

The analysis below demonstrates why caps are needed and how the potential firmness risk is calculated. The potential price spreads and potential volumes of allocated capacity have to be taken into account.

In case of curtailments price spikes may occur. Price spikes are closely related to extreme spread values, because of increased volatility of the day-ahead markets. Price caps can be different depending on the bidding zones.

The price caps in EPEX market areas are +/-3000 €/MWh. Therefore theoretically price spreads between Germany and France could reach 6000 €/MWh. As it is unlikely that in neighbouring countries the price reaches a minimum in the one and a maximum in the other this analysis focuses only on potential market spreads based on positive prices in each area. This means the price spread could be up to 3000 €/MWh. That these high price spreads can happen in reality shows the February 2012 situation on the French / Belgian border where on the 9th of February in hour ten the price in France reached 1938.5 €/MWh and in Belgium 130 €/MWh; this resulted in a price difference of 1808.5 €/MWh. On this day, the price spread was for a time period of three hours between 100 and 500 €/MWh, for another time period of two hours between 500 and 1000 €/MWh and for another time period of two hours between 1000 and 2000 €/MWh. Regarding the allocated capacities, some of the Available Transfer Capacities (ATCs) at this border are of the order of 3 GW and up to 1500MW of the ATC are allocated as long term transmission rights. Combining the increasing price spread and the curtailment volumes assumptions, scenarios are possible which may have an increasing financial impact. These scenarios are summarized in table 1.

Table 1 indicates that, under a big price spread and in absence of any caps, some TSOs could be faced with the obligation to compensate in several situations more than 1 Million € per hour, and in the very worst case up to 9Million € (4.5Million € each) over just one hour. The initial income from the allocation of long term transmission rights has to be also taken into account, but will be significantly much less than these amounts. Over a 24h curtailment accompanied with several spikes could prove very cost intensive and would certainly be to the detriment of end-customer tariffs.

TABLE 1 – CURTAILMENT COSTS PER HOUR FOR TSOS UNDER DIFFERENT PRICE SPREAD AND ATC SCENARIOS (K€). IN WORST CASES, COMPENSATIONS MAY REACH 9 MILLION € PER HOUR.

Price spread (€/MW)	Curtailment volume (MW)				
	100	500	1 000	2 000	3 000
10	1 k€	5 k€	10 k€	20 k€	30 k€
100	10 k€	50 k€	100 k€	200 k€	300 k€
500	50 k€	250 k€	500 k€	1 000 k€	1 500 k€
1 000	100 k€	500 k€	1 000 k€	2 000 k€	3 000 k€
2 000	200 k€	1 000 k€	2 000 k€	**4 000 k€**	**6 000 k€**
3 000	300 k€	1 500 k€	3 000 k€	**6 000 k€**	**9 000 k€**

At CWE borders, between January 1st 2011 and June 30th 2013, Day-Ahead price spreads above 10 € were produced on 16.10% of the hours and borders, above 25 € on 4.70%, above 50 € on 0.40%, and price spreads above 100 € on 0.10% of the hours and borders. These percentages are non-negligible considering that the above timespan includes no less than 4 borders and 21887 hours (4 x21887 x0.10% =87.55 hours at several borders in less than 3 years, with a maximum potential risk, as explained before, of up to 9 Million € per hour). A reduction of capacity of 500 MW during two days in one border under a 25 € price differential amounts to 600k € which may represent a significant risk in case full cost recovery is not guaranteed. Following the above statistics for the studied timespan, this Day-Ahead price differential of 25 € happened in CWE for more than 4114 hours (including several borders).

Other borders and regions (like CEE) present very similar features to the ones that are presented above. In CEE, for example, in many borders and directions, the percentage of days on which the price paid in the explicit auctions for the LTR exceeds the (daily average) market spread is in the range of about 80% to 40%, depending on the border and direction (based on data from 2012 and first half of 2013).

This means that often the long term congestion income surpluses that are meant (supposedly) to finance the compensation costs for implicit curtailments deficits in case of curtailments simply do not exist. It has also to be well noticed, that in the cases in which these congestion income surpluses may exist, they are dedicated in advance (through NRA regulatory control) to finance redispatch and investment costs. As a result, it is up to the end-customers to pay through the end-tariffs and up to the TSOs to pre-finance these costs (if and where they can- see the extreme cases above and below), until cost-recovery through the tariffs takes place.

For sub-sea cables the situation would be more critical. This is due to the fact that sub-sea cables count with only one interconnector and of which outages potentially last longer (sub-sea accidents, infrastructure outages complexity). Many times, the entities operating with

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these cables will not have the financial resources needed to deal with uncapped firmness regimes. Development of such cables in future will also be seriously compromised if the NC introduces an uncapped market spread regime.

Below a presentation follows of an example on the East-West Interconnector (EWIC, GB-IE) with capacity of 530 MW in the GB>IE direction and 500 MW in the opposite one. EWIC capacity is sold up to 12 months in advance in a number of auction products: yearly, seasonal, quarterly and monthly and daily auctions. The capacity sold at a particular point in time decreases in a sliding scale over the upcoming 12 months period based on the auction product breakdown. Daily auctions are not considered in this analysis (based on 2013 data) as it is assumed that these can be cancelled at short notice in the event of an outage. In case of a 100% curtailment the net cost for EWIC of an uncapped regime (Financial Market Spread minus the Capacity Value) would be the following for these respective curtailment durations: 5.8 Million € for 1 month, 14.3 Million € for 3 months, 25 Million € for 6 months and 38.2 Million € for one year. These net cost magnitudes are clearly out of the range for company risk exposure.

A similar exercise could be performed for the interconnector Moyle (GB-NI HVDC), which during the beginning of 2013 had a capacity of only 250MW (i.e. not its full capacity of 500 MW). In this example the net cost to the interconnector owner and thus consumers of providing financial firmness for the 250 MW is of £ 2.6 Million for just 1 month - this would obviously be significantly higher if Moyle was curtailed from its full capacity to zero, which could also be the case. A rough extrapolation to 3, 6 and 12 months may reveal the size of the actual risk exposure.

<u>*As a conclusion, situations as the ones mentioned above take place in sub-sea cables and other interconnectors and have been registered in several occasions.*</u>

Taking the interconnectors IFA (FR-GB HVDC with a capacity of 2 GW) as an example, during 2012 there have been around 3.8 TWh of curtailments (with only three months of no curtailment occurging). After comparing the collected payments for the allocated capacity in 2012 with an uncapped market spread compensation, the net cost for the operator for all these curtailments would be up to 13.9 Million € (with a monthly maximum of 5.6 Million €). The total yearly compensation cost for 2012 (without netting) for the full financial firmness would be of 24.6 Million €. Taking the first half of 2013 as a reference for the same cable, the 0.8 TWh curtailment with a net cost of 5 Million € (half of which is concentrated in one month) and a total cost of 10 Million €. Therefore, for an IFA average actual capacity curtailment of 17% in one year and a half, the net costs incurred amount to no less than 18.9 Million € and the total cost for the implementation of a market spread compensation regime without caps to no less than 34.6 Million €. The consequences for the TSO of a 50% or a 75% accident/curtailment can be easily approximated. As a conclusion, it would be very difficult for the TSO to bear such costs in any way.

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AC borders involving multiple lines are not free from these events either and their severity can be considerable. This is demonstrated by the fact that red flags[3] were raised by TenneT TSO GmbH on the 4 and the 5 February (due to concerns linked to system security)[4] triggering a reduction of initial given daily Net Transfer Capacity (NTC) values and led to restriction of D-1 offered capacity for those days. For some CWE borders, D-1 offered capacity only covered the long-term nominated capacities for physical transmission and, thus, the non-nominated long term capacities were affected.

The above described situation had implications on the Use-it-or-sell-it principle (UIOSI). Application of the UIOSI means that traders are free to either use their LT-capacity rights for physical nomination or to get paid for those rights at the day-ahead market spread. Usually the financial effort on the Auction Office side to pay these accounts is covered by the congestion income obtained from the D-1 allocation via Market Coupling. The financial basis to cover the UIOSI claims of capacity holders is that the entire non-nominated Long Term capacity is at least offered on D-1, i.e. passed on to the market coupling system for implicit allocation. Due to the restriction on 4 and 5 February this condition was not met.

Following the then active CWE Auction Rules v2.2 (replaced by Harmonised Allocation Rules v1.0 in January 2012), caps were not applicable since the curtailments were considered as a reduction linked to the safety of the power system in accordance with the applicable Allocation Rules (Article 4.01.c of the Action Rules v2.2, reduction of exchange programs for reasons linked to the safety of the power system,[5] effected after LT Nomination Deadline and before day-ahead market Gate Closure Time). The compensation to be paid in these cases was the full market spread, multiplied by the reduced amount and uncapped.

The net cost for CWE TSOs (calculating it as the DA congestion revenues minus the UIOSI cost) to be financed under the above compensation was more than 2.5 Million € in just two days.

In this case, except in the FR-BE and the NL-DE borders, sufficient existing LT congestion revenues for February 2011 could have covered these costs; however these revenues aimed at financing redispatch, network investment and tariff reductions and were already considered in the tariffs approved by the regulators and applicable for TSOs; as a result, any reallocation of these revenues implies an additional cost for the TSO until the cost recovery is approved via the next tariff adjustment (and is to be covered by end customers via the tariffs). The question arises further whether this additional temporary cost could become high enough to endanger the continuation of TSO activities in some Member States and present an important burden for end-customers. .

In spite of a total cost of 2.5 Million € in two days, the event could have led to much worse outputs. Except for Germany and Belgium the price spreads remained relatively modest. If the price of any area would have spiked to its 3000 €/MW maximum level, or just to the

[3] A "red flag" is a specific file sent by a TSO when it deems that the initial matched NTCs provided by the Common System (CS) are not secure on its own grid. The main information contained in a red flag: outages considered, the elements of the grid which are constrained, associated overloads, curtailments on NTC required to respect SoS.

[4] The reason for overloads discovered within the NTC-verification process was the extreme wind energy feed-in in Germany. Wind forecast for given days (04. and 05.02.2011) was extremely high and marked a historical maximum in Germany.

[5] Force majeure follows different rules.

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contestation level of 500 €/MW due to demand/supply fundamentals, the UIOSI costs associated to such an spread would have been much higher and could have potentially caused an increase of the firmness costs to a level dangerous for any TSO.

Assuming the code does not provide for compensation caps after the Nomination Deadline, taking as an example the maximum curtailed UIOSI level of 1576 MW (FR>BE, February 4th 2011, which happened during 12 hours) and assuming a very high spread in the right direction (3 K€/MW), under ATC zero, the costs for some of the involved TSOs could amount to4.7 Million € per hour. Multiplying this amount (or a smaller one) by the number of hours would give an idea of the order of magnitude of the potential additional costs.

Even with no N-1 situation, it is not utterly impossible that the result of the capacity calculation is a reduction of the ATC to zero or a value very close to zero at several border directions (since this has already happened in the past). This, combined with a very high price spread, would cause considerable UIOSI costs as there would be no day-ahead congestion revenues to reimburse the UIOSI costs, as shown above.

Summarising the above, the following conclusions can be made:

- Caps are necessary before DAFD in order to avoid market distortions (TSO and cables rather fatal risk exposures, bad incentives transmission, and end-customers transfers to traders and generators).
- Monthly caps are on most of the occasions not reached and allow to fully compensate the full market spread. The few cases in which this is not the case are precisely the potentially extreme and distorting situations which are described above and which need (precisely) to be capped.
- The monthly caps should not decrease at all market participants' possibilities to trade and hedge their risk, since these are in a position to evaluate risks ex-ante and incorporate them in their LT bids (which the TSO cannot do, since they cannot influence the auction prices).
- On top, the monthly cap solution proposed in the NC FCA for the sub-period between LTFD and DAFD which incorporates (additionally) Day-ahead congestion rents to the long term ones and introduces a prioritization for the compensation of curtailments can be considered as de facto fully firm.
- Finally, yearly congestion-income based caps are not a feasible option, since these would in practise never be reached and thus, they would not provide any solution to the situations described above.

3.8 ADDITIONS SINCE THE PREVIOUS VERSION

This document particularly draws the readers' attention to the following issues which have been added to code after the public consultation phase.

- *Statistical approach for capacity calculation methodology*: to take into account uncertainty, TSOs can chose one out of two approaches: a) the approach based on

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several scenarios and b) the statistical approach. More details on these approaches are presented in Annex 3.

- *Coordinated curtailment of Cross Zonal Capacity*: in case of curtailments of longer duration the coordination in calculating the Cross Zonal Capacity has been implemented in NC FCA as requested by ACER. Coordination is achieved by applying regional capacity calculation and validation process.
- *Control area based calculation and allocation:* based on ENTSO-E internal evaluations an additional article for the transitional arrangements has been introduced. It allows the calculation and allocation of forward capacity between Control Zones and Bidding Zones as a transitional measure for 12 months under certain preconditions. The rationale behind this new article is the fact that Bidding Zones can consist of more than one control area. Nowadays there are cases where capacity is allocated between a bidding zone and the respective control areas of the neighbouring bidding zone separately. A change to the allocation process between bidding zones would imply not only modifications of the methodology and process of capacity calculation and scheduling in case PTRs are applied. It also requires significant efforts to adapt the respective IT-systems (on TSO as well as on market participants' side). Since this might be, apart from the first implementation of the NC FCA, also relevant whenever the bidding zone configuration is changed, both cases have been accounted for by the new article. The possibility of control area based forward capacity calculation and allocation is not obligatory, it is only an optional transitory measure.
- In article 43 (Operation of the Forward Capacity Allocation) an additional paragraph has been introduced (paragraph 2). It requires the definition of period during which published capacity may not be changed before the respective auction. This was requested by ACER and shall provide market participants with more security for the participation in the auctions.

3.9 TIMINGS

The draft network code included a series of different timings for the development and approval of the elements required to allocate capacity and manage congestion under the code. ACER requested to bundle approvals of similar items at the same time and to ensure the provision of sufficient time for NRAs to reach decisions e.g. when approving the Harmonised Allocation Rules. ACER also asked to reduce the timings for the establishment and operation of the Single Allocation Platform and introduction of Harmonised Allocation Rules so that the latter could be in place in 2014 or as soon as possible thereafter. So, the maximum period for the prolongation of the regional platform after the establishment of the Single Platform has been reduced from 24 to 12 months in order to comply with ACER's expectations.

The table on the next page presents the timeline for the development of proposals by the TSOs and their approval by the NRAs' before the various elements contained in the NC FCA enter into force.

Note: Actual implementation timescales are not shown on this diagram as they are part of each NRA proposal and are subject to NRAs approval.

Month(s) after entry into force: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39

	Relevant article	Month(s) after entry into force
Capacity Calculation		
Establishment of stakeholder committee for forward capacity allocation	11	
Generation and load data provision methodology	14	TSOs develop; NRA approve
Common grid model methodology	15	TSOs develop; NRA approve
Capacity calculation methodology	18	TSOs develop; NRA approve
Establishment of the European merging function - rules for operation	25	TSOs supplement
Establishment of the Coordinated Capacity Calculator - rules for operation	25	TSOs supplement
Methodology of splitting of cross zonal capacity	24	TSOs develop; NRA approve
Biennial report on capacity calculation	30	TSOs prepare
Type of rights		
First decision on Cross Zonal risk hedging Opportunities (NRAs)	34	NRA dec
Type of long term transmission rights	35	TSOs develop; NRA approve
Platform		
Set of requirements for single platforms	53	TSOs develop; NRA approve
Decision on establishment of single platforms	54	TSOs decide
Implementation of the Platform	54	TSOs implement
Allocation rules		
Harmonized allocation rules (for either PTR and FTR)	56	TSOs develop; NRA approve
Nomination rules	40	TSOs develop; NRA approve
Compensation Rules	60	NRA approve
Congestion Income		
Methodology of congestion income distribution	63	TSOs develop; NRA approve
Transitional		
Regional platform	69, 70	NRA approve
Regional Allocation Rules	71	NRA approve
Transitional arrangements for firmness	72	NRA approve
Allocation on Control Area Basis	73	NRA approve

3.10 Interactions with MiFID

While updating the NC FCA ENTSO-E took into account the latest developments of the legislative process of the Directive on markets in financial instruments repealing Directive 2004/39/EC of the European Parliament and of the Council (referred to as MiFID). The current Council's compromised text on MiFID sets strict operational requirements for investment firms as it contains provisions governing the authorisation of the business, the acquisition of qualifying holding, the exercise of the freedom of establishment and of the freedom to provide services, the operating conditions for investment firms to ensure investor protection, the powers of supervisory authorities of Member States and the sanctioning regime. The purpose of MiFID is to cover undertakings whose regular occupation or business is to provide investment services and/or perform investment activities on a professional basis. Its scope should not therefore cover persons with a different regular professional activity, as for example the TSOs.

Therefore, the current text of MiFID provides that *"TSOs as defined in Article 2(4) of Directive 2009/72/EC or Article 2(4) of Directive 2009/73/EC when carrying out their tasks under those Directives or Regulation (EC) 714/2009 or Regulation (EC) 715/2009 or network codes or guidelines adopted pursuant to those Regulations, any persons acting as service providers on their behalf to carry out their task under the afore mentioned Directives and Regulations or network codes or guidelines adopted pursuant to those Regulations, and any operator or administrator of an energy balancing mechanism, pipeline network or system to keep in balance the supplies and uses of energy when carrying out such tasks"* are exempted from the application of MiFID. Council's compromise further determines in the same exemption that the above mentioned exemption applies to "*persons engaged in the activities set out above where they perform investment activities or provide investment services related to commodity derivatives in order to carry out those activities. This exemption shall not apply with regard to the operation of a secondary market, including a platform for secondary trading in financial transmission rights*".

In this context, as already mentioned above under section 3.4., the NC now provides that a merged platform for the primary and secondary trading shall be established by the TSOs. The platform will serve only as a communication vehicle regarding the secondary trading to ensure that TSOs have a light-handed role in the secondary market by facilitating secondary trading rather than provide a full function platform for secondary trading (i.e. a trading venue for secondary trading in the meaning of MiFID). This approach ensures that the market participants will have a single point of contact regarding the primary capacity allocation as this is the core task of the TSO business; on the other hand, the secondary trading, triggered more by market interests, does not constitute part of the core TSO operational tasks and thus, it will only be facilitated by this single point of contact. Any other approach obliging the TSOs to create and operate a full function secondary trading platform would require that this platform should respect the strict MiFID requirements mentioned above, as it is the case for any other trading venues already existing and having secondary trading as their regular business. Due to the existing possibilities for market participants to undertake secondary trading via a trading venue in the EU, an obligation to create an additional platform for secondary trading by the TSOs would not have an added value, whereas an obligation of the market participants to use this trading venue in an exclusive manner seems not to be compliant with competition law rules. Last but not least, the operation costs of such a trading venue to be covered by the consumers would be significant, especially due to the application of MiFID; thus, to follow this approach does not appear to be compliant with the principle of proportionality for the purposes of this code.

3.11 CONCLUSION

In ENTSO-E's view, the changes discussed in this section have improved the overall consistency and readability of the network code. Further, they address a significant number of stakeholder concerns and have improved the overall quality of the network code and extent to which it complies with the framework guideline. Thus, ENTSO-E highly appreciates the parties' responses to the consultation for their helpful input.

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4 NEXT STEPS

This section briefly summarises the main steps of the Network Code development process with a special focus on those that will occur between the submission of the network code to ACER and its entry into force.

4.1 SUBMISSION TO ACER

Regulation (EC) No 714/2009, and in particular its Article 6, defines a clear Network Code development process.

The process begins with the set up by the Commission of an annual list of priorities amongst the 12 areas where Article 8(2) of Regulation (EC) No 714/2009 foresees the need for a NC. The annul priority list must be adopted after consultation with the relevant stakeholders.

Once a priority list is established, the Commission shall request ACER to develop and submit to it a non-binding framework guideline. The framework guideline is intended to set clear and objective principles with which the network code should be in line.

The development by of a framework guideline is followed by a request from the Commission for ENTSO-E to develop a network code within a twelve month period. The Network Code to be developed by ENTSO-E within that period shall be subject to an extensive consultation, taking place at an early stage in an open and transparent manner.

At the end of these 12 months ENTSO-E delivers a Network Code and set of explanatory documents to ACER for its assessment.

4.2 THE ACER OPINION

ACER has three months to assess the draft prepared by ENTSO-E and deliver a reasoned opinion. In doing so, ACER may decide to seek the views of the relevant stakeholders.

ACER can decide to recommend to the Commission that it adopts the code if it's satisfied that it meets the requirements of the framework guideline or it can provide a negative opinion; in the latter case, the code is returned to ENTSO-E.

4.3 THE COMITOLOGY PROCEDURE

The Code prepared by ENTSO-E shall only become binding if, after being recommended to the Commission by ACER, it is adopted via the Comitology procedure.

The Comitology process will be led by the Commission who will present the draft text to representatives of Member States organized in a so-called "Committee". The Comitology procedure used for the network codes (called regulatory procedure with scrutiny) grants the European Parliament and the Council important powers of control and oversight over the measure adopted by the Committee.

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For that reason, it is unclear how much time the process can take in practice. ENTSO-E's working assumption is that it will take about 12 months from the issuing of the ACER opinion (if positive) to the conclusion of the Comitology process.

4.4 ENTSO-E STEPS DURING THIS PERIOD

Meeting the requirements of the NC FCA and delivering the European market as soon as practicable is a significant challenge for ENTSO-E. During the period in which the code is being assessed by ACER and the Commission, ENTSO-E will work on the preparation of the deliverables required by the NC. Some of these deliverables (particularly related to Capacity Calculation, the Single Allocation Platform and Harmonised Allocation Rules) are particularly challenging and ENTSO-E estimates that beginning the work in the near future is necessary for on time preparation of such items. .

4.5 ENTRY INTO FORCE

The network code will enter into force 20 days after its publication. However, due to the various consultations and approvals shown in the diagram in section 3.9, the application of different parts of the code will be triggered by the timing of regulatory decisions. Because of uncertainties about the ACER opinion, the timings of the Comitology process, the time needed to deliver parts of the code (the timings are "no later than") and the time needed to approve parts of the code (which could include a referral to ACER), it is not possible to estimate precisely the time of application of each part. In ENTSO-E's view, a close working relationship between ENTSO-E, ACER, National Regulatory Authorities and the Commission is necessary to ensure the timely implementation of the NC FCA.

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5 ANNEX 1- PURPOSE OF THE NETWORK CODE

5.1 OVERVIEW

This annex provides a high level overview of the rationale for including particular articles in the network code. It is complemented by the more detailed assessment found in Annex 2.

ENTSO-E would like to stress that the NC FCA forms an interrelated whole which, collectively, sets out a coherent set of rules for the operation of the long term market timeframe and for undertaking coordinated capacity calculation. While ENTSO-E understands that some parties may wish to amend or remove some parts of the Network Code, ENTSO-E considers that such changes should be made with caution due to the potential unintended consequences of so doing.

Article Number	Article Name	Purpose of & need for the article
1	SUBJECT MATTER & SCOPE	Explain the boundaries of the code and clarify those affected by it.
2	DEFINITIONS	Explain the terms used in the document, while ensuring the same terms are used in existing EU law and ENTSO-E first network code (requirements for generators).
3	CONFIDENTIALITY OBLIGATIONS	Ensure that all parties have due regard to confidentiality throughout the network code.
4	OBJECTIVES OF CACM	Create a clear set of objectives which govern all processes covered later in the network code.
5	CONSULTATION	Make it absolutely clear what is consulted on and what isn't, including the party responsible for the consultation.
6	PUBLICATION OF INFORMATION	Clearly demonstrate the information which will be made available to the public and create provisions to ensure it is clear and understandable.
7	TRANSPARENCY OF INFORMATION	Without duplicating competition law powers or future transparency regulation, seek to ensure that the potential consequences of, for example, making different information available at different times on the efficient functioning of the market is recognised.
8	REGULATORY APPROVALS	Specify the process and timescales for approving the various elements required to allow capacity calculation and capacity allocation and specify the parties involved in regulatory approvals.
9	ROLES IN FORWARD CAPACITY ALLOCATION	Set out the different roles which are needed in order to meet the requirements of the code.
10	DELEGATION OF ROLES	Set out the basis on which part of all of some role can be allocated to third parties and clarifying where liability remains.
11	ESTABLISHMENT OF STAKEHOLDER COMMITTEE FOR FORWARD CAPACITY ALLOCATION	Specify the establishment and roles of the Stakeholder Committee for Forward Capacity Allocation
12	CAPACITY CALCULATION TIMEFRAMES	Specify which capacity calculation timeframes are concerned by the network code, i.e. day ahead and intraday
13	CAPACITY CALCULATION REGIONS	Specify the way to draw the regions on which the regional capacity calculation will be performed
14	GENERATION AND LOAD DATA PROVISION METHODOLOGY	Define the way to specify the generation and load units data that will have to be provided to the System Operators for an accurate capacity calculation process
15	COMMON GRID MODEL METHODOLOGY	Set the framework for the creation of the European common grid models which are the basis on which capacity calculation is performed

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16	SCENARIOS	Define the all the scenarios that the common grid models represents
17	INDIVIDUAL GRID MODEL	Define how to build the individual grid models (understood as puzzle pieces) needed for the creation of the common grid model
18	CAPACITY CALCULATION METHODOLOGY	Set the framework for the definition of regional capacity calculation methodologies, listing all the components involved in capacity calculation to be described
19	RELIABILITY MARGIN	Define the purpose of the reliability margin and what phenomenon it should cover
20	OPERATIONAL SECURITY LIMITS, CONTINGENCIES AND ALLOCATION CONSTRAINTS	List all the constraints that have to be respected during the capacity calculation process in order to ensure that the cross zonal capacities respect operational security. It also sets the framework for constraints which may be taken into account directly in capacity allocation and not capacity calculation for reasons of efficiency
21	GENERATION SHIFT KEYS	Specify the way generation shift keys should be created. Generation shift keys estimate the detailed impact on the power system of cross zonal electricity trades.
22	REMEDIAL ACTIONS IN CAPACITY CALCULATION	Define which remedial actions have to be considered during capacity calculation in order to maintain or increase cross zonal capacities.
23	CROSS ZONAL CAPACITY VALIDATION	Set the framework for capacity validation by individual System Operator after regional capacity calculation due to the responsibility each System Operator has over its transmission system.
24	METHODOLOGY FOR SPLITTING LONG TERM CROSS ZONAL CAPACITY	Set out a methodology for determining how cross zonal capacity is split between the different long term timeframes e.g. annual, monthly.
25	GENERAL PROVISIONS (CAPACITY CLACULATION PROCESS)	Set the timeframe upon which European merging function and coordinated capacity calculators should be put in place by System Operators
26	CREATION OF THE COMMON GRID MODEL	Specify the process for the creation of the European common grid models
27	REGIONAL CALCULATIONS OF CROSS ZONAL CAPACITIES	Specify the process for the regional calculation of the cross zonal capacities
28	VALIDATION AND DELIVERY OF CROSS ZONAL CAPACITY AND SPLIT CROSS ZONAL CAPACITY	Specify the process for the validation of the cross zonal capacities split cross zonal capacities
29	CURTAILMENT OF CROSS ZONAL CAPACITY	Set out how TSOs can curtail cross zonal capacity and coordinate on curtailment of already allocated capacities
30	BIENNIAL REPORT ON CAPACITY CALCULATION	Describe the content of the biennial report on capacity calculation that the System Operators have to produce to monitor the quality and efficiency of capacity calculation
31	GENERAL PROVISIONS (BIDDING ZONES)	Specify how bidding zones are determined and what happens to long term transmission rights when bidding zones change
32	OBJECTIVES OF FORWARD CAPACITY ALLOCATION	Create a clear set of objectives which govern all processes covered later in the network code on forward capacity allocation
33	INPUTS AND RESULTS OF FORWARD CAPACITY ALLOCATION	Specify the data that will be inputs to the forward capacity allocation and specifies the outputs it must produce.
34	DECISION ON CROSS ZONAL RISK HEDGING OPORTUNITIES	Deal with the situation where alternative risk hedging opportunities exist other than long term transmission rights
35	TYPE OF LONG TERM TRANSMISSION RIGHTS	Outline the different types of long term transmission rights available
36	PHYSICAL TRANSMISSION RIGHTS	Set out the provisions for physical transmission rights with both nomination and UIOSI
37	FINANCIAL TRANSMISSION RIGHTS – OPTIONS	Set out the provisions for financial transmission rights options
38	FINANCIAL TRANSMISSION RIGHTS – OBLIGATIONS	Set out the provisions for financial transmission rights obligations
39	PRINCIPLES FOR LONG TERM TRANSMISSION RIGHTS REMUNERATION	Highlight how long term transmission rights holders are remunerated and proposal for determination of remuneration based on the principle of revenue adequacy
40	GENERAL PROVISIONS FOR PHYSICAL TRANSMISSION RIGHTS NOMINATION	Identify the high level principles that shall apply to nomination rules for Physical Transmission Rights and the timeline for developing a proposal for these nomination rules
41	TERMS AND CONDITIONS FOR PARTICIPATION IN FORWARD CAPACITY ALLOCATION	Outline the main requirements for participating in Forward Capacity Allocation, particularly with regard to registration, compliance with the allocation rules and consequences for failure to meet these requirements

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42	SUBMISSION OF INPUT DATA TO ALLOCATION PLATFORM	Provision that validated split long term cross zonal capacity is provided to the Allocation Platform by each TSO
43	OPERATION OF THE FORWARD CAPACITY ALLOCATION	Describe the operation of the Forward Capacity Allocation with publication of the auction specification by the Allocation Platform and submission of bids by the Market Participants
44	PRICING OF THE LONG TERM TRANSMISSION RIGHT	Provide information on pricing of Long Term Transmission Rights which will be expressed in Euro
45	FINANCIAL REQUIREMENTS AND SETTLEMENT	Set out invoicing and self-billing procedures and provision of collaterals to participate in Auction(s)
46	ESTABLISHMENT OF FALLBACK PROCEDURES	Consider what happens when Forward Capacity Allocation is unable to produce results
47	RETURN OF LONG TERM TRANSMISSION RIGHTS	Outline how Long Term Transmission Rights Holders can return their Long Term Transmission Rights for resale in a subsequent Forward Capacity Allocation
48	SECONDARY TRADING	Set out how Long Term Transmission Rights Holders can transfer their Long Term Transmission Rights to Market Participants acquiring these rights
49	DELIVERY OF RESULTS	Provision of information on the results of the Forward Capacity Allocation
50	INITIATION OF FALLBACK PROCEDURES	Consider what happens when Allocation Platform is unable to provide Auction specification or results of the Forward Capacity Allocation by the time specified in the Allocation Rules
51	PUBLICATION OF MARKET INFORMATION	Publication of information by the Allocation Platform
52	GENERAL TASKS (SINGLE ALLOCATION PLATFORM)	Highlight the main tasks to be undertaken by the Single Allocation Platform
53	FUNCTIONAL REQUIREMENTS FOR THE SINGLE ALLOCATION PLATFORM	Set out requirements for the Single Allocation Platform and timeline for development and reassessment
54	ESTABLISHMENT OF THE SINGLE ALLOCATION PLATFORM	Decide on the establishment of the Single Allocation Platform and within a specified period of time ensure the Single Allocation Platform is operational
55	REQUIREMENTS FOR HARMONISED ALLOCATION RULES	Provide requirements for the provision of harmonised Allocation Rules for PTRs and FTRs
56	INTRODUCTION OF HARMONISED ALLOCATION RULES	Provision of proposal for harmonised Allocation Rules for PTRs and FTRs
57	GENERAL FIRMNESS PROVISIONS	Set out high level principles for curtailment of Long Term Transmission Rights and compensation for curtailment of these rights
58	THE LONG TERM FIRMNESS DEADLINE	Introduce a period before the Day Ahead Firmness Deadline that provides for an increasing level of firmness with the period after the Long Term Firmness deadline more firm than the period before and confirm when this Long Term Firmness deadline is for both PTRs and FTRs
59	DEFINITION OF CAPS	Provide for caps on the level of compensation both before and after the Long Term Firmness Deadlines
60	COMPENSATION RULES	Set out compensation rules to apply for curtailment of Long Term Transmission Rights that will be contained within the harmonised Allocation Rules
61	THE DAY AHEAD FIRMNESS DEADLINE	Confirms that the Day Ahead Firmness deadline that applies in NC CACM shall also apply in the NC FCA
62	FIRMNESS IN CASE OF FORCE MAJEURE OR EMERGY SITUATIONS	Outline firmness regime in the event of a Force Majeure or Emergency Situation
63	ESTABLISHMENT OF CONGESTION INCOME DISTRIBUTION ARRANGEMENTS	Develop a proposal for a Congestion Income sharing methodology and timeline for development
64	GENERAL PROVISIONS (COST RECOVERY)	Set out high level provisions for cost recovery
65	COST OF ESTABLISHING, DEVELOPING AND OPERATING THE SINGLE ALLOCATION PLATFORM	Provide for costs related to the establishment and operation of the Single Allocation Platform
66	COST OF ESTABLISHING AND OPERATING COORDINATED CAPACITY CALCULATION PROCESS	Provide for costs related to the provision of inputs to the Capacity Calculation, the establishment and operation of the European Merging Function and Coordinated Capacity Calculator(s)
67	COST OF ENSURING FIRMNESS	Provide for costs related to Redispatching, Countertrading and other costs associated with ensuring firmness
68	GENERAL PROVISIONS	Set out high level provisions for transitional arrangements related to the

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	(TRANSITIONAL ARRANGEMENTS)	establishment and operation of the Single Allocation Platform
69	REGIONAL PLATFORMS FOR ALLOCATION	Outline transitional measures for existing Regional Platforms for Allocation and conditions required
70	DURATION OF REGIONAL PLATFORMS	Set out the period of time that Regional Platforms for Allocation can operate for before termination once the Single Allocation Platform is operational and additional once off period of time if required and approved by NRAs
71	REGIONAL ALLOCATION RULES	Provide for rules to apply to existing Regional Platforms for Allocation and conditions that need to be met
72	TRANSITIONAL ARRANGEMENTS FOR FIRMNESS	Set out the transitional arrangements for firmness prior to the introduction of price coupling
73	CONTROL AREA BASED FORWARD CAPACITY CALCULATION AND ALLOCATION	Provide for Forward Capacity Calculation and Allocation where a Bidding Zone consists of more than one Control Area
74	TRANSITIONAL ARRANGEMENTS ACCORDING TO THE NETWORK CODE ON CAPACITY ALLOCATION AND CONGESTION MANAGEMENT	Set out transitional arrangements to apply to Island Systems with Central Dispatch in line with similar arrangements already provided for in NC CACM
75	ENTRY INTO FORCE	Set out when the NC FCA enters into force

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6 ANNEX 2 - DETAILED ANALYSIS OF RESPONSES

6.1 OVERVIEW

This second annex provides ENTSO-E's assessment of comments provided as part of the web-based consultation on the draft Network Code on "Forward Capacity Allocation" between 29 March to 29 May 2013. Rather than providing responses per individual comment received, an assessment of all input received has been undertaken on a clustered basis.

The Article numbering in this document refers to the Article numbering of the draft code published on 29 March.

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 and aims only at clarifying the content of the final network code based on feedback provided during the formal consultation period.

We note that many comments were not attributed to a specific article and gave general views or referred to cover letters. No specific responses are given on these comments in this document, although they have been taken into account, to the extent possible, in our general assessment of comments.

6.2 ARTICLE BY ARTICLE SUMMARY

Article 1 – SUBJECT MATTER AND SCOPE

Summary	20 comments were received on this Article split across the two paragraphs. Common themes emerged: 1) Respondents say that the NC FCA shall be applicable to Merchant Lines not only to TSOs. 2) Respondents request clarifications about the Secondary Trading platform (it shall occur at the Pan European level and other entities shall have the right to operate similar platforms. 3) Several respondents consider that the difference between TSOs and SOs is not clear and request to use TSOs only. 4) Two respondents ask for a definition of Market Participant in the Code.
Changes made	Change of the term "System Operator" by the term "Transmission System Operator".
Explanation for change or no change	**Changes in the light of comments:** - No change applied with respect to "Merchant Lines" because a Merchant Line is operated by a TSO and therefore the NC FCA applies to Merchant Lines.

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	- No need for a clarification related to Secondary Trading platform since the NC FCA already provides that the Single Allocation Platform shall be a communication vehicle only for secondary trading purposes and that third parties shall not be precluded to operate similar platforms. - No definition of Market Participants needed in the NC FCA since the one used in REMIT (Reg. 1227/2011) applies for the purpose of the NC FCA. - A new article 1(3) is added in the NC FCA to ensure that the NC is applicable to all TSOs in Members States with more than one TSO and that Member States may assign the obligations described in the code to one or more different TSOs where one TSO does not have the function to fulfil such an obligation.

Article 2 – DEFINITIONS

Summary	133 comments were received in total on the different definitions in Article 2: 1) 7 comments on Allocation Constraints asking for the definition to be deleted; 2) 4 comments on Contracts for Difference mainly linked to the inclusion of Synthetic FTRs; 3) 9 comments on Compensation Rules questioning the right of TSOs to curtail if capacities are firm and requiring NRA approval; 4) 8 comments on the Day Ahead Firmness Deadline; 5) 4 comments on Emergency Situation asking for the definition contained in the Operational codes to be used; 6) 8 comments on Financial Transmission Rights Obligation linking it to Synthetic FTRs, questioning the need for Financial Transmission Rights Obligations and whether TSOs would continue to use only Physical Transmission Rights if Financial Transmission Rights were subject to MiFID II; 7) 2 comments on Force Majeure requesting the definition set out in the CACM Framework Guideline; 8) 4 comments on Interconnector looking for it to be defined; 9) 3 comments on Liquid Financial Market looking for it to be defined; 10) 8 comments on Long Term Transmission Right focused on improved clarity and the inclusion of synthetic FTRs within the defined term; 11) 11 comments on Long Term Firmness Deadline questioning if it was needed and many asking for it to be deleted; 12) 2 comments on Marginal Price noting that pro-rata could occur; 13) 1 comment on Market Participant; 14) 8 comments on Merchant Line asking for the term to be defined; 15) 3 comments on Optimisation of Cross Zonal Capacity requesting greater clarity; 16) 1 comment on Physical Transmission Right requesting greater clarity;

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	17) 1 comment on Regional Platform requesting greater clarity; 18) 13 comments on Revenue Adequacy some asking for the term to be deleted, others requesting greater clarity; 19) 2 comments on Secondary Trading requesting greater clarity; 20) 4 comments on Single Platform for Secondary Trading requesting more precise wording; 21) 1 comment on Stakeholder Committee regarding its overall governance; 22) 6 comments on Synthetic Financial Transmission Right asking for the term to be defined; 23) 3 comments on System Operator mainly focused on discussions with the NC CACM; 24) 4 comments on Third Party Interconnector asking for the term to be defined; 25) 7 comments on UIOSI requesting greater clarity; 26) 1 comment on Very Long Transmission Rights asking for the term to be defined; 27) 6 comments on links to definitions contained in other Network Codes.
Changes made	Definitions that are common to both the NC FCA and NC CACM have been removed from the NC FCA. Changes have also been made to a number of definitions to provide better clarity and more concise wording. With reference to the definitions contained in the Summary above: 1) Allocation Constraints – deleted (refer to NC CACM) 2) Contracts for Difference – no change (i.e. not included) 3) Compensation Rules – more concise wording provided 4) Day Ahead Firmness Deadline – deleted (refer to NC CACM) 5) Emergency Situation - deleted (refer to NC CACM) 6) Financial Transmission Rights Obligation – more concise wording provided 7) Force Majeure - deleted (refer to NC CACM) 8) Interconnector – no change (i.e. not included) 9) Liquid Financial Market – no change (i.e. not included) 10) Long Term Transmission Right – no change 11) Long Term Firmness Deadline – no change 12) Marginal Price – deleted 13) Market Participant – no change (i.e. not included) 14) Merchant Line – no change (i.e. not included) 15) Optimisation of Cross Zonal Capacity – no change (i.e. not included) 16) Physical Transmission Right – no change 17) Regional Platform – more concise wording provided 18) Revenue Adequacy – more concise wording provided 19) Secondary Trading – more concise wording provided 20) Single Platform for Secondary Trading – deleted 21) Stakeholder Committee – no change 22) Synthetic Financial Transmission Right – no change (i.e. not included)

	23) System Operator – changed to Transmission System Operator 24) Third Party Interconnector – no change (i.e. not included) 25) UIOSI – more concise wording provided 26) Very Long Transmission Rights – no change (i.e. not included)
Explanation for change or no change	Following agreement with ACER and the EC the NC FCA shall cross reference relevant Articles in the NC CACM to provide for increased consistency between both network codes. As a result a number of definitions previously found in the NC FCA that were also present in the NC CACM have been removed. A number of stakeholders asked for the inclusion of additional definitions that were not covered in Article 2. These mainly referred to the inclusion of definitions for CfD, Synthetic FTR, Interconnector (including Third Party Interconnectors and Merchant Lines), Liquid Financial Market etc. Although these definitions are not explicitly defined in Article 2 or referred to within the main body of the NC FCA, they are provided for implicitly. a) There is no restriction on the introduction of synthetic FTRs where this is considered appropriate by the relevant NRAs. b) Interconnectors are deemed to be covered under the new definition Transmission System Operator that has replaced System Operator. Indeed many interconnectors are already, or soon will be, certified as TSOs and the term Interconnector is already defined in Regulation 714/2009/EC. c) Although the merits of prescribing liquid financial markets was considered, in the end it was more appropriate to leave NRAs determine whether their respective market is liquid or not. The definition of Long Term Firmness Deadline has remained in the NC FCA despite the reservations of a number of stakeholders. Even though the definition has not changed increased clarity on when this deadline is has been provided in the main body of text and confirming that the deadline for Physical Transmission Rights will be aligned with the Nomination Deadline referred to in the CACM Framework Guideline. Market Participant has not been defined in the NC FCA as it is already refined in Regulation 1227/2011, however additional information is provided in the Whereas section of the NC FCA. Minor changes to the wording of the definition for Revenue Adequacy have been provided. Although many requests called for the removal of the definition it remains in the NC FCA in order to ensure the principle that TSOs do not payout more than they receive in the Day Ahead allocation. The definition for the Single Platform for Secondary Trading has been deleted as it is no longer required. In line with broad agreement across all stakeholders it has been agreed that there will be only one Single Allocation Platform with a simple bulletin board pegged onto this platform to support secondary trading by notifying market participants of buyers and sellers of Long Term

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	Transmission Rights. There was one request to include a definition for Very Long Transmission Rights (i.e. 20 years). Although the rationale for requesting that this definition be included was well understood, it was considered to be outside the scope of the NC FCA.

Article 3 – CONFIDENTIALITY OBLIGATIONS

Summary	1 comment was received on this Article. One respondent asks for more clarification regarding this provision, i.e. how the confidentiality obligations shall work alongside the transparency obligations (those in the Code, in the Transparency Regulation and in Remit).
Changes made	No change
Explanation for change or no change	**Changes in the light of comments:** The code has not been changed because this article should be identical with the one from the NC CACM which is still being discussed by EC, ACER and ENTSO-E. Whatever the final text of CACM will be, it will be integrated in the NC FCA.

Article 4 – CONSULTATION

Summary	39 comments were received on this Article: 1) 16 respondents asked to also consult the revenue adequacy, the methodology for determining the LTRs, the remuneration, the auctions calendar, the Bidding Zone configuration and its amendment, the exemption from issuing LTRs, common rules for implementation of FTR obligations, the compensation rules, the LTFD. 2) 8 respondents asked to extend the consultation period 3) 6 respondents asked to establish a deadline for publishing the conclusions of the consultation and to define a process to claim if the justifications are not robust enough. 4) 2 respondent welcomed the consultation on the market participants needs 5) 1 respondent asked to clearly state which aspects are justified to be only consulted to the Stakeholder Committee. 6) 2 respondents asked to also keep informed Market Participants about minor modifications of terms and conditions and methodologies. 7) 2 respondent highlighted that Regional Allocation Platform is not a defined term 8) 2 respondent asked to delete when justified in paragraph 1
Changes made	Rewording proposals were included and identified inconsistencies were corrected. The article has also been modified so now Market Participants get

	informed about minor modifications of terms and conditions and methodologies.
Explanation for change or no change	Regarding the topics that were asked to be included in the consultation article, it has been reviewed and most of them are already consulted through higher topics (i.e.: the methodology for calculation of the LTRs is already consulted through the Methodology for Splitting Capacity, the compensation rules, the revenue adequacy, the remuneration of LTRs, the nomination rules, the auctions calendar, the common rules for implementation of FTR obligations and the Long Term Firmness Deadline are already consulted through the harmonized allocation rules, the exemption from issuing LTRs is already consulted through the needs for cross zonal risk hedging opportunities) It has been decided not to extend the default consultation period since it is a minimum; the extension of each consultation will depend on the subject. In line with the rest of Network Codes, it has been decided not to set a fixed deadline for the publication of conclusions of consultation in order to ensure there is enough time for TSOs assessing the feedback received. It can be noted that given the fact that the evaluation of responses is a prerequisite before any development, it will certainly be done as fast as possible. With regard to the role of Stakeholders Committee concerning consultations, generally consultations will be done just with Market Participants except for specific cases where, when justified, also the Stakeholders Committee will be consulted.

Article 5 – PUBLICATION OF INFORMATION

Summary	5 comments were received on this Article concerning the first paragraph. Common themes emerged: 1) Several respondents consider that the reference to the timeframe of 1 month between the adoption of a decision by a NRA and its publication should be deleted 2) Several respondents request that all the 'items developed by TSOs" and not only those referred to in Article 4(1) shall be made publicly available
Changes made	No change
Explanation for change or no change	**Changes in the light of comments:** No changes have been implemented because this article should be identical with the one from the NC CACM which is still being discussed by EC, ACER and ENTSO-E. Whatever the final text of CACM will be, it will be integrated in the NC FCA.

Article 6 – TRANSPARENCY OF INFORMATION

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Summary	1 comment was received on this Article. A respondent asks for more clarification for obligation applying to each entity referred to in Article 1.2 as regards transparency.
Changes made	No change
Explanation for change or no change	**Changes in the light of comments:** We have not implemented these changes because this article should be identical with the one from the NC CACM which is still being discussed by EC, ACER and ENTSO-E. Whatever the final text of CACM will be, it will be integrated in the NC FCA.

Article 7 – REGULATORY APPROVALS

Summary	14 comments were received on this Article, split across all eleven paragraphs. The following common themes emerged: 1) 2 respondent asked to also keep informed Market Participants about minor modifications of terms and conditions and methodologies 2) 3 respondents asked TSOs to ask for NRA approval for the nomination rules and amendments 3) 1 respondent asked TSOs to ask for NRA approval for the Bidding Zones configuration and amendments. 4) 1 respondent asked to shorten the approval period to 3 months 5) 2 respondent asked to harmonize nomination rules among all the Bidding Zones or regions 6) 1 respondent asked to, at a minimum, harmonise at regional level “4. The following shall be subject to approval by each National Regulatory Authority across Capacity Calculation regions (…)”and asked to include LTFD and the application of capped compensation as aspects to be approved by NRAs. In addition asked to delete any reference to Flow Based in the FCA NC “The decision to introduce FB was never justified nor accepted and therefore should not be part of the binding Forward Network Code” 7) 1 respondent asked to provide NRAs with the right to ask improvements of any of the methodologies submitted to consultation 8) 1 respondent highlighted that Regional Allocation Platform is not a defined term 9) 1 respondent asked to harmonise NRA approval at European level 10) 1 respondent asked TSOs to ask for NRA approval for any development
Changes made	Rewording proposals were included and identified inconsistencies were corrected. The article has also been modified so now Market Participants get informed about minor modifications of terms and conditions and methodologies. Additionally, the NC has been rewritten so amendments now are also submitted for NRA approval.
Explanation for	Generally, not all developments foreseen in the Network Code are considered

change or no change	to be submitted for NRA approval since there are some of them that are purely technical and do not need approval from NRAs. Regarding the topics that were asked to be included in the regulatory approvals article, it has been reviewed and most of them are submitted for approval through higher topics (i.e.: Nomination Rules are part of harmonized allocation rules so they are also subject to NRA approval, Bidding Zone configuration and its amendment are already subject to NRA approval according to article 36, Compensation rules and Long Term Firmness Deadline make part of harmonized allocation rules and thus they are already subject to NRA approval). Regarding the timings for NRA approvals, these have already been deeply discussed with ACER and are consequently the shortest possible being also in line with regulation EC7714. Current proposed level of harmonization is in line with the CACM FWGL provisions that ask for a “greater harmonization”.

Article 8 – ROLES IN FORWARD CAPACITY CALCULATION

Summary	8 comments were received on this Article, split across all three paragraphs. Common themes emerged: 1) 7 respondents asked to add the role Merchant line operator. 2) 1 respondent asked to add the role Issuer of Transmission Right.
Changes made	No changes to this article were made
Explanation for change or no change	System Operator and TSO definitions are currently under review in the framework of NC CACM, thus this article will be updated according to the outcome of that review. In addition, merchant lines are already covered by this Network Code as long as they are classified as TSO Merchant line. It has been decided that there is no need for adding a new role for the Issuer of Transmission Rights since the Network Code states clearly that the issuers of Transmission Rights are the TSOs but not all the TSOs are obliged to issue Transmission Rights.

Article 9 – DELEGATION OF ROLES

Summary	4 comments were received on this Article, split across all three paragraphs. Common themes emerged: 1) 1 respondent asked to delete the word “competent” from paragraph 1 since it is not stated who, and by which criterion, defines the competency of the entity. 2) 1 respondent asked not to allow TSOs to delegate the roles of System Operator and Coordinated Capacity Calculator. The respondent also

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	highlighted that TSOs should always be the entity issuing the Transmission Right 3) 1 respondent asked to state that the delegation has to be performed through a transparent public tendering process. 4) 1 respondent asked to asked appointed entities to ensure that they have fallback arrangements in place.
Changes made	Rewording proposals were included and identified inconsistencies were corrected. The article has also been modified in order to ensure that fallback arrangements have been put into place before the delegation.
Explanation for change or no change	It was decided to allow TSOs to delegate their functions since this is the approach in all the Network Codes. Additionally, despite TSOs being allowed to delegate their activities they remain always responsible for them. It was decided not to add this in order not to duplicate the existing European regulation on this topic.

Article 10 – ESTABLISHMENT OF STAKEHOLDER COMMITTEE FOR FORWARD CAPACITY ALLOCATION

Summary	11 comments were received on this Article, split across all three paragraphs. Common themes emerged: 1) 1 respondent asked to involve consumers in the Stakeholder Committee. 2) 1 respondent made some corrections on typos 3) Several respondents proposed better wordings for clarifying in paragraph 1 the composition of the Stakeholder Committee. 4) 1 respondent asked TSOs to report to the Stakeholder Committee in terms of performance of Forward Capacity Allocation.
Changes made	Rewording proposals were included and identified inconsistencies were corrected. The article has also been modified in order to clarify the composition of the Stakeholders Committee.
Explanation for change or no change	It was decided not to add reports in terms of performance of Forward Capacity Allocation since they will be performed according to Transparency Regulation.

Article 11 – CAPACITY CALCULATION TIMEFRAMES

Summary	2 comments were received on this Article and following themes emerged: 1) Lack of definition of the concrete allocation of capacity percentage for each time frame. Respondent requests that each timeframe (yearly/monthly and daily) should be allocated ex-ante with a third of

	the available capacity. Respondent justification is that in order to comply with FWGL NC should define a concrete allocation of capacity percentage for each time frame. 2) Respondent requests that Capacity Calculation shall produce results for long and very long term Capacity Calculation timeframes.
Changes made	Article now includes that Long Term Cross Zonal Capacity shall be calculated at least on annual and monthly timeframes and for each Forward Capacity Allocation
Explanation for change or no change	**Changes in the light of comments:** 1) Capacity allocation for different timeframes is defined by capacity splitting methodology. Approach selected in FCA NC gives possibility to define split taking into account market participants' needs and liquidity of products. 2) Capacity calculation timeframe should be compliant with forward allocation timeframes and if there is very long Forward Capacity Allocations in the future Capacity Calculation timeframes will comply with these Forward Allocation timeframes Article requests long term Cross Zonal Capacity to be calculated for each Forward Capacity Allocation.

Article 12 – CAPACITY CALCULATION REGIONS

Summary	3 comments were received on this Article and following themes emerged: 1) Respondent understands that their merchant line will be included in two Capacity Calculation Regions (interconnection, which exists between these two regions). This essential as interconnection has merchant status. 2) Definitions and regulations of Capacity Calculation Regions, Biding zones and Balancing Areas should be harmonised and stringent with the regulations in NC CACM, NC LFCR and NC EB. 3) Respondent proposes to change 'this Network Code' with 'the Network Code Capacity Calculation and Congestion Management' having the correct reference for a Network Code.
Changes made	Reference to CACM NC has been included to be more clear
Explanation for change or no change	**Changes in the light of comments:** 1) All interconnections (merchant or regulated TSO interconnections) should be treated in same way when defining to which Capacity Calculation Region they belong. 2) This is aim of ENTSO-E to have compliance between different NCs as far as possible, only problem lies that NCs are developed in different timeframes leading to challenge for this compliance. This will be gradual work for becoming years to reach full compliance between NCs 3) This is taken directly from CACM NC and here NC means CACM NC. Text can be amended to be clear on this point. Explain it, and the CACM parts will be rearranged

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Article 13 – AMENDMENT OF CAPACITY CALCULATION REGIONS

Summary	2 comments were received on this Article and following themes emerged: 1) Definitions and regulations of Capacity Calculation Regions, Biding zones and Balancing Areas should be harmonised and stringent with the regulations in NC CACM, NC LFCR and NC EB. 2) Respondent requests in order to ensure legal certainty that it would be desirable to include a more concrete binding criteria regarding the timings that system operators have to comply with in order to provide information about network disruptions or any other kind of anomaly.
Changes made	Article has been deleted as regions defined in CACM NC will apply
Explanation for change or no change	**Changes in the light of comments:** 1) This is aim of ENTSO-E to have compliance between different NCs as far as possible, only problem lies that NCs are developed in different timeframes leading to challenge for this compliance. This will be gradual work for becoming years to reach full compliance between NCs. 2) This amendment is related to changes to the borders of Capacity Calculation Regions to ensure coordination in capacity calculation and to meet objectives of FCA NC. ENTSO-E considers that the proposal by the respondent is not possible

Article 14 – GENERATION AND LOAD DATA PROVISION METHODOLOGY

Summary	10 comments were received on this Article and following themes emerged: 1) The NC shall be clear which data and information are required. No additional information should be required which is not defined. 2) Respondent requests to substitute ' this Network Code' with 'the Network Code Capacity Calculation and Congestion Management'; the respondent requests to clarify how this model differs from the model to be developed according to NC CACM or alternatively change so that the reference is right. 3) According to respondent understanding, the current drafting on the Common Grid Model just represents a juxtaposition of individual grid models, letting the door opened for TSOs to define them on their own view. An actual Common Grid Model should be defined by the Network code.
Changes made	Reference to CACM NC has been included to be more clear
Explanation for change or no change	**Changes in the light of comments:** 1) Article 14(3) complies with CACM NC drafting and request only long term relevant data to be provided. The list is non-exhaustive but the developed methodology defines the actual list of information to be provided and also entities which have to provide the information. Article 14(2) requires to demonstrate reasons for requiring such

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	information. 2) This has been clarified in draft text 3) Common Grid Model methodology is defined in FCA NC setting requirements to scenarios, Individual Grid Model and merging Individual Grid Model so it is not letting the door opened for TSOs to define IGMs on their own view.

Article 15 – AMENDMENT TO THE GENERATION AND LOAD DATA PROVISION METHODOLOGY

Summary	No comments were received for this article
Changes made	n/a
Explanation for change or no change	n/a

Article 16 – COMMON GRID MODEL METHODOLOGY

Summary	2 comments were received on this Article and following themes emerged: 1) Respondents request to substitute ' this Network Code' with 'the Network Code Capacity Calculation and Congestion Management'; the respondent requests to clarify how this model differs from the model to be developed according to NC CACM or alternatively change so that the reference is right.
Changes made	Reference to CACM NC has been included to be more clear
Explanation for change or no change	**Changes in the light of comments:** 1) This is taken directly from CACM NC and here NC means CACM NC. Text can be amended to be clear on this point.

Article 17 – AMENDMENTS OF THE COMMON GRID MODEL METHODOLOGY

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 18 – SCENARIOS

Summary	6 comments were received on this Article and following themes emerged: 1) Respondents require that the scenarios should be common and approved/commonly used and understood by all TSOs. Otherwise

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	there is a risk that single TSOs will not participate properly in the capacity calculation process. There should be a (common) NRA approval. 2) One respondent welcomes the ability to define different scenarios as there are different characteristics between DC and AC lines (respondent refers here to Article 18.1)
Changes made	Reference to CACM NC has been included to be more clear and scenarios shall be a common set
Explanation for change or no change	**Changes in the light of comments:** A common approval by all NRAs in not possible, but NRAs can coordinate in decision making by common timings etc.

Article 19 – INDIVIDUAL GRID MODEL

Summary	11 comments were received on this Article and following themes emerged: 1Respondents request that the FCA NC shall require harmonization in Article 19(4). 1) According to respondents Article 19(4) is one example of several where the draft code introduces subjective elements and interpretations such as "best endeavours". This opens the risk of arbitrary implementations and should be removed, to be replaced with clear rules, methodology and governance for parties to follow. 2) One respondent proposes to amend Article 19(4) that all System Operators shall use best endeavours to progressively harmonize the way in which Individual Grid Models are built according to top-down planning necessities shown by very long term transmission rights. 3) A respondent request clarification in wording of Article 19(6)
Changes made	Reference to CACM NC has been included to be more clear
Explanation for change or no change	**Changes in the light of comments:** 1) FCA NC shall be made compliant with CACM NC in this respect. However, due to power system characteristics it might be not possible to have a full harmonisation. 2) See point 1. 3) 3ENTSO-E considers that there is no clear justification for the proposed wording especially for long term transmission rights.

Article 20 – CAPACITY CALCULATION METHODOLOGY

Summary	61 comments were received on this Article and following themes emerged: 1) It is requested to substitute 'this Network Code' with 'the Network Code Capacity Allocation and Congestion Management' in Article 20(1)

	2) Respondents consider that the timing for setting up a common grid model and a capacity calculation methodology is too long: those objectives should be achieved quicker. 3) Network code should define more concretely how the capacity will be calculated, etc. (that is to say, stating in further detail how this Forward capacity allocation system will be undertaken by each system operator. Title IV (Transitional arrangements) of this draft Network code does not provide clear enough information on this. 4) The NC needs to be consistent with existing European legislation on calculation of capacity for forward allocation (comment to Article 20(3)). 5) Respondents suggests to delete the wording 'an approach taking into account' in Article 20(3a) as it seems to give huge freedom to the value for Reliability Margin. At least, if there would be another 'approach', it would need a regulatory approval. The phrase "an approach" is too vague and it is seen the need for specification. It should be further clarified what this means exactly, who approves this approach, etc. 6) Operational Security and Allocation constraints are not relevant for this code. 7) Determination of Allocation Constraints shall be deleted in FCA NC as respondents do not understand why these constraints should be looked at for 'long term' calculations. Allocation constraints are normally related to taking into account ramping constraints, which is not relevant in the forward timeframe. One respondent writes that it is important that losses on DC lines are taken into account; respondent supports the inclusion of a determination of Allocation Constraints being taken into account where these include DC losses. 8) Respondents do not see a reason why 'where appropriate' is needed in paragraph 3(a), Remedial Actions should always be considered; "'where appropriate' opens a door for disregarding the article 28 completely. Who is approving when it is appropriate or not? Same comment applies for the paragraph 20(3b) The phrase "where appropriate" is too vague and it is seen the need for clarification, 9) The current drafting of Article 20(4) gives too much freedom to the TSOs for applying additional methodology: and such an approach should also be possible based on NRA request. A common methodology would be required, if not calculations will be simply be a 'local' TSO solution. These 'additional' elements should be subject to stakeholder consultation and NRA approval. 10) There should be a common NRA approved process for deciding the amount of capacity to be allocated in forward timeframes for Article 20(4) 11) It should be made clear if Article 20(4) is an 'OR' or an 'AND' statement. 12) The formulation 'use best endeavours' in Article 20(6) and 20(7) is too vague. Best would be to define a maximal time limit. Respondents propose to remove 'use best endeavours to progressively' or 'use best endeavours'.

	13) Article 22(2b) requires that transparency be ensured in case a Flow Based method is chosen. This should always be the case independently of the method chosen, be it Flow Based or ATC. 14) One respondent proposes to include article to define methodology for determination of Long Term Transmission Rights Volumes as follows: "No later than twelve months after the entry into force of this Network Code, all System Operators shall develop a common coordinated methodology for the determination of Long Term Transmission Rights Volumes. The common coordinated Long Term Transmission Rights Volume Determination Methodology for a Capacity Calculation Region shall a) meet the objectives of Regulation 714/2009 and this Network Code particularly with respect to maximisation of available capacity to be allocated, b) The methodology should assume firmness of transmission rights in accordance with Articles XX, c) The methodology should be forward looking including scenario analysis and statistical approaches where appropriate, d) The methodology shall assume that in liquid markets where day-ahead market coupling is well established there is no need for a specific reservation of transmission capacity for day-ahead allocation."
Changes made	Article has been redrafted to be consistent with CACM NC and clear on Long Term capacity calculation specific issues.
Explanation for change or no change	**Changes in the light of comments:** 1) CC methodology for FCA timeframe shall include long term issues so reference to FCA NC shall be kept. 2) It should not be underestimated the time needed for implementation and ensuring quality in developed methodologies and reliable implementation as many implementation task include IT systems to be developed. 3) ENTSO-E has chosen the approach that methodologies will include these more concrete issues, not the actual network code. 4) ENTSO-E considers that NC it is developing fulfils this request. Respondent has not specified in which point deviations exists so it is not possible for ENTSO-E to further develop the NC in this context. 5) This approach (if applied) will be part of CC methodology, which shall be approved by NRAs after consultation with stakeholders. ENTSO-E will develop the text further after the work it is doing about the feasibility of this approach 6) Operational Security constraints are relevant also for long term capacity calculation as they define Cross Zonal Capacities. 7) Respondents have mixed views (remove or keep) on Allocation Constraints. ENTSO-E proposes to keep these constraints in the code e.g. due to consistency reasons between different timeframes. However, they have to meet certain requirements and approved by NRA. FCA NC text in Article 26 will be amended to be consistent with CACM NC. 8) Approval shall be made by NRA after consultation with stakeholders as with all other CC topics. In some countries there might be lack of remedial actions in long timeframe and that's why 'where appropriate'

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	wording has to stay in text for remedial actions 9) ENTSO-E agrees that approach in Article 20(4) is a common one because it is part of regional CC methodology and for clarification text will be amended. 10) Article 20(4) is part of CC methodology, which shall be approved by NRAs after public consultation as defined in Article 4 and 7. 11) Article 20(4) is AND (see the text drafting before c)) 12) ENTSO- E proposes here to amend the text to be compliant with CACM NC. 13) General transparency requirement is in Articles 5 and 6. ENTSO-E considers that there is no need for specific article on this because CC methodology will be transparently communicated to stakeholders and results of capacity calculation will be published according to FCA NC. For FB approach there are specific request to ensure that results and transparency of method exist as the approach might not be familiar for stakeholders. 14) ENTSO-E has chosen approach, where no volume determination methodology exists, because it has been seen to overlap with Capacity Calculation methodology and Splitting methodology and thus there is no need for such methodology.

Article 21 – AMENDMENT OF CAPACITY CALCULATION METHODOLOGIES

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 22 – CAPACITY CALCULATION APPROACHES

Summary	23 comments were received on this Article and following themes emerged: 1) Some respondents do not consider that Flow Based Approach should be used as a capacity Calculation mechanism for the long term Capacity Calculation timeframes. Accordingly, respondents tend to think that a coordinated NTC approach would be more convenient. A Flow Based Approach fits better into short term capacity allocation schemes. One respondent even requests to remove the possibility for Flow Based from this FCA NC. 2) Some respondents request that once the three conditions in Article 22(2) are fulfilled, TSO shall use the FB, it should not be only a right to use ('entitled'). If all pre-requisite (including the gain of social-welfare) are met, then Flow-Based has to be preferred over ATC and TSO should implement it. 3) Capacity calculation has to be fully tested and approved to ensure that market participants know what to prepare for. Whilst six months may well be a reasonable period (depending on the nature of the change) it is highly unlikely to be either reasonable, or practical, if the change requires any IT changes on the part of Market Participants. A more

	realistic time period for Market Participants would be required if IT changes are needed. 4) In Article full compatibility is requested and the word 'COMPATIBLE' has to be more precisely defined in the network code. For each TSO or for each NRA, the word compatible can be understood differently. The NC should ensure that the Capacity Calculation Approach is consistent and like one piece over all timeframes.
Changes made	Article has been deleted and contents have been included in Article of Capacity Calculation methodology
Explanation for change or no change	**Changes in the light of comments:** 1) Respondents have different views of FB method and thus the present drafting will be kept and NTC will be a preferred approach 2) See point 1. 3) ENTSO-E proposes to amend the text to comply with CACM NC 4) ENTSO-E proposes to amend the text to comply with CACM NC

Article 23 – RELIABILITY MARGIN

Summary	One comment was received on this Article: 1) Respondent view is that compensation caps already limit the financial risk and thus these risks should be taken into account only to some limited extent.
Changes made	Reference to CACM NC has been included to be more clear on requirements
Explanation for change or no change	**Changes in the light of comments:** 1) Financial risks refer to applicable firmness regime (with or without compensation caps) and its consequence so there is no need to change draft text.

Article 24 – SIZE OF RELAIBILITY MARGIN

Summary	5 comments were received on this Article and following themes emerged: 1) Reliability Margins should be progressively reassessed in DA and intraday and the uncertainty factors that no longer exist should be removed. The reliability margin shall be decreased in Day-ahead and intraday in order to reflect the decreasing uncertainty. 2) The reliability margin should be the same for all allocations otherwise it is possible for the TSO to use the margin to resolve expected congestions within a bidding area by varying the amount of capacity left for allocation. The size of the reliability margin shall be the same for Forward Allocation as for day ahead allocation. 3) The methodology for the definition of the size of the Reliability Margin should be defined after consultation between Market Participants, TSOs and National Regulatory Authorities.
Changes made	Article has been merged to Article of Reliability Margin
Explanation for change or no	**Changes in the light of comments:** 1) This Article will be merged to Article of Reliability Margin to be more

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change	clear on definition for each Forward Capacity Allocation 2) RM will differ due to risk for each allocation. See also point 1. 3) RM 'methodology' is defined according to Articles 20 and 23 (it is part of Capacity Calculation methodology), this Article has defined the size based on defined RM methodology but it will be merged to RM article to be clear that it is part of RM methodology

Article 25 – OPERATIONAL SECURITY CONSTRAINTS

Summary	14 comments were received on this Article and following themes emerged: 1) TSOs should not be allowed set generation limits in price zones. Market players decide on production in a bidding zone based on market fundamentals. TSOs can take redispatch actions, if the current production is not in line with system security. Respondents propose to remove Article 25(2c) 2) Operational Security Constraints shall be exactly defined otherwise respondents suggest to delete Article 25(2c). Market Parties should be able to comprehend how the capacity calculation methodology works and what constraints are used to calculate capacity. 3) One respondent writes that Operational Security constraints are not relevant to this code and proposes to delete Article 25
Changes made	Requirements set for Operational Security Limits as defined in CACM NC shall also apply in FCA NC
Explanation for change or no change	**Changes in the light of comments:** 1) NC will be amended to comply with CACM NC 2) Constraints taken into account from Article 25(2) will be defined in CC methodology. There are some regions where dynamic and voltage stability restricts capacity and operational security constraints will be defined for these regions. 3) Operational security constraints are relevant also for long term capacity calculation to be capable to define available capacities. Thus Article 25 cannot be deleted from FCA NC.

Article 26 – ALLOCATION CONSTRAINTS

Summary	11 comments were received on this Article. Common themes emerged: 1) Allocation constraints are not relevant to the forward timeframe. 2) The definition of allocation constraints, if not exactly defined, should be deleted.
Changes made	Requirements set for Allocation Constraints as defined in CACM NC shall also apply in FCA NC. References to CACM NC are now given.
Explanation for change or no change	**Changes in the light of comments:** 1) Allocation constraints are relevant also for long term capacity calculation to be capable to define available capacities. 2) References to the CACM NC have been introduced. CACM definition

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	applies.

Article 27 – GENERATION SHIFT KEYS

Summary	4 comments were received on this Article. Common themes emerged: 1) GSK should be based on a common methodology / harmonized.
Changes made	Requirements set for Generation Shift Keys as defined in CACM NC shall also apply in FCA NC. References to CACM NC are now given.
Explanation for change or no change	**Changes in the light of comments:** 1) Issue related to CACM code.

Article 28 – REMEDIAL ACTIONS IN CAPACITY CALCULATION

Summary	3 comments were received on this Article. Common themes emerged: 1) Explain/clarify efficiency of Remedial Actions in respect to forward allocation.
Changes made	Requirements set for Remedial Actions as defined in CACM NC shall also apply in FCA NC, as long as long as these are available in real-time.
Explanation for change or no change	**Changes in the light of comments:** 1) Only Remedial Actions that are available in real time operation can be taken into account in the Long Term capacity calculation. This may increase the capacity made available for long-term.

Article 29 – CROSS ZONAL CAPACITY VALIDATION

Summary	3 comments were received on this Article. Common themes emerged: 1) The report on Reductions should always be published (not depending on NRAs decision).
Changes made	Capacity Validation has been modified, the report on Reduction as for CACM NC is not requested anymore. A report to NRA about the capacity calculation and an annual report about reduction is included in the code.
Explanation for change or no change	**Changes in the light of comments:** 1) Validation of Capacities is not related to Reductions. This information can be given in the Biennial Report on capacity calculation or in the yearly report on reductions.

Article 30 – GENERAL PROVISIONS (THE CAPACITY CALCULATION PROCESS)

Summary	1 comment received on this Article. Common themes emerged: 1) Correct reference to NC.
Changes made	Reference corrected
Explanation for change or no change	

Article 31 – CREATION OF THE COMMON GRID MODEL

Summary	14 comments were received on this Article. Common themes emerged: 1) Not use ''best endeavours'' for estimating grid model by SOs and generators or load unit, but ''shall'' or ''reliable estimations''.
Changes made	FCA NC now makes reference to the CACM and differentiates for regions using security analysis based on multiple scenarios.
Explanation for change or no change	**Changes in the light of comments:** 1) Requirements defined in CACM NC shall be the basis for FCA NC.

Article 32 – REGIONAL CALCULATIONS OF CROSS ZONAL CAPACITIES

Summary	24 comments were received on this Article. Common themes emerged: 1) Each System Operator shall deliver a reliable estimation for its Generation Shift Keys. Do not use ''best endeavours'. 2) Each Coordinated Capacity Calculator shall maximize Cross Zonal Capacity. 3) (11) The process for calculation of Cross Zonal Capacity and justification for this approach shall be included in the Capacity Calculation Methodology and be subject for Regulatory Approval. 4) (11) Additional elements should be commonly defined by TSOs. 5) ACER: The statistical approach lacks of clarity. It should be described more thoroughly in the Network Code. The details could include the information that this approach shall take into account the historically available total Cross Zonal Capacity at latest Capacity Calculation Timeframe, methods to combine the statistical approach and scenario based approach and acceptable risk level.
Changes made	Improvement of references to CACM and more details concerning the statistical approach.
Explanation for change or no change	**Changes in the light of comments:** 1) Requirements set for Regional Calculations of Capacities as defined in CACM NC shall also apply in FCA NC. 2) Requirements set for Regional Calculations of Capacities as defined in

	CACM NC shall also apply in FCA NC. As there are opposing objectives (security, amount of capacity, split of capacity among timeframes…), optimization better reflect different market needs than maximization. 3) The Capacity Calculation Methodology, where additional elements are stated, is subjected to Regulatory Approval. 4) Additional elements are defined in the capacity calculation methodology at Capacity Calculation Region level. 5) ACER: Improvements have been made to better describe the statistical approach.

Article 33 – VALIDATION AND DELIVERY OF CROSS ZONAL CAPACITY

Summary	24 comments were received on this Article. Common themes emerged: 1) Allocation constraints not relevant to this code. 2) The definition of allocation constraints, if not exactly defined, should be deleted otherwise it could be difficult for market parties to sufficiently understand the Capacity Calculation Methodology and the results of the capacity calculation. 3) Allocation constraints shall be set in a coordinated way by SOs. 4) Delete paragraph 1 (no added content compared to Art. 29).
Changes made	Validation of capacity and splitting among timeframes are now merged. References to CACM NC are now given.
Explanation for change or no change	**Changes in the light of comments:** 1) Allocation constraints can be relevant for forward timeframe. 2) Definition of allocation constraints are as for CACM NC. 3) Requirements set in CACM NC shall also apply in FCA NC. Allocation constraints may be set independently by SOs. 4) Modified, cross-reference to CACM.

Article 34 – BIENNIAL REPORT ON CAPACITY CALCULATION

Summary	9 comments were received on this Article. Common themes emerged: 1) Biennial report should always be public. 2) Biennial report should cover all timeframes.
Changes made	References to CACM NC are corrected. The report now only covers long-term timeframes. The process for publishing the first report and coordination with the report on short-term timeframes are now described.
Explanation for change or no change	**Changes in the light of comments:** 1) Requirements set for Regional Calculations of Capacities as defined in CACM NC shall also apply in FCA NC. NRAs may decide not to publish parts of the report for confidentiality and security reasons. 2) The report will cover long-term timeframes, and it will be published in coordination with the biennial report covering short-term timeframes.

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Article 35 – GENERAL PROVISIONS (BIDDING ZONES)

Summary	11 comments were received on this Article. Common themes emerged: 1) Some parties asked to state that SO are responsible for reimbursement at initial price, in case of cancellation of Bidding Zone Border(s). 2) Some parties state that in the event of a merging of zone B and C, a LTTR between A and B should be automatically transformed into a LTTR between A and B+C. In the event of a split of zone B into B1 and B2, a LTTR between A and B should be transformed into a LTTR A=>B1 or A=>B2, the choice being made by the owner of the LTTR provided that A has a border with both B1 and B2. General remarks on harmonization of definitions and clarifications on the effect of new Bidding Zones configuration on LTTRs.
Changes made	Clarification on the fact that the same Bidding Zones for CACM applies for FCA NC.
Explanation for change or no change	**Changes in the light of comments:** 1) No need of such specification. 2) The original formulation already covers all cases, with a simple solution. It is not possible to transform as proposed the LTTR, because the capacity between the new zones may change significantly. A new capacity calculation and allocation step need to be done when Bidding Zones change. 3) See previous point.

Article 36 – REVIEWING BIDDING ZONE CONFIGURATION

Summary	14 comments were received on this Article. Common themes emerged: 1) The NC Forward Capacity Allocation shall explicitly say that the review should align with the configuration used day ahead and intraday. 2) Bidding zones should not be changed under any circumstance as long as capacity holders still hold capacity for a concrete timeframe (but others say that this should not slow down the zone reconfiguration process). 3) Neutral formulation about technology impacts on zone (i.e. : hydro power) 4) Better explain how reimbursement of LTTRs are made in case of new zones configurations.
Changes made	Only references to this CACM article are now given in the FCA NC. The article is now deleted from the FCA NC
Explanation for change or no change	**Changes in the light of comments:** 1) Change done. 2) This may slow down too much the process of changing bidding zones configuration. Better to find ways to manage these situations, as specified in Article 35 (now 31). 3) Ok in principle, but this is related to CACM. 4) This is explained in Article 35 (now 31).

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Article 37 – CRITERIA TO ASSESS THE EFFICIENCY OF ALTERNATIVE BIDDING ZONE CONFIGURATIONS

Summary	1 comment received on this Article. Common themes emerged: 1) Delete from FCA code, not relevant
Changes made	Only references to this CACM article are now given in the FCA NC. The article is now deleted form the FCA NC
Explanation for change or no change	**Changes in the light of comments:** 1) Change done. Only a reference to CACM NC is given now.

Article 38 – BIENNIAL ASSESSMENT OF THE CURRENT BIDDING ZONE CONFIGURATION

Summary	1 comment received on this Article. Common themes emerged: 1) Make reference to CACM code instead of ‘’THIS’’ code.
Changes made	Only references to this CACM article are now given in the FCA NC. The article is now deleted form the FCA NC.
Explanation for change or no change	**Changes in the light of comments:** 1) Change done. Only a reference to CACM NC is given now.

Article 39 – THE BIENNIAL TECHNICAL REPORT

Summary	14 comments were received on this Article and following themes emerged: 1) TSOs should not be allowed set generation limits in price zones.
Changes made	Only references to this CACM article are now given in the FCA NC. The article is now deleted form the FCA NC.
Explanation for change or no change	**Changes in the light of comments:** 1) NC is be amended to comply with CACM NC.

Article 40– METHODOLOGY FOR SPLITTING CROSS ZONAL CAPACITY

Summary	17 comments were received on this Article. Common themes emerged: 1) The splitting of capacity should not be decided in a ‘’coordinated’’ manner in order to avoid collusion between competing merchant Lines. 2) Missing definition of liquidity. 3) Add as objective: Maximize capacity allocated at long-term.

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	4) Include the easy methodology: maximize capacity allocated at long-term. 5) Add as objective: optimize resources at pan-European level. 6) Not relevant to mention Art 20(2). 7) Reserve some capacity for the intraday and balancing timeframes. 8) The Network code lacks of a definition of the percentages that will be allocated to each timeframe. 9) It should not be possible to reserve capacity for intraday and balancing. 10) Different borders may have different needs, why methodology is developed by CC Region? The methodology should not be a ‘’formula’’, but a consultation process. 11) Add calendar years Y+1, 2, 3… (As for energy products). 12) ACER: For the sake of clarity we would propose that the Network Code deals with both issues Capacity Calculation and Splitting Methodology in the same Chapter. Article 40 of the Network Code should specify that splitting methodology shall take into account the capacity calculation method
Changes made	Update of criteria for splitting capacity. Article moved close to Capacity Calculation Methodology section.
Explanation for change or no change	**Changes in the light of comments:** 1) Coordination is needed for splitting capacity. 2) The criteria now is ‘’meeting market needs’’, references to ‘’liquidity’’ have been erased. 3) This needs to be consulted – different borders / parties may have different needs → no change. 4) This needs to be consulted – different borders / parties may have different needs → no change. 5) Not a clear objective for splitting capacity. 6) It is important that the splitting is coherent with the capacity calculation process → no change. 7) This can be done in the methodology – CACM / balancing issue, no need of repeating. 8) This needs to be consulted and tailored to market needs, not fixed in the code , different borders / parties may have different needs → no change. 9) Regulation 714/2009 allows, subject to NRA approval, reservation of capacity for Intraday, therefore the code needs to be flexible and in line with existing Regulation and the methodology approach allows this flexibility no change. 10) The Splitting methodology is elaborated at CC region level in order to improve harmonization and efficiency at European, not national level. Different rules by border are possible. 11) These products are allowed, but not mandatory in the code. Allocating capacity at very long term may cause barrier to entry for new participants.

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	12) ACER : code has been modified

Article 41– AMENDMENT OF THE METHODOLOGY FOR SPLITTING CROSS ZONAL CAPACITY

Summary	5 comments were received on this Article. Common themes emerged: 1) NRAs should be in position of launching the reassessment. 2) Impacts on existing contracts of reviewing the splitting methodology should be considered.
Changes made	No changes
Explanation for change or no change	**Changes in the light of comments:** 1) This is already possible for all methodologies. 2) No impacts on existing contracts are expected if splitting methodology is reviewed.

Article 42– VALIDATION AND DELIVERY OF SPLITTING FOR CROSS ZONAL CAPACITIES

Summary	6 comments were received on this Article. Common themes emerged: 1) It is necessary to build in a feedback process in the splitting of Cross Zonal capacity, e.g. if during the whole year every hour more than '2000' MW was allocated, and the yearly allocated capacity is only '500' MW, then an increased amount on yearly basis should be possible: this is valid in both directions: if TSOs have offered in the long term 1000 MW, while on the day ahead they have to buy back below '800' MW, then it might not make sense to keep for the LT a capacity higher than 800 MW. 2) Clarification need on the role of critical network elements as the capacity on the bidding zone border is the relevant location for the Forward capacity allocated
Changes made	Validation of splitting is now merged with validation of capacities.
Explanation for change or no change	**Changes in the light of comments:** 1) The use of the interconnection will be analysed in the biennial report. If the use is not satisfying, the capacity calculation and splitting methodologies can be amended. The statistical approach for capacity calculation can help improving the transparency of the capacity calculation process. 2) The role of Critical Network elements is described in the explanatory document

Article 43–OBJECTIVES OF FORWARD CAPACITY CALCULATION

Summary	14 comments were received on this Article, split across all two paragraphs. Common themes emerged: 1) Several respondents asked to state in paragraph 1 that FCA has to be

	compatible with long term capacity. 2) Several respondent asked what we mean by “FCA has to be scalable” and proposed to delete it 3) Several respondent proposed to state “(…) allocates maximum capacity within the validated split Cross Zonal Capacity”
Changes made	Rewording proposals were included and identified inconsistencies were corrected.
Explanation for change or no change	It was decided not to modify the first paragraph since conditions are considered in Article 32(2) (b) “The Forward Capacity Allocation shall determine the results (…) in a manner which (…) allocates no more than the offered long term cross zonal capacity (...)”. FCA will allocate as much capacity as Market Participants demand as long as this demand is lower or equal than the offered long term cross zonal capacity.

Article 44–INPUT AND RESULTS OF FORWARD CAPACITY CALCULATION

Summary	14 comments were received on this Article, split across all four paragraphs. Common themes emerged: 1) Delete “best endeavours” in paragraph 3. 2) Delete Allocation Constraints from the inputs
Changes made	No changes to this article were made
Explanation for change or no change	TSOs cannot ensure that auction platform will always provide with results but use best endeavours to provide with these results Depending on the region, allocation constraints can have a role in Forward Capacity Allocation; especially in meshed regions where neighbouring interconnections present high interdependencies.

Article 45–DECISION ON CROSS ZONAL RISK HEDGING OPPORTUNITIES

Summary	105 comments were received on this Article, split across all paragraphs. Common themes merged: 1) 21 parties suggest that the criteria for not having LTRs should be the existence of liquid financial markets on both sides of the border 2) 19 parties fully support ENTSO-Es draft proposal. 3) 9 parties suggest to develop and include a methodology for applying the exemption from LTR (for evaluating how liquid financial markets are). 4) 7 parties suggest that NRAs should have the right to oblige TSO to issue LTRs regardless of the evaluation of existing hedging markets. 5) 6 parties suggest that NRAs shall decide which type of LTR should be auctioned on each border. 6) 6 parties suggest to include merchant cables in the Network Code.

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	7) 5 parties suggest to add as a clarification “and are not obliged” in Art. 45 (3). 8) 5 parties raise the concern that it is not possible to evaluate if financial markets are "well developed and have shown their efficiency". 9) 4 parties supplest to have a reassessment of the market on a regular basis. 10) 3 parties suggest to consult Market Parties view deciding on LTR or alternatives. 11) 3 parties suggest that Market Participants hall have the opportunity to initiate a reassessment of risk hedging opportunities. 12) 3 parties suggest that NRAs approval shall be obligatory in all cases, also if risk hedging opportunities exist. 13) 3 parties suggest to allow "TSO issued" CfDs as synthetic FTRs in the Network Code. 14) 2 parties suggest to give the entire physical LT capacity to the financial market. 15) 2 parties suggest that in case NRA decide that appropriate hedging exists, no further action shall be taken. 16) 2 parties suggest to evaluate Hedging opportunities for each border. 17) 1 party suggests to issue LTR for a test period upon request from MPs even if hedging already exists. 18) 1 party suggests to include “influence on congestion income” as a criterion for the assessment. 19) 1 party suggests to require for the exemption a decision of NRAs on each side of the border. 20) 1 party suggests to delete 45.5.a and b replace with "in accordance with 45(1)". 21) 1 party suggests to consult on MPs “wishes”, instead of their “needs”. 22) 1 party suggests to check carefully the lit of articles related to the exemption.
Changes made	Rewording proposals were included and identified inconsistencies were corrected. The draft has been restructured and changes due to a proposal by ACER (addressing the whole Article) were included.
Explanation for change or no change	The proposal that the criteria for not having LTRs should be the existence of liquid financial markets on both sides of the border is not in line with EU Reg 714, which uses the term "well developed and have shown their efficiency" in line with the current NC draft. Introducing a common methodology for applying the exemption from LTR (for evaluating how liquid financial markets are) was discussed during the first stakeholder meeting and it was concluded that at least “transparent criteria” should be used for the methodology, which is now considered in the new draft. The updated draft includes also the provision that NRAs can force TSO to issue LTRs. System Operator and TSO definitions are currently under review in the

	framework of NC CACM, thus this article will be updated according to the outcome of that review. In addition, merchant lines are already covered by this Network Code as long as they are classified as TSO Merchant line. FWGL says that PTRs or FTRs shall be issued. In this context it is not required to highlight financial products, since the provision apply equally to both products. CfDs are not defined as LTR. In Art. 35 the NC addresses the allocation of cross zonal capacity. CfDs are not linked to the physical capacity (purely financial) and are therefore not relevant in this context. The code does not preclude any other risk hedging product to be issued (any risk hedging product could be issued by any market participant). On synthetic FTRs the DT will continue the dialog also with ACER. Regarding the decision on risk hedging products, Market Participants views are taken into consideration during the consultation phase of the NRA evaluation.

Article 46– TYPE OF LONG TERM TRANSMISSION RIGHT

Summary	38 comments were received on this Article, split across all paragraphs. Common themes merged: 1) 15 parties suggest more flexibility with regards to the type of product : a. 7 CFDs b. 5 focus on financial products (move away from any physical products) c. 3 synthetic FTRs (double in paragraphs 1, 3 and 5) 2) 8 parties suggest to include 3rd Party Interconnectors as a characteristic to be described within the proposal for LTRs to be developed by SO (paragraph 3). 3) 3 parties suggest that the “entire” long term cross zonal capacity should be made available to market participants 4) 3 respondents asked for the rationale behind the provision to prohibit hybrid solutions and to issue PTRs and FTRs in parallel at the same Bidding Zone Border and suggested in specific situations and subject to approval by the relevant NRAs, a parallel allocation of PTRs and FTRs shall be allowed. 5) 1 party suggests to add in paragraph 3 “appropriate moment of the allocation” It is necessary to decide at what moment in time the allocation will take place (simultaneously with other allocations, or not ..) 6) 1 party suggests to add in paragraph 3 “Auction time of each product”
Changes made	Rewording proposals were included and identified inconsistencies were corrected. The role of the Allocation Platform and TSOs was precised.
Explanation for change or no change	FWGL says that PTRs or FTRs shall be issued. In this context it is not required to highlight financial products, since the provision apply equally to both products. CfDs are not defined as LTR. In Art. 35 the NC addresses the allocation of cross zonal capacity. CfDs are not linked to the physical capacity (purely financial) and are therefore not relevant in this context. The code does

	not preclude any other risk hedging product to be issued (any risk hedging product could be issued by any market participant). On synthetic FTRs the DT will continue the dialog also with ACER. Regarding the decision on risk hedging products, Market Participants views are taken into consideration during the consultation phase of the NRA evaluation. System Operator and TSO definitions are currently under review in the framework of NC CACM, thus this article will be updated according to the outcome of that review. In addition, merchant lines are already covered by this Network Code as long as they are classified as TSO Merchant line. In line with the Regulation 714/2009 the maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation. The NC complies with this provision. When defining the splitting between different timeframes SO take into account the MPs needs within market consultations. The provision to prohibit hybrid solutions and to issue PTRs and FTRs in parallel at the same Bidding Zone Border comes from the FWGL. Generally it would decreases the liquidity of LTR on these borders.

Article 47 – AMENDMENT OF THE TYPE OF LONG TERM TRANSMISSION RIGHT

Summary	8 comments were received on this Article, split across all three paragraphs. Common themes emerged: 1) 2 respondents asked for a clearer wording of paragraph 3d so it's clearly understood that what is going to be reviewed is the type of Long Term Transmission Right to be allocated in future allocations. 2) 2 respondents corrected a typo in the cross-reference to Article 46 in paragraph 1a. 3) 3 respondents asked to give a role to Market Participants in the launching of the review (1 asked to give the role to the owner, 1 to the MPs in general and 1 to the Stakeholders Committee). 4) 1 respondent asked generally which is the treatment for borders with non EU states.
Changes made	Rewording proposals were included and identified inconsistencies were corrected. Additionally this article has been merged with the previous one "Type of Long Term Transmission Rights" in response to ACER's request.
Explanation for change or no change	NC does not impede Market Participants to ask NRAs to launch the review. In addition, Market participants already have a role in the review of the type of long term transmission right through the consultation where they can express their views and make their proposals. Borders with non EU states fall out of scope of this NC being up to TSOs and NRAs the decision on how to manage these borders.

Article 48– PHYSICAL TRANSMISSION RIGHTS

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 49– FINANCIAL TRANSMISSION RIGHTS - OPTIONS

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 50– FINANCIAL TRANSMISSION RIGHTS - OBLIGATIONS

Summary	8 comments were received on this Article, split across all three paragraphs. Common themes emerged: 1) 4 respondents asked to include in the code the Synthetic FTRs as a combination of CfDs. 2) 2 respondents not to include FTRs Obligation in the Network Code. 3) 2 respondents asked to consult Market Participants on the issuance of FTRs obligations and in the definition of the rules for FTRs obligations.
Changes made	The provision to develop a proposal for common rules for the implementation of Financial Transmission Right Obligations is optional in the new draft.
Explanation for change or no change	FWGL says that PTRs or FTRs shall be issued. In this context it is not required to highlight financial products, since the provision apply equally to both products. The code does not preclude any other risk hedging product to be issued (any risk hedging product could be issued by any market participant). On synthetic FTRs the DT will continue the dialog also with ACER. Regarding the decision on risk hedging products, Market Participants views are taken into consideration during the consultation phase of the NRA evaluation. FTRs Obligations are one of the products considered in the FWGL and in this sense they must be contemplated in the NC. In addition these products are already in place in some Bidding Zone borders.

Article 51– PRINCIPLES FOR LONG TERM TRANSMISSION RIGHTS REMUNERATION

Summary	19 comments were received on this Article, split across all three paragraphs. Common themes emerged: 1) 7 comments were made in order to update the remuneration principles for the cases where synthetic transmission rights are allocated. 2) 2 respondents expressed their support to revenue adequacy (1 of

	them also asked to manage the TSO risk through revenue adequacy and avoid the implementation of a LTFD). 3) 2 respondents asked to delete the revenue adequacy criteria 4) 1 respondent asked to give more detail on the revenue adequacy criteria (e.g.: congestion income timeframe) 5) 1 respondent asked to delete FTRs obligations 6) 2 respondent made formal comments 7) 1 respondent asked to consult Market Participants and submit to NRAs for approval the remuneration principle 8) 1 respondent asked to further develop the remuneration principle in paragraph 3 9) 1 respondent asked for a clearer statement on the application of the market spread for the remuneration of the LTRs 10) 1 respondent considers unclear the purpose of the paragraph 51(1) where TSOs develop the remuneration principle and asked to delete it.
Changes made	Rewording proposals were included and identified inconsistencies were corrected.
Explanation for change or no change	FWGL says that PTRs or FTRs shall be issued. In this context it is not required to highlight financial products, since the provision apply equally to both products. The code does not preclude any other risk hedging product to be issued (any risk hedging product could be issued by any market participant) and therefore a reference to these products is not required. A revenue adequacy criterion is relevant for TSOs to ensure that the effectively available congestion income will be high enough to the payment obligations at the moment of the settlement of Long Term Transmission Rights. Revenue adequacy means the condition that links the Long Term Transmission Rights payouts to the collected Day Ahead congestion income in order to mitigate the risk to System Operators of adverse financial deficits due to specific design aspects of Day Ahead Capacity Allocation such as, but not limited to, adverse flows, losses. The remuneration of LTRs will be based on the application of Market Spread between the concerned Bidding Zones respecting the Revenue Adequacy criterion. FTRs Obligations are one of the products considered in the FWGL and in this sense they must be contemplated in the NC. In addition these products are already in place in some Bidding Zone borders.

Article 52– GENERAL PROVISIONS FOR PHYSICAL TRANSMISSION RIGHTS NOMINATION

Summary	10 comments were received on this Article and following themes emerged: 1) One respondent (#476) wanted to delete completely the Article saying it would be a costly process and it is not needed for the market. 2) The remaining comments were about delete the word “progressively”

	and set a concrete deadline (1 or 2 years) for the full harmonisation of the Nomination Rules which is vital for the market. 3) There was a general comment saying it should much more detailed Article and it should set out the flexible nomination procedure (N:M) and the possibility of delegation of nomination task.
Changes made	Flexible (N:M) nomination principle has been made possible
Explanation for change or no change	**Changes in the light of comments:** FWGL foresee greater harmonisation of the nomination rules, deadlines and processes. Thus this Article cannot be deleted from FCA NC and the progressive harmonisation also refers for that. There are some improvements which was done on the relevant definitions in the Definitions part of the FCA NC. According to the comment received by the Stakeholders, Article now includes a flexible nomination procedure and the possibility of the delegation of the nomination task.…

Article 53– AMENDMENT OF NOMINATION RULES FOR PHYSICAL TRANSMISSION RIGHTS

Summary	3 comments were received on this Article and following themes emerged: 1) One respondent wanted to delete completely the Article saying no binding rules are needed in this field. (#499) 2) Another respondent wanted to replace TSOs with NRA saying they should be in a position to initiate reassessment. (#949) 3) The third Stakeholder (404) proposed to respect the existing timelines of Forward contracts/ forward PTRs/ forward Commodity Rights (#404)
Changes made	Article 53 has been merged with Article 52 and a minor improvement has been done
Explanation for change or no change	**Changes in the light of comments:** The proposed replacement has not been done, because NRAs could tell to TSOs at any time to amend and launch a reassessment.

Article 54– TERMS AND CONDITIONS FOR PARTICIPATION IN FORWARD CAPACITY ALLOCATION

Summary	27 comments were received on this Article, split across six paragraphs. Common themes emerged: 2) 5 parties suggested that the eligibility to secondary trading was not linked to eligibility to primary trading and that the Allocation platform should not determine who is eligible for Secondary Trading as a non-TSO platform could fulfil this function. 3) 2 parties suggested that there needs to be a dispute resolution mechanism to handle disagreements (e.g. between TSO and market parties). 4) 5 parties questioned the legality of the inclusion of a market abuse clause in this network code.

	5) 6 parties queried whether minor infringements of allocation rules issues should lead to suspension from the entitlement to trade on the allocation platform. 6) 7 parties suggested that where a market party is suspended from their entitlement to use the allocation platform, both the market party <u>and the TSO</u> should respect their contractual obligations. 7) 1 respondent suggested that only material changes in information should be notified to the Allocation Platform. 8) 1 respondent suggested that the implementation timing is too long. This comment will form part of the timing discussion articles. 9) 1 respondent suggested that the eligibility requirements should be published.
Changes made	Removal of paragraph 4 (market abuse clause). Inclusion of Allocation Platform into paragraph 6 so payment obligations are mirrored between TSO and market participant if market party is suspended from using the allocation platform. Addition to Allocation rules article to cover dispute resolution and a requirement to publish a list of eligible parties for secondary trading.
Explanation for change or no change	**Changes in the light of comments:** 1) The Allocation Rules will determine eligibility rules for both primary and secondary trading, therefore the allocation platform has to publish eligibility for secondary trading. 2) ENTSO agrees and will modify allocation rules article. 3) ENTSO-E agrees, paragraph text will be removed. 4) No change required. ENTSO agree which is why the code provides for it, but not prescribes suspension (i.e. the code gives the right for TSOs to suspend market parties, but it is the TSO decision as to whether to enforce it) 5) ENTSO agree, text added. 6) No change required. ENTSO agree and think this level of detail will be determined in the allocation rules. 7) N/A. This comment will form part of the timing discussion articles. 8) ENTSO agree and they will be as part of the allocation rules.

Article 55– SUBMISSION OF INPUT DATA TO ALLOCATION PLATFORM(S)

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 56– OPERATION OF THE FORWARD CAPACITY ALLOCATION

Summary	12 comments were received on this Article. Common themes emerged: 1) 11 parties queried the timing of auctions, specifically requiring TSOs to provide at least 2 weeks notice before an auction. Further they push for timings of auctions should be subject to consultation and NRA approval. 2) 1 respondent suggested that capacity should be published as soon as it is calculated.
Changes made	None made
Explanation for change or no change	1) Making this a legal requirement in law is not practical for all situations and would reduce the network capacity given to the market as sometimes auctions might need to be called in short notice (e.g. fall back etc.) 2) Available capacity is published as part of the auction specification.

Article 57– PRICING OF THE LONG TERM TRANSMISSION RIGHTS

Summary	2 comments were received: 1) 1 respondent suggested wording improvements with no material impact in changing wording. 2) 1 respondent suggested including a reference to Euro/MW
Changes made	Wording improvements to article.
Explanation for change or no change	**Changes in the light of comments:** 1) Changes made. 2) ENTSO disagrees as this precludes prices being in kW etc. Further no rational suggested for change and this would not align with CACM, therefore no change implemented.

Article 58 – FINANCIAL REQUIREMENTS AND SETTLEMENT

Summary	10 comments were received on this article. One main theme emerged: 1) 9 comments were received on collaterals. Market parties were worried that the TSO/Allocation platform should provide collaterals to them as they needed “a reliable counterparty”. 2) 1 comment suggested that that the single allocation platform should have a centralized settlement process to maximize efficiency.
Changes made	None made
Explanation for change or no change	**Changes in the light of comments:** 1) It would not be practical for TSOs to post collaterals with all market parties. 2) This suggestion will be considered when writing the single platform specification, but it is premature to require this in law as practically it

	may not be implementable.

Article 59 – ESTABLISHMENT OF FALLBACK PROCEDURES

Summary	5 comments were received on this article. Two themes emerged: 1) 2 comments wanted to link the fallback to the detailed allocation rules in Article 70. 2) 1 comment suggested that the postponement cannot be indefinite. 3) 2 comments suggest that the fallback procedures should be subject to consultation.
Changes made	None made
Explanation for change or no change	**Changes in the light of comments:** 1) No change required. The code currently links fallback to allocation rules and requires NRA approval and consultation. 2) No change required which is why the text says the default fallback procedure is postponement to the next auction. 3) No change required. The code currently links fallback to allocation rules and requires NRA approval and consultation.

Article 60 – RETURN OF LONG TERM TRANSMISSION RIGHTS

Summary	14 comments were received on this article. Several themes emerged: 1) 1 comment was concerned whether return of rights would be caught be MiFID. 2) 7 comments support the concept of reverse auctions and see an interaction with the return of transmission rights. 3) 1 comment suggests modifying Article 60.1 and allowing returned capacity to be withdrawn by the TSO. 4) 5 comments highlight that this article only relates to PTRs, when it should relate to both PTRs <u>and FTRs</u>.
Changes made	Wording changes to article to ensure article covers PTRs and FTRs
Explanation for change or no change	**Changes in the light of comments:** 1) No change required. The interaction with MiFID is important and the current text considers it. 2) ENTSO note that the code does not preclude reverse auctions, but think it is premature to start writing it into law when the concept is so little understood with no practical experience. 3) No change required. Withdrawn capacity is subject to the curtailment rules, so no need to change current text. 4) Change required.

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Article 61 – SECONDARY TRADING

Summary	22 comments were received on this article. Several themes emerged: 1) 4 comments were unsure whether only part of a transmission right could be traded in the secondary market. 2) 7 comments were concerned that there was a dual reporting requirement for market parties as they had to notify both the TSO and the allocation platform of the change in right owner. 3) 2 comments had a suggested wording improvement changing concerned with relevant. 4) 6 comments were on the last paragraph and suggest that it is not in line with current practice and not clear. 5) 2 comments want to be able to delegate notification requirements to a third party.
Changes made	Wording improvements to clarify that all or part of transmission rights could be traded. Wording improvements so that the allocation platform is the single point of contact and dual reporting is not necessary. Last paragraph removed as not required and confusing.
Explanation for change or no change	**Changes in the light of comments:** 1) ENTSO agree and will clarify the wording. Include “All or part” 2) ENTSO agree and will clarify the wording so the market parties only have to notify the allocation platform. 3) No change required. 4) Paragraph removed as not necessary as this will be covered by the allocation rules. 5) ENTSO agree and it is already allowed for in the code through the delegation article and will form part of the allocation rules.

Article 62 – DELIVERY OF RESULTS

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	**Changes in the light of comments:** n/a

Article 63 – INITIATION OF FALLBACK PROCEDURES

Summary	6 comments were received on this article, all with a common theme: 1) All comments wanted an explanation as to why fallback was initiated to aid transparency.
Changes made	No change required.
Explanation for	**Changes in the light of comments:**

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change or no change	1) AGREE. No change required as the explanation for fallback will be included in the notification

Article 64 – PUBLICATION OF MARKET INFORMATION

Summary	2 comments were received on this article, both with a common theme: 1) Both comments objected to the use of the word indicative Auction Calendar and wanted it removed as they wanted the calendar to be binding.
Changes made	No changes required.
Explanation for change or no change	**Changes in the light of comments:** 1) Proposed change is not practical. The auction calendar is published so far in advance of date changes may and do occur.

Article 65 – GENERAL TASKS (SINGLE PLATFORMS FOR ALLOCATION AND SECONDARY TRADING)

Summary	10 comments were received on this Article, split across both paragraphs. Common themes emerged: 1) 1 respondent asked to include credit management in the tasks for the Single Platform for Allocation. 2) In the opinion of 1 respondent, the Single Platform for Allocation, as defined by its tasks, is not compliant with the FWGL. 3) 7 respondents suggested that the Single Platform for Secondary Trading should be only a platform for transfer notification. 4) 6 respondents raised concerns that the Single Platform for Secondary Trading would be an (exclusive) trading venue. 5) In the opinion of 1 respondent, the Single Platform for Secondary Trading, as defined by its tasks, is not compliant with the FWGL.
Changes made	Paragraph 1 c) refers now also to the management of collaterals.
Explanation for change or no change	**Changes in the light of comments:** The platform for secondary trading will not be responsible for receiving notifications of transfer. The notification have to be sent to the allocation platform, as this is in practise the issuer of programming authorization or alike. The Single Platform for Secondary Trading is indeed not supposed to involve into trading. It should have only the role of a facilitator. See also the recitals and the supporting document. There was no sufficient reasoning given why and where the tasks of the single platform for Allocation are not FWGL compliant. The followed approach for the Single Platform for Secondary Trading is indeed not fully FWGL compliant in regards to the secondary trading platform. But this has been agreed with ACER and the SAG.

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Article 66 – FUNCTIONAL REQUIREMENTS FOR THE SINGLE PLATFORM FOR ALLOCATION AND THE SINGLE PLATFORM FOR SECONDARY TRADING

Summary	14 comments were received on this Article, split across all paragraphs. Common themes emerged: 1) 3 respondents interpreted the requirement for technical availability and reliability as an implication on the firmness of LT TR. 2) 3 respondents asked to include a reference to Synthetic Financial Transmission Rights. 3) 1 respondent is concerned that the prescribed timescales are not feasible. 4) 4 respondents suggested to introduce a reference to resale mode (e.g. how PTRs can be splitting) as a requirement for the Single Secondary Trading Platform. 5) For 2 respondents, the requirement for consistent contractual framework with Market Participants was misleading.
Changes made	In order to avoid the misunderstanding that technical availability and reliability would refer to firmness, Art. 66 (2) b) and Art. 66 (3) a) has been amended. Furthermore, the requirement for consistent contractual framework has been removed.
Explanation for change or no change	**Changes in the light of comments:** According to FWGL the products to be allocated shall be either PTRs or FTRs. We don't see any reason to explicitly mention any additional product, which has not been studied sufficiently so far. Concerning the timescales, we are on the one hand aware of the challenging nature of implementing a single platform. The timings of the entire process (development of requirements, decision on establishment, implementation) might be optimistic but they should allow even a tendering process. On the other hand there are high expectations from ACER. Besides, rules on splitting up LT TR for secondary trading are not relevant as a requirement of the platform for secondary trading. They are relevant in relation to the allocation rules and processes.

Article 67 – ESTABLISHMENT OF THE SINGLE PLATFORM FOR ALLOCATION AND THE SINGLE PLATFORM FOR SECONDARY TRADING

Summary	7 comments were received on this Article, split across all paragraphs. Common themes emerged: 1) 1 respondent raised concerns that the Single Platform for Secondary Trading would be an (exclusive) trading venue (same as for Art 65). 2) 1 respondent suggested that the Single Platform for Secondary Trading should be only a platform for transfer notification (see Art 65). 3) 3 respondents suggested to introduce a reference to EU Competition Rules in paragraph 3.

	4) 2 comments required more stakeholder involvement in the process of establishing the platforms (in particular paragraph 1 and 2).
Changes made	none
Explanation for change or no change	**Changes in the light of comments:** The Single Platform for Secondary Trading is indeed not supposed to involve into trading. It should have the role of a facilitator. See also the whereas part and the supporting document. The Platform for Secondary Trading will not be responsible for receiving notifications of transfer. The notification have to be sent to the allocation platform, as this is in practise the issuer of programming authorization or alike. The Single Platform for Secondary Trading should have only the role of a facilitator. See also the recitals and the supporting document. Hence for this platform no competition issue exists. It is already foreseen that the requirements for the single platforms and any amendment of them have to be consulted and approved (art. 5 & 8). Hence the mentioned concerns are already covered.…

Article 68 – AMENDMENT OF FUNCTIONAL REQUIREMENTS FOR THE SINGLE PLATFORM FOR ALLOCATION AND THE SINGLE PLATFORM FOR SECONDARY TRADING

Summary	1 comment was received on this Article, asking to introduce NRA approval as a precondition to start the reassessment. Reason: A reassessment of requirements would have an impact on allocated LT TRs.
Changes made	none
Explanation for change or no change	**Changes in the light of comments:** It is already foreseen that the requirements for the single platforms and any amendment of them have to be consulted and approved (art. 5 & 8). Hence the mentioned concerns are already covered. Besides, it has to be stressed that in this article the subject is the amendment of requirements of the platform and not of products.

Article 69 – STRUCTURE AND PROCESS FOR THE ESTABLISHMENT OF HARMONISED ALLOCATION RULES

Summary	1 comment was received on this Article, asking to include at least a high level of concrete auction rules, as auction rules should have the status of a regulation.
Changes made	none
Explanation for	**Changes in the light of comments:**

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change or no change	Art. 70 already represents a high-level summary of auction rules, including reference to several articles across the NC which provide further detail. Reasons for not including more detail on auction rules in the NC are given in the recitals.

Article 70 – REQUIREMENTS OF HARMONISED ALLOCATION RULES

Summary	13 comments were received on this Article, split across all paragraphs. Common themes emerged: 1) 3 respondents suggested to require also the drafting of harmonised allocation rules for synthetic Financial Transmission Rights. 2) 1 respondent suggested the chapter on harmonised allocation rules to be more detailed based on the results of the ACER consultation. 3) 1 respondent asks to explicitly mention that Allocation Rules form the contractual Relationship between MPs, Platform and TSOs. 4) 3 respondents criticised the use of the word “collusion” to be inappropriate and partly suggested alternatives. 5) 1 respondent asked to clarify that credit cover requirements are included in the financial requirements. 6) 1 respondent asked to include dispute resolution under (2) k). 7) 1 respondent asked to delete paragraph 3. 8) 1 respondent asked to include several additional items under (2) k). 9) 1 respondent suggested to allow regional specificities only after specific NRA approval (paragraph 3).
Changes made	The word collusion has been removed, as it only represents one of the cases e.g. for suspension. “Dispute resolution” has been included.
Explanation for change or no change	**Changes in the light of comments:** According to FWGL the products to be allocated shall be either PTRs or FTRs. We don't see any reason to explicitly mention any additional product, which has not been studied sufficiently so far. Art. 70 already represents a high-level summary of auction rules, including reference to several articles across the NC which provide further detail. Reasons for not including more detail on auction rules in the NC are given in the recitals. The recitals and Art. 70 (2) k) implicitly mention the reference to contractual framework already. There is already a cross reference to art. 58 (2), which explicitly mentions collaterals (= credit cover). Other items that were proposed to be included are already covered under other letters or were too detailed.

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Article 71 – INTRODUCTION OF HARMONISED ALLOCATION RULES

Summary	4 comments were received on this Article, split across both paragraphs. Common themes emerged: 1) 3 respondents suggested to require also the introduction of harmonised allocation rules for synthetic Financial Transmission Rights. 2) 1 respondent is concerned that the prescribed timescales for the introduction of harmonised allocation rules are not feasible.
Changes made	none
Explanation for change or no change	**Changes in the light of comments:** According to FWGL the products to be allocated shall be either PTRs or FTRs. We don't see any reason to explicitly mention any additional product, which has not been studied sufficiently so far. Concerning the timescales we are on the one hand aware of the challenging nature of developing harmonised allocation rules. On the other hand there are high expectations from ACER (see the revised cross regional roadmap).

Article 72 – AMENDMENT OF THE HARMONISED ALLOCATION RULES

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 73 – GENERAL FIRMNESS PROVISIONS

Summary	76 comments were received on this Article, split across all paragraphs from 22 organisations. Common themes emerged: 1) Buy-back of capacity via reverse auctions instead of curtailment prior to DAFD at own TSO discretion. Reasons for the buy-back should be published in a platform and the reverse auction has to be notified well in advance to market parties (at least one day). Rules for reverse auctions are to be transparent, subject to stakeholder consultation and NRA approval. Reverse auctions are specially indicated for cases in which the curtailment need is known well in advance. The maximum undisclosed purchase price for TSOs should be communicated to NRAs. If no time left for organizing the reverse auction, TSOs could participate to the 2ary Market, subject to prior warning to the market (2 hours in advance minimum) and notification to NRAs. Mixed systems combining buy-back via reverse auctions (first) and curtailment (as very last resource) on the basis of efficiency are also possible 2) Curtailment should only take place under FM or Emergency Situations and these latter should be adequately defined. When it happens, curtailment should never be discriminatory

	3) Curtailment should only be physical (for PTRs), financial firmness for all products should be guaranteed at all stages. A physically curtailed PTR would then be equal to a financially firm FTR, which cannot be curtailed in any way since it is financial (Nordics mainly). Curtailment should be substituted by the capacity buy-backs above (most of the rest). Others advocate for full physical firmness at all stages (one stakeholder only), or just after nomination (one stakeholder only) 4) Some HVDC owners are generally supportive of the current drafting of this Article and of the Firmness Section in general
Changes made	The article has been rephrased based on the updated firmness regime.
Explanation for change or no change	**Changes in the light of comments:** • TSOs can only curtail to ensure system security and as a last resource (framework clarified), this cannot be done at will (same as before, but further clarified) • Reporting on curtailments to NRAs on a yearly basis • Caps and their types are firstly defined here • Clarification that caps are in the compensation rules (and please notice that these ones are subject to NRA approval) • *“Buy-back”:* the FCA NC does not preclude a buy-back from being organised. A study will be performed ex-post FCA NC approval in order to examine this possibility. With respect to any capacity buy-back reverse auctioning scheme (announced with sufficient time of advance), the following aspects need to be noticed. Sometimes the Force Majeure or Emergency Situation nature of the event will not enable for sufficient time to organise such auction. TSOs have no adequate means (as previously expressed) to calculate their “maximum undisclosed” price of buy-back from market parties. This mechanism to internalise in the market the expected curtailment costs is flawed in the sense that the price expectations of market parties (and thus of the estimated curtailment costs) will automatically change the moment TSOs announce a buy back. This would lead to a paradoxical situation in which buy-backs become more difficult (expensive) the moment they are announced/needed… Any correct market internalisation mechanism should at least comply with the following four conditions: 1) allow for sufficient time for its organisation even in the case of Force Majeure or Emergency Situations, 2) be neutral towards market parties price expectations (this means potential curtailment costs should be evaluated before any curtailment has been announced), 3) avoid forcing TSOs into having to anticipate in a detailed manner the outcome of future market results, since it is not within their role to do so, 4) interact with the Firmness Regime in a clear way. The proposed method does not comply with these • *“Curtailment should only take place under FM or Emergency Situations, these latter should be adequately defined. When it happens, curtailment should never be discriminatory”*: Curtailment only happens under exceptional circumstances (non-discriminatory) already defined in the CACM which is applicable to the FCA NC. The

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	FM and Emergency Situations are defined in the FCA NC. The comment has been incorporated and clarification has been introduced • *"Curtailment should only be physical (for PTRs), financial firmness for all products should be guaranteed at all stages"*: not incorporated at this stage since financial products are not firm "by design", they are not so in other markets either, where FTR obligations are curtailed too via a hair-cut approach (socialisation of counterparty risk credit failures), just to quote an example. *"Curtailment should be substituted by the capacity buy-backs above"* (not incorporated at this stage): other parties have advocated for a combination of buy-backs and curtailment. *"Full physical firmness at all stages"* (not incorporated): the FWGL introduce the possibility for caps

Article 74 – THE LONG TERM FIRMNESS DEADLINE

Summary	41 responses have been received on this Article from 16 organizations. Main comments emerged: 1) The LTFD is not needed and would make efficient hedging not possible, which would in turn lead to less competition; therefore the whole Article should be deleted. The DAFD shall suffice. The LTFD is not in line with the FWGL 2) LTFD would transmit the wrong incentive of curtailing more to TSOs, since these latter would pay less for early curtailments. Some caps at the beginning of the timeline are OK though 3) Release less capacity for the LT via the Split Rules, but make it more firm instead (one stakeholder) 4) If a LTFD would be fixed it should take into consideration liquidity of the markets and the possibility (time left) for MPs to adjust their XB positions (one stakeholder association) 5) Many agents mention that the LTFD is not consulted with stakeholders, not subject to NRA approval and that it involves no harmonization process among regions of the timestamp where it will be located
Changes made	The article has been updated along with the mandatory long term firmness deadline which is for PTRs the nomination deadline. For place of LTFD in case FTRs are introduced a time range is given in this article.
Explanation for change or no change	**Changes in the light of comments:** • The LTFD is now compulsory, not an option. Please notice that the LTFD as the compensation rules is subject to NRA approval • Clarification of the placement of the LTFD (for PTRs and for FTRs) • Explanation of the firmness regime applicable before LTFD and after it (further clarification in the next article on caps) • "The LTFD is not needed and would make efficient hedging not possible, which would in turn lead to less competition; therefore the whole Article should be deleted. The DAFD shall suffice. The LTFD is not in line with the FWGL" (not incorporated): the DAFD shall not

	suffice since this latter one is pan-European and Nomination Deadlines vary from region to region. If LTRs need to be financially firm after Nomination Deadline, then a LTFD is needed. The LTFD is not FWGL-incompliant if placed where the code suggests (at Nomination Deadline for PTRs and with sufficient time to adapt cross-border positions for FTRs) • "LTFD would transmit the wrong incentive of curtailing more to TSOs, since these latter would pay less for early curtailments" (not incorporated at this stage): TSOs only curtail in case of FM or Emergency Situations for reasons of system security, the production of this is a physical event and completely independent from compensation definitions. "Some caps at the beginning of the timeline are OK though" (incorporated): see caps before LTFD in the next article • "Release less capacity for the LT via the Split Rules, but make it more firm instead" (one stakeholder) (not incorporated at this stage): a permanent 100% physical risk coverage for all FM and Emergency Situations by releasing less capacity in the LT is probably not the best solution for the market since we would be increasing the price of this LT capacity considerably and the situations mentioned are very far from being recurrent • "If a LTFD would be fixed it should take into consideration liquidity of the markets and the possibility (time left) for MPs to adjust their XB positions" (an stakeholder association) (fully considered in the drafting indeed) • Many agents mention that the LTFD is not consulted with stakeholders, not subject to NRA approval and that it involves no harmonization process among the regions of the timestamp where it will be located (incorporated and clarified): in fact the stakeholder consultation, the NRA approval and the process of harmonization were already implicitly included in the fact that the Firmness Regime had to be approved within the compensation rules of the Regional AR (which are also subject to a process of harmonization). It has to be considered that this way of proceeding is more efficient, so as to avoid performing several consultations and approvals for the very same items that are included (all of them) in the AR.

Article 59 (new article, and based on the new numbering, based on received comments) – DEFINITION OF CAPS

Summary	Several comments received on this. Initial Price Paid Compensation is not acceptable in general (except the cases of Force Majeure or where Market Coupling is not in place) and not in line with FWGL. Compensation regime should be clarified and leave less space for arbitrary implementations. Further specification of the caps as to make them identical to what is specified about them in the FWGL (others defend the view that there should be no caps at all, or that these are a derogation and that, as such, they should disappear with time). One stakeholder suggests to keep the Congestion Income revenue cap,

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	but to eliminate the price cap; another one has the same position, adding to it that Day-ahead Congestion Income should also be included to determine the Congestion Income-based cap. Stakeholders ask DT to consider that normally (on average) LTRs they would have purchased in the past should appreciate with time (otherwise they would not be purchasing them)
Changes made	Completely new text has been drafted.
Explanation for change or no change	**Changes in the light of comments:** • Clarification of the caps by placing them in a separated article and including more details about their definition • Elimination of Initial Price Paid from this new article • Prioritisation of compensations for curtailments between LTFD and DAFD • Incorporation of Day-ahead Congestion Income for the cap calculation between LTFD and DAFD • "Initial Price Paid Compensation is not acceptable in general (out of cases of FM or where Market Coupling is not in place –only some clarified this) and not in line with FWGL. Compensation regime should be clarified and leave less space for arbitrary implementations. Further specification of the caps as to make them identical to what is specified about them in the FWGL" (all incorporated). • Other stakeholders defend the view that there should be no caps at all, or that these are a derogation and that, as such, they should disappear with time (not incorporated at this stage): caps are foreseen in the FWGL as a possibility (first part) and, contrary to transitional measures, derogations do not always necessarily imply a defined temporal duration (second part). • "Day-ahead Congestion Income should also be included to determine the Congestion Income-based cap" (accepted and incorporated for the caps between LTFD and DAFD)

Article 75 – COMPENSATION RULES

Summary	30 comments have been received on this Article from 12 organisations. Main comments emerged: 1) Delete, reverse auctions would make this unnecessary. Outages lasting for longer periods suggested to be placed under reverse auctions too. 2) All binding arrangements to be included in the NC, not in the AR 3) Some stakeholders affirm the compensation rules should be consulted with them and approved by NRAs 4) A stakeholder association signals that we need to include the pre-defined period of time to which the CI cap is referred (referenced in Art.73 as in Art.75 from which it is missing)

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Changes made	The article has been updated along the updated firmness regime.
Explanation for change or no change	**Changes in the light of comments:** • *"Delete the article, reverse auctions would make this unnecessary". Outages lasting for longer periods suggested to be placed under reverse auctions too* (not precluded by the NC, adaption not necessary): please see comments on reverse auctions in Article 73. Derogation for outages lasting for longer periods of time is mentioned in the FWGL as a possibility • *"All binding arrangements to be included in the NC, not in the AR"* (not incorporated): please consider that all the binding contents of the AR should not be placed in the NC due to their frequent change and evolution (the NC cannot be amended very often) • Some stakeholders affirm the compensation rules should be consulted with them and approved by NRAs (fully incorporated): but no change needed, since AR (within which the compensation rules are enclosed) are consulted with stakeholders and approved by NRAs, so the demand was already taken care of by the NC (incorporated) • An stakeholder association signals that we need to include the pre-defined period of time to which the CI cap is referred (referenced in Art.73 as in Art.75 from which it was missing) (incorporated): the issue is solved within the new formulation

Article 76 – THE DAY AHEAD FIRMNESS DEADLINE

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 77 – AMENDMENT OF THE DAY AHEAD FIRMNESS DEADLINE

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 78 – FIRMNESS IN CASE OF FORCE MAJEURE OR EMERGENCY SITUATIONS

Summary	30 comments were received on this Article. Main comments emerged:

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	1) Some respondents notice that “FM and Emergency situation are not the same and must not be conflated. The FG sets this out very clearly”. 2) Some comments reflect that the text is rather unclear in terms of deadlines as they sat that “It is not possible to curtail capacity after the Day Ahead Firmness Deadline….” 3) Notifications ought to be made for emergency situations as well 4) Assigning emergency situation under this article is not in line with FG 5) Curtailed capacity due to emergency situations shall not be compensated equal to the value of the capacity set during the Explicit Allocation process. (=initial price paid), but based on market spread 6) Some respondents say that “the formulation 'value of the capacity set during the Explicit Allocation process' is not clear, might be interpreted in various ways and should therefore be reformulated. 7) Some respondents say that capacity shall always be fully firm no matter what
Changes made	Text has been updated to improve readability
Explanation for change or no change	**Changes in the light of comments:** • Different definitions are ensured by CACM network code • Text has been changed for the sake of readability.

Article 79 – ESTABLISHMENT OF CONGESTION INCOME DISTRUBUTION ARRANGEMENTS

Summary	1 comment was received on this Article, asking further clarity on the concept and process of sharing Congestion Income in relation to both BritNed and its customers.
Changes made	none
Explanation for change or no change	**Changes in the light of comments:** Comment was made on grey text, i.e. text from CACM NC, and can thus not be solved by the FCA NC.

Article 80 – AMENDMENT TO CONGESTION INCOME DISTRIBUTION ARRANGEMENTS

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 81 – GENERAL PROVISIONS (COST RECOVERY)

Summary	6 comments were received on this Article, split across both paragraphs.

	Common themes sages emerged: 1) 5 respondents suggested to remove “best endeavours” from paragraph 3. 2) 1 respondent is concerned of cost recovery for BritNed.
Changes made	None
Explanation for change or no change	**Changes in the light of comments:** All comments were made on grey text, i.e. text from CACM NC, and can thus not be solved by the FCA NC.

Article 82 – COST OF ESTABLISHING, DEVELOPING AND OPERATING THE SINGLE PLATFORM FOR ALLOCATION AND THE SINGLE PLATFORM FOR SECONDARY TRADING

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 83 – COST OF ESTABLISHING AND OPERATING COORDINATED CAPACITY CALCULATION PROCESS

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 84 – COST OF ENSURING FIRMNESS

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

Article 85 – GENERAL PROVISIONS (TRANSITIONAL ARRANGEMENTS)

Summary	1 comment was received on this Article, asking for a more ambitious approach by removing “as far as possible”.
Changes made	Proposal has been adopted, i.e. “as far as possible” removed.
Explanation for change or no change	

Article 86 – REGIONAL PLATFORMS FOR ALLOCATION AND/OR SECONDARY TRADING

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Summary	6 comments were received on this Article, split across both paragraphs. Common themes emerged: 1) 5 respondents suggested that existing platforms could be used for allocating Synthetic Financial Transmission Rights as CfDs (paragraph 2). 2) 1 respondent identified some lacking clarity with regards to point in time up to which existing platforms can be used.
Changes made	None
Explanation for change or no change	According to FWGL the products to be allocated shall be either PTRs or FTRs. We don't see any reason to explicitly mention any additional product, which has not been studied sufficiently so far. Furthermore, the code does not deal with CfDs as they are purely financial instruments Furthermore there was no change for concerning the timing proposed by the stakeholder. In our view the duration of regional platforms was clearly described in art. 87.

Article 87 – DURATION OF REGIONAL PLATFORMS

Summary	10 comments were received on this Article (paragraph 1 and 3), suggested that existing platforms could be used for allocating Synthetic Financial Transmission Rights as CfDs.
Changes made	None
Explanation for change or no change	According to FWGL the products to be allocated shall be either PTRs or FTRs. We don't see any reason to explicitly mention any additional product, which has not been studied sufficiently so far. Furthermore, the code does not deal with CfDs as they are purely financial instruments.

Article 88 – REGIONAL ALLOCATION RULES

Summary	4 comments were received on this Article (paragraph 3), suggested that existing platforms could be used for allocating Synthetic Financial Transmission Rights as CfDs.
Changes made	None
Explanation for change or no change	According to FWGL the products to be allocated shall be either PTRs or FTRs. We don't see any reason to explicitly mention any additional product, which has not been studied sufficiently so far. Furthermore, the code does not deal with CfDs as they are purely financial instruments. Furthermore, the change proposal is not suitable, as the article does not refer to platforms directly.

Article 89 – TRANSITIONAL ARRANGEMENTS FOR FIRMNESS

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Summary	10 comments were received on this Article. Main comments emerged: 1) 7 respondents recommended to delete the article on grounds that “Market participants need firm Long Term Transmission Rights and the same compensation rules can be used also without market coupling.” 2) 2 respondents do not ask for deletion, but have the same message “There is no reason to wait 'until price coupling' is in place, one should assume it is in place, and even if it is volume coupling or an alternative day ahead process, the same rules can be applied. 3) An association of stakeholders has the same message that “There are other means by which prices spreads can be used even without market coupling”
Changes made	The article has been updated.
Explanation for change or no change	**Changes in the light of comments:** The current text says “These transitional arrangements shall be fair, transparent and non-discriminatory. Compensation for curtailment of Long Term Transmission Rights on Bidding Zone Border(s) where Day Ahead Market Coupling has not been introduced yet shall be equal to at least the Initial Price Paid.” allowing different compensation method than Initial Price Paid.

Article 90 – TRANSITIONAL ARRANGEMENTS ACCORDING TO THE NETWORK CODE ON CAPACITY ALLOCATION
AND CONGESTION MANAGEMENT

Summary	…
Changes made	…
Explanation for change or no change	**Consistency and phrasing changes:** … **Changes in the light of comments:** …

Article 91 – ENTRY INTO FORCE

Summary	No comments were received on this article
Changes made	n/a
Explanation for change or no change	n/a

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7 ANNEX 3 - LONG TERM CAPACITY CALCULATION

7.1 BACKGROUND

The focus of coordinated capacity calculation has been on D-2 timeframe due to the importance of day-ahead cross zonal capacity allocation, and not on Long Term (yearly & monthly) Capacity Calculation (LT CC). The current state of capacity calculation is generally:

- Within each TSO: experience has been gained during last years, especially on D-2 timeframe. LT CC is based on a historical value possibly adjusted with experience of some people or annual capacity calculations with some forecasted scenarios.
- At European level: PCG & AHAG work focused on D-2 timeframe, only some work on LT CC has been done, i.e. to have several scenarios to reflect uncertainty, but without any further investigations or pilot projects. Capacity Calculation chapter of CACM NC is in line with the agreed methodology to perform a Capacity Calculation in short term (day-ahead and intraday) and generally compliant with longer calculation timeframes when such methodologies are used.

7.2 CONTENT OF FCA NC

Draft version of FCA NC applied the process of short term CC to Long Term CC, and described a coordinated LT CC based on a security analysis performed on scenarios of Common Grid Model relevant for the LT CC. Basically, when applied to the LT CC, this is:

- Constitute either a pessimistic scenario within a Common Grid Model, or a set of scenarios within Common Grid Model
- Constitute a Generation Shift Key (GSK) for each Bidding Zone, identify critical network elements and critical contingencies, and provide available remedial actions
- To handle uncertainties between the market time period to be assessed and the CC timeframe, several means are available :
    - sizing of reliability margin
    - quantity of remedial actions given to the CC compared to those kept for firmness (but the remedial actions given to the CC should be the same for all timeframes)
    - scenarios used: a single pessimistic or several scenarios
- Perform a security analysis to size the available margin or maximum power flows on critical network elements
- Use the available margin or maximum power flows on critical network elements to define the Cross Zonal Capacity (coordinated NTC or FB approach)

7.3 OBJECTIVE OF LT CC AND POSSIBLE METHODOLOGIES

7.3.1 GENERAL OBJECTIVE OF LT CAPACITY CALCULATION

The LT CC may have two objectives which cannot be satisfied simultaneously:

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- The first is related to the Forward Network Code, to determine how to set volumes of LT Transmission Rights, in order to give to Market Participant hedging opportunities against market spread for day-ahead timeframe. For instance, the size of the yearly capacity could be a single value corresponding to the minimum of the expected capacity.
- The second is related to transparency in order to give information to Market Participants about the indicative level of cross zonal capacity available for D-1 allocation (at a given granularity which could be for instance be weekly or monthly), thanks to the planned information already known by TSOs, being mostly thermal capacity (with seasonal variations) and forecasted planned outages of grid elements and power plants. This information contributes to the quality of forward prices on energy market. For instance, the yearly capacity profile could be one value per month corresponding to the monthly average of the expected capacity).

An illustration is shown in Figure 1 below.

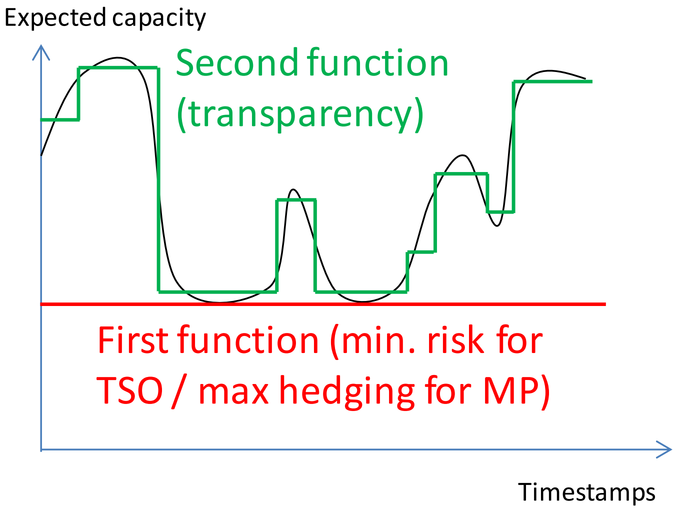

FIGURE 3. FUNCTIONS RELATED TO LT CAPACITY.

For the purpose of this document we refer only to the first objective, i.e. to the LT transmission capacity that could be entirely allocated in Long Term, at the given time frame (yearly /monthly) as it is relevant for FCA NC.

Further consideration for the first goal (sizing of LT capacity):

- There are two conflicting objectives for TSOs when defining the size of LT capacity :
  - First is to maximize the LT capacity in order to maximize hedging opportunities for market participants
  - Second is to minimise the risk for TSOs of allocating too much LT capacity.

  The risk for TSOs is linked to the firmness regime of LT capacity, when the D-2 Cross Zonal capcity is calculated to be lower than the LT allocated capacity. This risk is especially for TSOs to pay the (uncapped) market spread, either directly or indirectly through D-1 resale costs exceeding D-1 allocation revenue.

- It has to be noted that in the scope of CACM NC, there is no physical risk when TSOs allocate too much capacity in LT, because whatever is the firmness regime of LT rights, it is always possible for TSOs to propose to the Market Coupling a lower capacity than the one which has been allocated in LT, which have financial consequences for TSOs (more resale costs than allocation revenue in D-1). This statement is always valid for FTR, and is usually valid for PTR as in a Market Coupling the volume of LT nominations is low.
- LT CC is usually performed by using two methodologies, which are interdependent :
  - 1. The methodology to define the LT capacity at a given timeframe (e.g. monthly)
  - 2. The splitting of the LT capacity at that given timeframe, into different products to be allocated among different future timeframes (e.g. monthly, weekly if any, and daily)

  These two methodologies are interdependent because the LT capacity calculation is usually to be very different whether 20 % or 100 % of the LT capacity is allocated in LT capacity allocation. This reflects that currently the primary goal of such LT capacity calculation is always focused on the first goal of LT CC (manage the conflicting objectives of maximizing hedging opportunities against minimizing risk for TSOs), and not the second one (transparency for forward market). Then the first function (size LT product) is a mandatory function of LT CC, but the second function (information for forward market) is currently an optional one and not dealt in FCA NC.

To avoid dependency between the methodology to defined the LT capacity, and the methodology to share it among the different timeframes, the proposed objective of the LT CC at a given timeframe shall be to size the capacity profile which could be 100 % allocated in that timeframe. The rule to split capacity between timeframes can then be defined independently.

In the following, we will keep as the only objective of a LT CC the ability to size the LT capacity (which could be 100 % allocated in that timeframe). The "transparency" objective is omitted as it is not relevant for FCA NC Capacity Calculation methodologies.

7.3.2 Possible methods for LT CC

Two methods are currently under discussion, in the framework of CACM & FCA NCs:

- LT CC based on security analysis on multiple scenarios describing the uncertainty related to LT CC.
- Statistical methods applying calculated D-2 Cross Zonal Capacities or realised Capacities, which are result of coordinated capacity calculation either with FB or coordinated NTC approach. The reasoning behind this is that as long as we apply statistics on already coordinated D-2 capacities within the Capacity Calculation Region, the resulting LT capacity will be also coordinated.

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7.4 LONG TERM CAPACITY CALCULATION BASED ON SECURITY ANALYSIS ON MULTIPLE SCENARIOS

The basic idea of this approach is to use an agreed forecast(s) represented by set of scenarios for given long term period including relevant/critical operational conditions which may have impact on cross zonal capacity level. When compared to the short-term stage (DA or ID) the most challenging thing here is to gain representative and reasonable set of scenarios.

The coordinated LT capacity calculation process comprises the following steps:

- Definition of set of scenarios for each timeframe
  - Ex-ante agreement on net position(s) of relevant bidding/control areas for given scenario(s)
- Two possible options for CGM:
  - Provision of Individual Grid Models and merging process to build CGM
  - Build a reference model using previous set of scenarios definition
- Coordinated outage planning of relevant elements for each region
- Additional inputs for capacity calculation
  - Operational Security limits for steady analysis
  - Generation / Load Shift Keys
  - Available Remedial actions to be considered.
  - Capacity split into individual borders
  - Reliability Margin
- Calculation of LT Capacity values to be allocated
  - Splitting total values into different timeframes
  - Evaluation of risk level
- Validation process

7.4.1 DEFINITION OF SCENARIOS FOR EACH TIME FRAME

The set of scenarios for each LT capacity calculation timeframe shall be defined by all System Operators for use in the Common Grid Model. The best forecast of expected power system conditions for the specified scenario at the moment of calculation will be used for each scenario.

Long term capacity calculation process is performed, taking into account the system security and the needs of market participants. It will take place at least at the yearly and monthly timeframes, and will be coordinated among System Operators, at least at regional level.

An example of basic set of scenarios for these timeframes is (as based on the Operational planning NC):

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- Yearly calculation.

Season	Consumption
Winter	Peak / off-peak
Spring	Peak / off-peak
Summer	Peak / off-peak
Autumn	Peak / off-peak

- Monthly calculation.

Month	Consumption
January	Peak / off-peak
February	Peak / off-peak
…	Peak / off-peak
December	Peak / off-peak

Additionally, net position for each bidding zone and flow for each DC Line by applying common rules will be fixed for each scenario.

The above stated scenarios should be taken as a common minimum, and, if necessary, additionally another sub-set of derived scenarios may be prepared, at least on regional level.

7.4.2 Common Grid Models and Additional Data

Individual Grid Model approach

Each System Operator shall provide an Individual Grid Model (IGM) representing the best forecast of transmission system conditions for the specified scenario at the moment at which the Individual Grid Model is created. Individual Grid Models shall cover relevant network elements of the Transmission System, but as a minimum all the 400kV and 220kV grid.

The Individual Grid Models shall include the new assets relevant for the capacity calculation that will be commissioned during the period covered for the capacity calculation process. IGMs will not include opened elements belonging to the relevant elements list unless there is an agreed relevant outage over most duration of the period represented. Internal topology will be the best forecast of the specified scenario.

Reference common grid model approach

In order to make the whole process more efficient, it may be used also an alternative approach, when in the beginning a so-called reference CGM would be (based on ex-ante agreement between System Operators) chosen and updated/amended later on consecutively by all TSOs. At the end of this process, there is common reference model actualized to reflect the expected operational conditions. The critical question here is, whether the net positions taken from the reference CGM could be considered as relevant, or will be updated according to defined rules.

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7.4.3 Coordinated outage planning of relevant elements

For each region, the coordinated outage planning of relevant elements is needed to be defined in advance. If an agreed relevant outage is forecasted to cope most duration of the period represented by one scenario, it will be included in the corresponding IGM.

7.4.4 Additional inputs for capacity calculation

Additionally the following inputs for Capacity Calculation will be provided:

- Operational Security limits for analysis (permanent admissible transmission limit of the critical network elements, voltage limits for each substation, and where needed also stability limits)
- Generation / Load Shift Key
  Merit order list of generating and/or load units represented in the IGM whose active power generation/consumption value will be modified during the capacity calculation process.
- Reliability Margin
- Remedial actions to be considered , if availability can be guaranteed in LT timeframe

7.4.5 Calculation of LT capacity values

LT Capacity values will be calculated using Net Transmission Capacity approach at least at a regional level. Starting from a CGM capacity calculation will be performed as following:

- Modifying progressively the net position of a bidding (control) zone applying the GSK. E.g. increasing generation in one bidding zone and reducing it in the adjacent ones. It may be the case, that GSK may comprise part of load (Load Shift Key). For each step of increase/decrease of cross zonal power exchange active and reactive power flow and voltage analyses in steady state is performed (if necessary further dynamic analyses may be done). The process of modification of the net position is performed until a violation of Operational Security Limits is detected.
- In case of a violation is detected, if applicable, remedial action is considered.
- The maximum power flows between two bidding zones compliant with the Operational Security Limits after considering available remedial actions is identified.
- Once maximum power flows is calculated for each pair of adjacent zones and direction, these values are reduced by the Reliability Margin value resulting the NTC capacity values
  - The most critical step is to split the obtained maximum power flows among bidding zone borders to ensure coordination in calculation and give capacity to the borders where it is valued most
  - Splitting capacity values for different allocation timeframes

An example of the result for peak scenarios in a yearly timeframe and for each outage included in the agreed outage planning is shown in the tables below.

TABLE 1. EXAMPLE OF CAPACITIES CALCULATED IN YEARLY TIMEFRAME FROM FRANCE TO SPAIN APPLYING PEAK SCENARIOS AND PLANNED OUTAGES.

BEGINNING DATE	END DATE	F->E
		PEAK
10/04/2012	11/04/2012	500
12/04/2012	13/04/2012	800
16/04/2012	16/04/2012	0
17/04/2012	18/04/2012	0
23/04/2012	11/05/2012	800
12/05/2012	13/05/2012	700
14/05/2012	29/06/2012	600
09/07/2012	13/07/2012	1000
24/07/2012	25/07/2012	500
28/07/2012	31/07/2012	900
01/08/2012	19/08/2012	1000
21/08/2012	21/08/2012	200
10/09/2012	23/09/2012	300
24/09/2012	07/10/2012	400
08/10/2012	23/11/2012	600

TABLE 2. CAPACITIES CALCULATED FRANCE TO SPAIN.

PERIOD	MONTH	F->E
		PEAK
WINTER	January,February, November, December	1100
SPRING	April, May	1200
SUMMER	June, July, August	1000
AUTUMN	September, October	1200

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7.4.6 DEFINITION OF CROSS ZONAL CAPACITY FOR FORWARD CAPACITY ALLOCATION

All System Operators of each Capacity Calculation Region shall ensure that long term Cross Zonal Capacity is calculated for each Forward Capacity Allocation.

Starting from the total NTC result of the capacity calculation process described in previous chapter, a set of values for Forward Capacity Allocation is defined by splitting in the different timeframes allocation (e.g. yearly, monthly, D-2 and ID).

In order to cover special periods of very low values of capacity, LT products – especially yearly capacities – can be defined with exception periods.

For the previous example, a capacity value of France -> Spain NTC of 300 MW was allocated in the yearly value with 34 days of possible no availability.

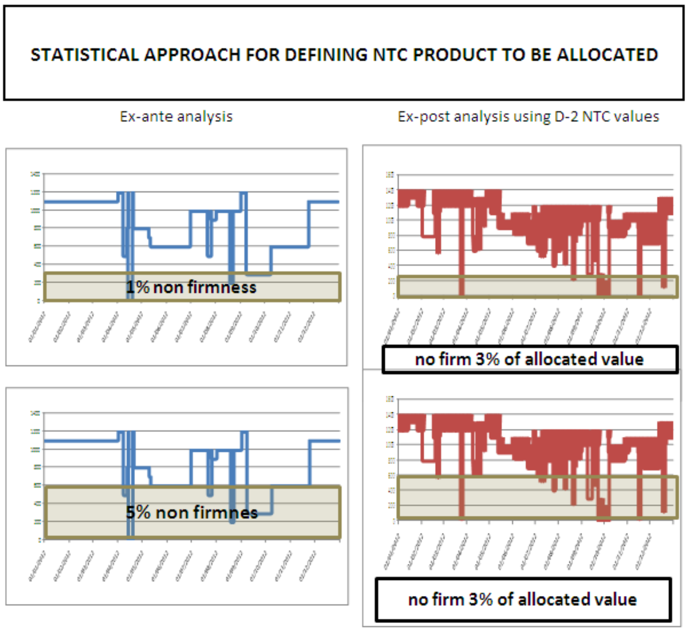

FIGURE 4. STATISTICAL APPROACH TO NTC PRODUCT.

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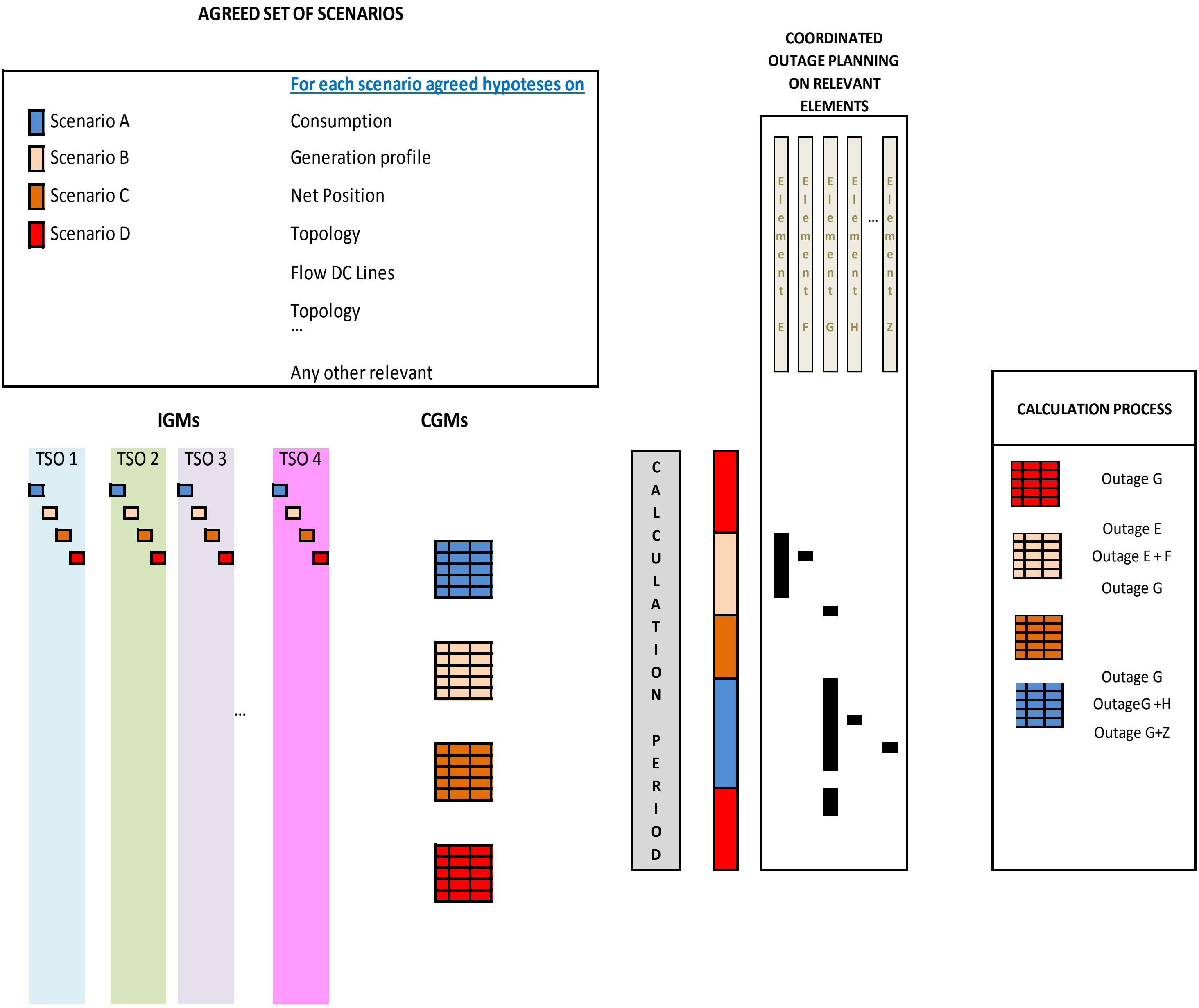

FIGURE 5. CALCULATION PROCESS AND SCENARIOS.

7.5 Long Term Capacity Calculation based on statistical method

7.5.1 Abstract of the statistical LT CC method

Goal for statistical LT CC method:

Calculate a LT capacity that can be fully allocated at the given LT time frame (yearly / monthly), while achieving:

- Maximize LT capacity
- Minimizing curtailment risk (or more generally: control risk of allocating too much LT capacity)

Hypothesis for statistical LT CC method:

- The process describe the sizing of yearly capacity
- The yearly product to be allocated at the yearly auction equals 100 % of the calculated LT capacity (minimize the link between the splitting rule among allocation timeframe and risk of allocating too much capacity in LT)
- Historical conditions were coordinated for capacity calculation and similar conditions are expected for the future

Method to calculate LT capacity:

1. Choice of a data set (minimum: D-2 Cross Zonal Capacities)
    - Optional: enhance the data set (planned outages, removal of undesired events, …)
2. Choice of the indicator of risk
3. Choice of the accepted level of risk
4. Optional, and to be analysed whether it is applicable: choice of the model to describe the data distribution (Normal distribution, other distributions...) and calculation of its characteristics
5. Set the LT capacity respecting the accepted level of risk while maximizing capacity

7.5.2 Introduction on statistical LT CC method

The reasoning behind a statistical LT CC methodology is to take into account the link between a LT capacity and the accepted level of risk to face LT transmission rights firmness issue, as shown in Figure 2.

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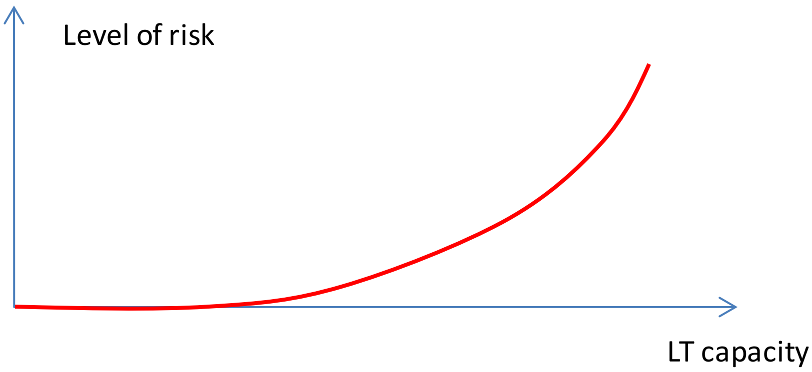

FIGURE 6. LT CAPACITY AS FUNCTION OF RISK LEVEL.

To design the method we assume the "block" product which could be allocated in the entire LT timeframe, with different shape of theoretical D-2 capacities. The "targeted" block is shown in red in Figure 3, the historical D-2 coordinated capacities or realised capacities being in black curves.

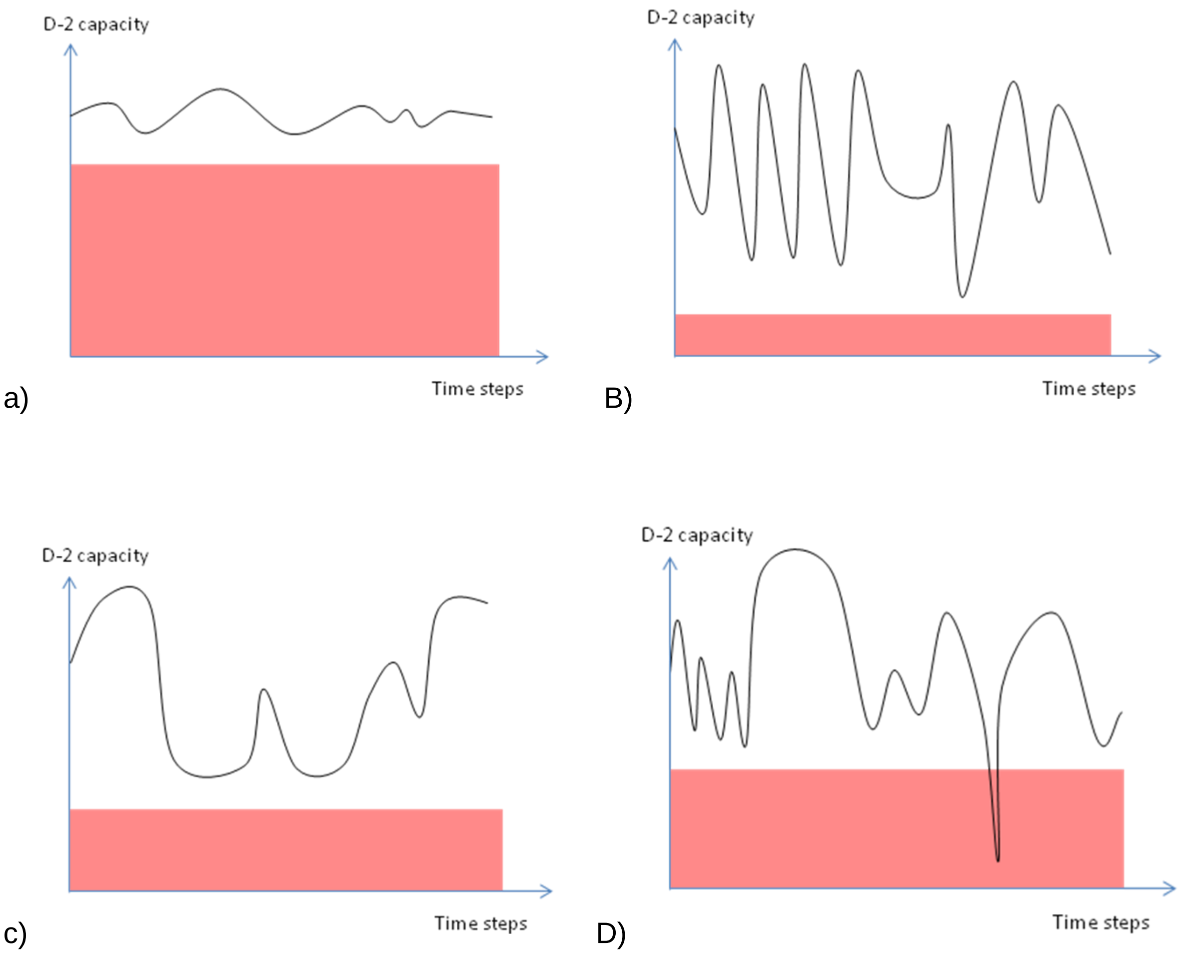

FIGURE 5. LT CAPACITY (RED BLOCKS) DERIVED FROM D-2 CAPACITIES (BLACK CURVES) FOR DIFFERENT KINDS OF D-2 CAPACITIES.

These examples show that the method to define the "block" product shall not depend uniquely of the average value or minimum of historical D-2 capacities, but a combination of them including also volatility of D-2 capacity.

The proposed method is more general than the possible implementation described in next chapter (which covers only part of this process). Generally 2 possible approaches can be investigated:

1. Define a method using only historical D-2 coordinated Cross Zonal Capacities

2. Define an "enhanced" methodology taking into account the impact of planned outages (may be useless in yearly capacity calculation but important for monthly calculations).

A possible implementation of this method has been described in the next chapter. It is, based on using only historical D-2 coordinated Cross Zonal Capacities and to be used for the yearly capacity calculation. First analysis concludes that it could also be used when Flow Based is used as a D-2 CC.

7.5.3 POSSIBLE IMPLEMENTATION OF THE METHOD USING ONLY D-2 COORDINATED CROSS ZONAL CAPACITIES OR REALISED CAPACITY APPLIED FOR YEARLY CALCULATION

CHOICE OF THE DATA SET

On the historical data set to be used, the objective is to:

- have as many data as possible to perform a statistical analysis (take into account many different possibilities of cross zonal exchanges, wind generation, deviation between realized temperature and “normal” temperature, ...)
- limit the data to the one which are relevant to model the future behaviour of capacities:
- if the D-2 CC methodology had been changed recently, then only the data corresponding to the period where this new D-2 CC methodology was in place shall be kept to model the future.
- If the state of the system had been severely modified, having a large impact on D-2 capacity (large renewable capacity connection, decommissioning of many power plants ...) only take into account the data within the period corresponding to these changes.

Generally speaking (without huge change having a large impact on capacities), the choice of the period is an important issue: one year seems to be a minimum period for the yearly calculation, and 5 years is likely to be too much because of the change in transmission grid, generation pattern and especially increase of renewable energy. A good period could be the last 2 or 3 years. For the yearly calculation, all past timestamps within the given period could be kept, to take into account of the past events (planned outages, changes in exchanges, changes in renewable generation ...). This makes sense because the planned outage schedule is coordinated within each Capacity Calculation Region to distribute the planned outages impacting the capacities among the different weeks of the year.

CHOICE OF THE INDICATOR OF RISK

The proposed method to implement the risk indicator is the following (illustrations after):

A. Apply a statistical approach on the data set, using a "data set risk level parameter" (in %), to define an intermediate capacity which will be between the minimum and maximum capacity of the data set. Two methodologies are proposed:

    a. One using a percentile approach: the value obtained represents the quantified risk to have situations where D-2 Cross Zonal Capacity < max LT allocable product (=red block) on a period.

    b. One using an energy approach (MW x hours): the value obtained represents the quantified risk that TSOs have to compensate / curtail a cross zonal capacity energy in MWh (for firmness reason), compared to the total allocated LT cross zonal capacity energy on the chosen period. This method seems very appropriate for sizing the LT transmission right product, as when associated to the price difference it directly gives the expected firmness cost for a given LT capacity.

B. Apply an "offset risk level parameter" (in %) on the value obtained in step A, to obtain the final LT capacity for that timeframe. This ensures that the final capacity has a security margin compared to the intermediate value obtained in step A, to cover against the fact that historical data distribution is likely not to be exactly the same as the one which will be realized on the future period. Else, the LT capacity would always be in between the maximum and the minimum D-2 capacity value of the data set used.

CHOICE OF THE LEVEL OF RISK

To use zero level of risk seems too extreme as a very small exceptional event leading to a very small D-2 capacity on a few time periods could lead to a very small LT capacity. For this reason it seems obligatory, for the "data set risk level parameter", to use a non-zero value.

CHOICE OF THE MODEL TO DESCRIBE DATA

As a refinement of this method, a statistical model could be used to model a standard distribution of D-2 capacities or realised capacity according to a specified statistical distribution. This is especially relevant when using a limited set of D-2 capacities. As a starting point, D-2 capacity values could be directly used without assuming any specific distributions or characteristics.

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SET THE LT CAPACITY

The full methodology is graphically illustrated using the graph corresponding to the shape of curve of case d) in Figure 3:

- Start by loading a data set on a single period or a set of periods (left in Figure 4), and then order it into a "duration curve" (right in Figure 4) :

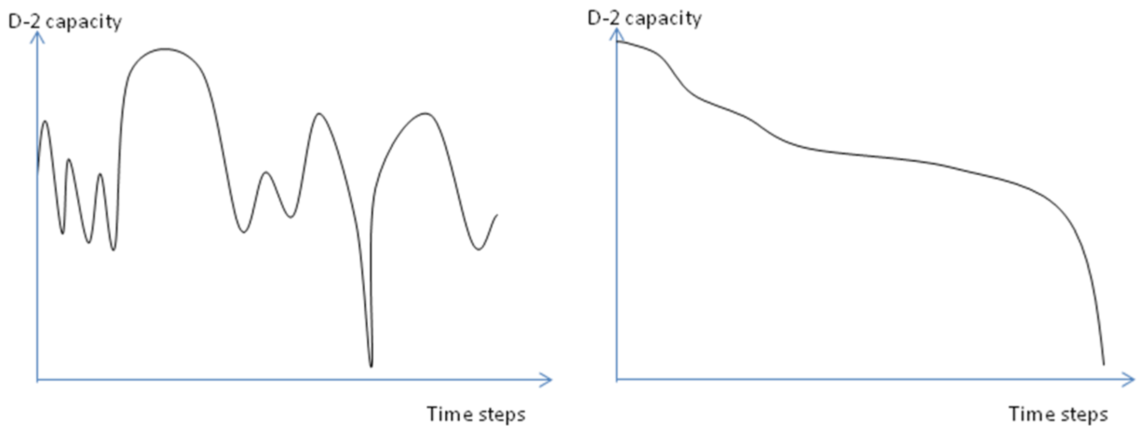

FIGURE 6. HISTORICAL D-2 CAPACITIES AS A FUNCTION OF TIME AND DURATION CURVE OF THESE CAPACITIES.

- Calculate the intermediate capacity corresponding to the "data set risk level parameter" as shown in Figure 5. On the left of Figure 5 is described the "percentile" approach, on the right is described the "energy" approach. The "data set risk level parameter" is set here to about 5% for both approaches.

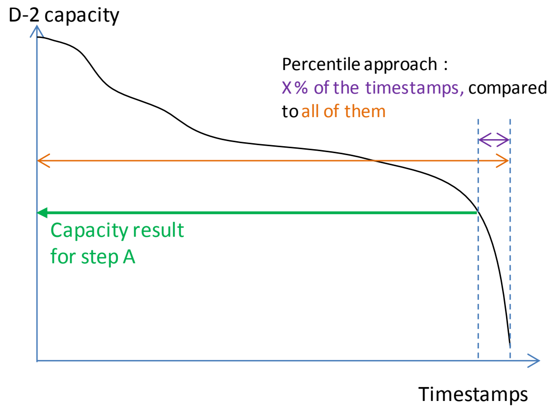

FIGURE 7. INTERMEDIATE CAPACITY VALUE DEFINED USING "PERCENTILE" APPROACH (LEFT) AND "ENERGY" APPROACH (RIGHT).

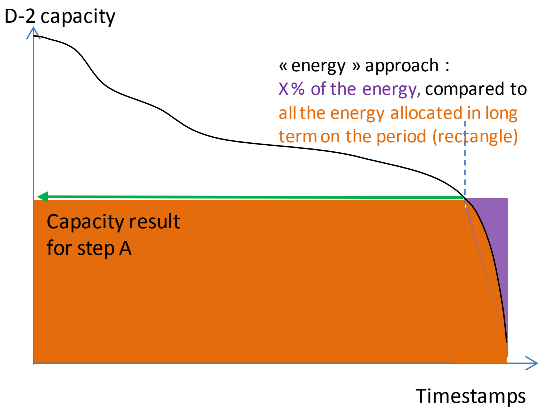

FIGURE 8. INTERMEDIATE CAPACITY VALUE DEFINED USING "PERCENTILE" APPROACH (LEFT) AND "ENERGY" APPROACH (RIGHT).

- Calculate the final capacity using "offset risk level parameter" as shown in Figure 6, which is set here to about 80% :

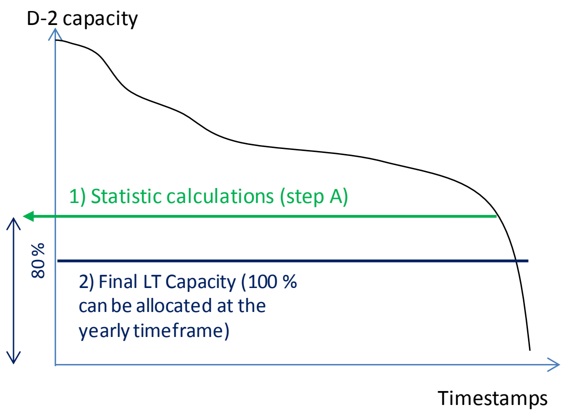

FIGURE 9. FINAL LT CAPACITY DEFINED USING "OFFSET RISK LEVEL PARAMETER".

7.6 JUSTIFICATION OF BOTH APPROACHES TO BE WITHIN FCA NC

The identified problems with LT CC applying security analysis with multiple scenarios are:

- Non-linearity related to security analysis: a small change in a scenario could lead to a high change of LT capacity. Application of multiple scenarios or a single pessimistic scenario may probably lead to conclusion where the coordinated LT capacity is very low or even zero. Moreover, due to this non-linearity and the high level of uncertainties in LT CC, it is challenging to apply a risk management objective (in terms of probability to allocate too much capacity for instance), and to properly adapt all the inputs of CC (CGM, GSK, Reliability Margin, Critical Network Elements, …) to fulfil the assigned objective.

- LT capacity will be directly defined from the scenarios chosen: do they have a high level of probability (but risk to have too high LT capacity), or do they have a low level of probability (risk to have a very low if not zero LT capacity)? Then the step which will impact the most the final LT capacity will be the definition of scenarios (especially in case of combination of scenarios), and it could be a challenge to have detailed instructions to define them.

- Proper description of uncertainty leads to application of multiple scenarios (and their combinations) and all these scenarios request handling of remedial actions, which might be very hard to automatize for calculations.

- Sizing of reliability margin may introduce a problem. Uncertainties for short term (D-2 / D-1 / ID) capacity calculation timeframes may be sized applying statistical methods thanks to the large data obtained, but it is a challenge how to measure uncertainty of few scenarios for LT CC.

- No successful experience of coordinated LT CC has been provided yet (some experiments show that coordinated LT capacity values are lower)

A statistical method could relieve some of the problems encountered with capacity calculation applying security analysis on multiple scenarios. However, the statistical method also has some problems, which should be further analysed:

- No experience of statistical method implementation (only a short promising experimentation has been performed in purpose of the drafting of the FCA NC)

- Applicability to monthly calculation has to be investigated (where it is relevant to take into account planned outage schedule)

- In case of a period with planned outages having a severe impact on cross zonal capacity (several highly impacting planned outages together in the same part of the grid), the statistical analysis cannot be used (need of a security analysis on a CGM)

- Statistical method based on historical data does not take into account the effects of grid enforcements and their effect to the capacity values

Then even if a statistical approach is used in most circumstances, it still remains possible that sometime security analysis should be done, especially take into account planned outages and grid enforcements.

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8 ANNEX 4 - FREQUENTLY ASKED QUESTIONS

8.1 INTRODUCTION AND OVERVIEW

This Annex outlines the questions which ENTSO-E has been asked at various stages of the process of developing the Forward Capacity Allocation network code and provides answers to those questions. We have tried to be non-technical and hope that this will provide interested parties with additional information and will help inform responses. The questions and answers are structured in a format which is broadly similar to that of the network code.

8.2 GENERAL PROCESS ISSUES

1. *Why is ENTSO-E drafting the network code?*

ENTSO-E's role is defined under regulation 714/2009 (the Third Package). ENTSO-E is required to draft a network code which meets the requirements of the Framework Guideline developed by the Agency for the Cooperation of Energy Regulators (ACER). The code ultimately becomes legally binding after it has passed through the Comitology process.

2. *Does the network code meet the Framework Guideline?*

ENTSO-E has developed the code with the Framework Guideline in mind and is confident that the major requirements are met. We have discussed areas where we have chosen a specific approach and the reasons why in section 4. The table in Annex 2 provides a detailed assessment of the network code against the framework guideline.

3. *Why have you chosen this level of detail?*

We have tried to strike a balance in drafting the network code. That is being sufficiently detailed so as to be meaningful, but not being so prescriptive that the requirements quickly become obsolete or that they become impossible for affected parties to understand.

4. *How will responses be considered?*

All responses received by ENTSO-E will be reviewed by the TSOs who have developed the different sections of the network code. Where necessary, updates will be made in the final version. A document summarising responses and justifying changes will be produced to accompany the final version.

5. *How have stakeholders been involved?*

As well as each National TSO having sought to engage with stakeholders within their country, ENTSO-E has created a stakeholder advisory group, composed of European member associations covering all parts of the electricity sector value chain (Europex, EFET, EURELECTRIC, IFIEC, ACER and the European Commission). The group has met throughout the process of developing the network code and has provided useful advice on various issues.

6. What are the next steps?

Having received responses, ENTSO-E will produce an updated version of the network code and submit this to ACER before the 30 September 2013. ACER will then provide an opinion on the network code and, assuming this is positive, will forward the document to the European Commission. The EC will review the text and, assuming they are content with the contents, start the Comitology process at an appropriate point.

8.3 GENERAL CONTENT ISSUES

7. Does the code apply to all parties?

Once it has passed through Comitology the network code will have the same status as any other European Regulation. Hence it will apply to any party addressed in the network code and will not need to be directly transposed into national law.

8. Which information will be made publically available?

We have tried to be transparent throughout the network code. The section on information publication and transparency outlines the information to be provided.

9. Why have you used roles/ functions?

In developing the code we have had to be conscious with the approach taken with the CACM network code. The use of roles/ functions is an attempt to consistency with the CACM network code but also to provide flexibility within the network code.

10. What are the interactions with other network codes?

The Forward Capacity Allocation network code is one of a number of network codes which will be developed by ENTSO-E. It has interactions to several codes, particularly the CACM network code, which are discussed in section 3.4 of this document.

11. What are the interactions with other EU legislation?

In addition to the interaction with other network codes, the Forward Capacity Allocation network code also interacts with other European legislation such as the Transparency Guideline, REMIT and MiFID.

12. Will the single market be in place by 2014?

The Forward Capacity Allocation network code is one of several steps needed to deliver a single market. These include developing projects at regional level, enhancing transparency and streamlining planning processes and constructing infrastructure to relieve congestions.

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We expect the rules contained in the network code to be in force in 2014. However, this is dependent on a positive opinion from ACER and the Commission's timescales for Comitology and responses received during that process.

13. What is the difference between Transmission System Operator (TSO) and System Operator (SO)?

A System Operator is a function to deliver several tasks and operational responsibilities defined in the CACM Network Code. Transmission System Operator is a legal entity established to fulfil tasks set in Article 12 of Directive 72/2009.

14. Who is responsible for supervising TSO activities?

The respective National Regulatory Authority supervises TSO activities.

8.4 GOVERNANCE

15. Why are all the roles assigned to Transmission System Operators?

The forward capacity allocation is a process directly related to Transmission System Operators, as they own and operate the interconnection infrastructures underlying the commercial capacity being calculated and allocated. The use of the functional approach is thus not strictly necessary, but we have used it in order to be consistent with the CACM network code and because roles can be delegated, adding flexibility to the code.

16. What is the role of the Stakeholder Committee?

The goal of the stakeholders committee is to develop the market by giving suggestions and indications on how to improve its functioning.

17. Why does the code allow for a complementary method to the CGM in the Capacity Calculation Methodology?

The CGM methodology has been initially developed for the capacity calculation in the short term. The long term timeframes are characterized by a much higher level of uncertainties. The most suitable tools to manage uncertainty are might be e.g. statistical tools. Therefore the code foresees the possibility to complement the CGM methodology with as an example a statistical approach, as long as efficiency in the process is increased.

8.5 CAPACITY CALCULATION

18. Why are so many details set out in documents outside the code?

This approach ensures that the code will be valid also on an enduring basis, thus avoiding such requirements which could easily become obsolete. Especially in case of capacity calculation where many requirements included in the code has not yet been tested thoroughly in practice (e.g. FB method and related inputs) and thus may be subject to change. The code, however, addresses the common principles, which will be applied. The

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approach implemented in code will ensure, however, the proper treatments of such details; they will be subject to approval by National Regulatory Authorities after proposal by TSOs.

19. Why is capacity calculation only done at regional level?

Capacity calculation shall be done on a regional basis at least. Having a unique European capacity calculation for the entry into force of this code is not pragmatic.

20. What are the tasks of the Coordinated Capacity Calculators?

Coordinated Capacity Calculators have three tasks:

- Calculate capacities and split capacities for different time frames
- Managing the validation process
- Sending capacities and split of capacities for allocation

21. How can you make sure that the different Individual Grid Models are compatible for merging?

The compatibility is ensured with a single net position rule (i.e. bidding zone will be surplus, deficit or balanced as regards to power balance). All TSOs have to agree on a rule to define net positions for their individual grid models. The sum of the European net positions will always be zero.

22. Why is validation needed?

Each TSO is responsible for secure system operation within its control area. This implies that it is sole responsibility of each TSO to validate results of capacity calculation and splitting of capacities for different time frames at bidding zone borders belonging to its control area. The validation ensures the feasibility of computed capacity levels and makes sure, that hypotheses and results are in line with the secure power system operation, taking into account also the most recent information from the power system.

23. What is cross-regional validation?

TSOs shall ensure that validation of capacity calculation results takes place also between neighbouring capacity calculation regions. For such validation TSOs belonging to neighbouring regions are responsible for exchanging relevant information and assumptions on the interdependencies between the capacity calculation regions.

24. Which activities of capacity calculation are TSO, national, regional and European level?

Merging of individual grid models from each TSO to form a Common Grid Model (CGM) takes place on the European level. Coordination and calculation of capacities is performed on the regional level, at least. Data collection from generators and loads and building of individual grid models takes place on national/TSO level.

25. Which generation and load information is needed for long term capacity calculation?

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TSOs need additional information for long term capacity calculation compared to Day Ahead and Intraday timeframes. This information includes information from new generation and load installations, which will be commissioned during the long term capacity calculation timeframe. This information is not collected for Day Ahead and Intraday capacity calculation timeframes. Furthermore, information about planned outages in annual timeframe for existing generation and load units are needed as this information is not provided for Day Ahead and Intraday capacity calculation timeframes. However, if this information has been made already available by market participants due to another regulations, this already available information shall be applied.

26. Who will perform merging function and regional capacity calculation function?

TSOs will establish arrangements for the European merging function on European level. These arrangements may include e.g. establishing a common new entity or enlarging responsibilities of existing TSO entities. TSOs will establish arrangements for regional capacity calculation function on regional level. The arrangements will define the responsibilities and organisational issues on regional level for capacity calculation.

27. How is capacity calculation fallback managed?

When a TSO cannot temporarily deliver capacity calculation input for technical reasons, (i.e. one individual grid model) the whole European capacity calculation process should not be frozen. TSOs shall agree on fallback procedures for such situations, which should remain exceptional. These fallback procedures will be developed and set out over the next months and years in order to meet both robustness and simplicity objectives of the capacity calculation.

28. How does long term capacity calculation differ from short term capacity calculation?

In general long term capacity calculation is compliant with short term capacity calculation. Capacity calculation regions and bidding zone configuration will be same for both long and short term capacity calculation. Uncertainty in modelling increases with long term capacity calculation and this has to be taken into account in capacity calculation methodology and in building Common Grid Model.

29. Why does the code allow for complementing the Common Grid Model (CGM) with additional elements?

The CGM methodology has been initially developed for the short term capacity calculation (day-ahead, intraday). The long term timeframes are characterized by a higher level of uncertainties and there is a risk that the CGM methodology alone could lead to too low values of capacities. Statistical approach may be used also to manage the uncertainty besides several scenarios and therefore the code foresees the possibility to have alternative to scenarios applying CGM as long as efficiency in the process is increased. Such approach, based for example on the statistical analysis of past observed values of capacities, should improve the reliability and the accuracy of the capacity calculation process, leading to an increased efficiency of the market.

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8.6 BIDDING ZONES

30. How frequently can bidding zones change?

Framework Guidelines state that zones shall be robust over time. As no other guidance has been given by regulators to state how long a bidding zone shall last, and the regulatory nature of such choice, ENTSO-E has kept the initial wording of CACM FG in draft Network Code. The expected duration of the zone will be subject of further guidance from regulators, for instance when they agree to launch the regional process for defining new bidding zones.

31. Does a zone correspond to a national border?

Not necessarily, a border of a zone does not necessarily need to coincide with a national border. It is possible to have several zones within a country or one zone with several countries inside.

32. Who approves changes in zones?

NRAs will be in charge of approving the proposal from TSOs on new bidding zone delimitation. All stakeholders will be consulted on this proposal, including the time needed to prepare before changing the zones.

33. What happens if NRAs reject TSO proposal on bidding zones?

If NRA rejects the TSO's proposal, the TSO may either amend the proposal, e.g. based on further analysis, and send it for approval or continue to apply current bidding zone configuration. NRAs should coordinate on regional basis (and within Agency) when making their decisions on new bidding zone configuration.

34. Shall the biennial report on current bidding zones be published?

NRAs and the Agency shall decide on the publication of the biennial report.

35. What are the contents of the biennial report on current bidding zones?

The biennial report consists of analysis of current zone delimitation on the European level. The report consists of a technical and a market efficiency part. The analysis included in the technical part of the report is based on data on redispatching/countertrading costs, adverse effects of internal transactions on other Bidding Zones and structural congestion. The analysis included in the market efficiency part covers liquidity, competition and efficiency of price formation process. NRAs and Agency shall evaluate based on this biennial report if further measures on bidding zone configuration has to be made.

36. Why is a specific process on bidding zone configuration needed?

The regional process as described in Network Code for defining bidding zone delimitations shall cover all kind of bidding zones in Europe. However, there are currently two countries, Italy and Norway, where the process to define bidding zones configuration requires specific attention. In Italy, some bidding zones may have negligible or no impact on neighbouring

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grids and application of a regional process may not introduce any added value. In Norway, due to the hydro generation situation the security of supply may be endangered and there is need to establish temporary new bidding zone delimitation in short notice. However, if this specific process is applied, it shall be notified to neighbouring TSOs and NRAs, and NRAs in case of objection could report to ACER.

8.7 SPLITTING OF CROSS ZONAL CAPACITY

37. What do we mean by splitting of cross zonal capacity?

Transmission System Operators calculate Cross Zonal Capacities for a longer timeframes e.g. yearly or monthly timeframes. In Forward Capacity Allocation, splitting of Cross Zonal Capacity defines the portion of this capacity which shall be allocated, at a maximum, for that a specific timeframe. Remaining Cross Zonal Capacity will be allocated later for a shorter timeframes such as monthly or quarterly timeframes.

38. How will splitting be done?

Splitting of Cross Zonal Capacity will be done by Coordinated Capacity Calculators after they have calculated Cross Zonal Capacity. Splitting is based on predefined methodology, which has been developed by Transmission System Operators and approved by National Regulatory Authorities.

39. Across what timeframes is splitting is done?

Timeframes are generally compliant with LTR products such as yearly, quarterly, monthly or weekly. Splitting will take into account all Capacity Allocation Timeframes including e.g. yearly, quarterly, monthly or daily.

40. Why splitting of cross zonal capacities is needed?

The Long Term Transmission Right products can be sold in several timeframes. For each of these timeframes TSOs have to decide what amount of calculated capacity shall be given for allocation. When TSOs define the split, they take into account the requests from Market Participants for a specific timeframe and the liquidity of products for different time frames.

41. Who is responsible for splitting cross zonal capacity?

The Coordinated Capacity Calculator will make a calculation based on the approved methodology for splitting for splitting Cross Zonal Capacity developed by Transmission System Operators of the Capacity Calculation Region. Transmission System Operator is responsible for validating the splitting made by Coordinated Capacity Calculator.

8.8 OPTIONS FOR CROSS ZONAL TRANSMISSION RISK HEDGING

42. *What is a physical transmission right with the Use-It-Or-Sell-It principle?*

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Physical Transmission Rights (PTRs) are linked to cross border capacity and managed by TSOs providing the option to transport a certain volume of electricity in a certain period of time between two areas in a specific direction. The use-it-or-sell-it mechanism ensures that not nominated capacities get automatically sold in the day-ahead market.

43. What is a financial transmission right?

Financial Transmission Rights (FTRs) are linked to cross border capacity and managed by TSOs or subsidiary entities. FTRs as options entitle their holders to receive a financial compensation equal to the positive (if any) market price differential between two areas during a specified time period in a specific direction. FTRs as obligations in contrast also oblige holders to pay for a negative market price differential.

For further information please see the Educational Paper on Transmission Risk Hedging Products developed by ENTSO-E: https://www.entsoe.eu/major-projects/network-code-development/forward-capacity-allocation/

8.9 NOMINATION PROCEDURES FOR PHYSICAL TRANSMISSION RIGHTS

44. Why do nomination rules need harmonisation?

In the framework guideline it is stated that a greater harmonisation of nomination rules, deadlines and processes are foreseen.

45. Why do the nomination rules need only progressive harmonisation for bidding zone borders?

The nomination takes place only on those bidding zone borders on which the Transmission System Operators issue PTR(s). As regards to the target model the introduction of the Financial Transmission Rights is expected instead of PTRs with UIOSI. Accordingly the nomination of the PTRs might be only a temporary solution. Furthermore, the European harmonisation of Nomination Rules could cause extra costs for the Transmission System Operators and for the market participants.

46. Who is responsible for the preparation of the nomination rules?

The relevant Transmission System Operators have to develop a proposal for the nomination rules for the bidding zone borders where PTRs applied. The nomination rules have to be approved by relevant National Regulatory Authorities.

47. Does the FTR require nomination?

No, the nomination is needed only for PTRs, so it will remain until the introduction of FTRs.

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8.10 PROCESSES AND OPERATION

48. What does the NC refer to with invoicing or self-billing procedures for the settlement of LTRs?

This refers to the two main approaches when it comes to settlement of LTRs:

- Invoicing means that the Allocation Platform(s) issues an invoice to the Market Participant with the settlement for a period of time.
- Self-billing means that the Allocation Platform(s) issues an invoice to itself on behalf of the Market Participants about credits in favour of the Market Participants.

49. Which is the difference between the secondary trading and the return of Long Term Transmission Rights?

When returning a Long Term Transmission Right, the holder gives back the underlying capacity to the Allocation Platform(s) so it can be offered for allocation in the subsequent Forward Capacity Allocation getting a remuneration based on the result of the subsequent Forward Capacity Allocation where the LTR has been resold while when transferring it through secondary trading the holder fixes a price with an eligible Market Participant willing to acquire this Long Term Transmission Right.

8.11 SINGLE ALLOCATION PLATFORM

50. Which of the existing Auction Offices in Europe will be the Single Allocation Platform?

A network code cannot appoint a certain entity with such a monopoly role without sufficient grounds. It can only prescribe the requirements and the process for establishing this role without prejudice to certain entities.

51. Will the Single Allocation Platform be the counterpart for the transfer of Long-Term Transmission rights?

No, the Single Allocation Platform should only have the role of a facilitator without involving in commercial transactions directly.

52. Will it be obligatory to use the Single Allocation Platform for performing transfers of Long Term Transmission Rights?

No, the Single Allocation Platform should only have the role of a facilitator. Transfers outside of this platform by means of a communication platform which would work like a bulletin boards. Transfers outside of this platform or organised on other platforms will be possible.

53. Why does it take so long to introduce the Single Allocation Platform?

The Single Allocation Platform is not only monopoly towards market participants; this is also monopoly towards Transmission System Operators. Given the geographical scope, many different interests have to be accommodated. In order to ensure an efficient solution the establishment has to be carefully carried out. Furthermore, the network code cannot

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constrain certain procurement processes which might have to be followed due to procurement legislation.

54. Why do NRAs have to approve the common sets of requirements?

NRAs have showed a lot of interest to have the Single Allocation Platform. The approval will allow them to compare the functional requirements with their expectations. Furthermore, it will give Transmission System Operators the necessary security to make substantial investments and commit to future operational costs.

8.12 ALLOCATION RULES

55. What are Allocation Rules?

Allocation Rules govern the contractual arrangements for Cross Zonal Capacity allocation in the long term timeframe by Explicit Auctions. Generally the Allocation Rules deal with the procedures for auctioning transmission rights, the terms on which Market Participants may participate in Explicit Auctions and the terms for use of Cross Zonal Capacity.

56. What is covered in the Allocation Rules?

Allocation Rules generally contain the description of the allocation of Long Term Transmission Rights including the minimum requirements for participation, financial matters, type of products offered in explicit auctions, nomination rules, curtailment and compensation, secondary trading, UIOSI, force majeure and liability.

57. To what timeframes will the harmonised Allocation Rules apply?

The harmonised Allocation Rules will apply to at least annual and monthly auctions for Cross Zonal Capacity. Additional timeframes can also be provided based on the needs of Market Participants and following consultation with Market Participant’s and regulatory approval.

58. Why are harmonised Allocation Rules required for Europe?

Currently there is no single set of harmonised rules for trading across European Bidding Zone Borders. A number of Regional Platform(s) are in place in different regions with Allocation Rules specific to these Regional Platform(s). The Single Allocation Platform underpinned by a harmonised set of Allocation Rules will ensure a pan-European approach to trading Cross Zonal Capacity in the Long Term timeframe and create a level playing field.

59. Who is responsible for developing the harmonised Allocation Rules?

Transmission System Operators are responsible for developing the harmonised Allocation Rules following NRAs’ and ACER’s requirements. The harmonised Allocation Rules shall be consulted on with Market Participants’ to ensure their needs are taken into account and be subject to regulatory approval.

60. Will the harmonised Allocation Rules be included in the FCA network code?

No, the harmonised Allocation Rules will not be included in the FCA network code. These rules may need to be amended on a more frequent basis than the network code process allows through comitology in order to meet the changing needs of Market Participants. Instead of including the detailed contractual arrangements contained in the harmonised Allocation Rules in the FCA network code it is considered preferable to instead include the key principles that the harmonised Allocation Rules will need to meet.

61. Which of the existing allocation rules will be used as the harmonised allocation rules for Europe?

Although there have already been significant efforts to harmonise Allocation Rules on a regional basis, these rules have been developed with the particular needs of that region in mind. Therefore no current set of regional Allocation Rules is appropriate for a pan-European set of harmonised Allocation Rules. Transmission System Operators will look to develop a preferred structure for the harmonised Allocation Rules and develop the rules on a pan-European basis.

62. What is the legal status of allocation rules?

The Allocation Rules form a contractual arrangement between the Transmission System Operators, Allocation Platform(s) and Market Participants. All eligible Market Participants who agree to the terms and conditions for participation on the Allocation Platform(s) are subject to the legal requirements set out in the Allocation Rules.

8.13 TRANSPARENCY

63. Where are the detailed data transparency requirements?

The detailed transparency requirements are contained in the Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets.

64. Where will TSOs publish the Capacity Calculation methodologies?

The capacity calculation methodologies will be published on the ENTSO-E website.

65. Is the biennial report on the capacity calculation process public?

The report on the capacity calculation process will be submitted to ACER and the NRAs. Further distribution will be decided by ACER and the NRAs.

8.14 FIRMNESS AND COST RECOVERY

66. Can TSOs curtail Long Term capacities at their own choice?

No. TSOs can only curtail Long Term capacities in cases when System Security is endangered.

67. Does the FCA NC preclude the organisation of a capacity buy-back scheme?

No. Nothing in the FCA NC prevents Transmission System Operators from organizing a capacity buy-back scheme in which capacity could be purchased from market parties. This subject will be examined later in order to determine its actual feasibility and what could be the best structure for organising it.

68. Is Revenue Adequacy a concept related to Firmness Compensation issues?

No. Those are different concepts, Revenue Adequacy does cover the payouts to be paid because of Use it or sell it principle and has nothing to do with Firmness Compensation issues. The table below provides more clarity in the differentiation of both items.

TABLE 1. REVENUE ADEQUACY AND FIRMNESS/ COMPENSATION.

	Revenue Adequacy	Firmness/Compensation
Subject	(Regular) payouts/ remuneration of LT TR	Compensation in case LT TR are curtailed
Reason of Application	Not sufficient income from DA allocation due to design of coupling algorithm (losses, ramping…)	Technical problems (e.g. outages or wrong forecasts) which don't allow cross-border exchange up to the level of already allocated LT TR
Occurrence	Systemic, regular	Exceptional, only when required
Means of limiting the financial risk of TSOs	Payouts would equal the additional DA congestion income (financial value) associated with the resold capacity	Compensations based on market spread would be limited by caps, which in turn is based on the congestion income from LT allocation
Rationale	Clear link of the underlying capacity of a LT TR with the congestion income from DA market allocation	Balanced sharing of firmness risk, no use of money from outside of the system.

69. Are the Long Term Firmness Deadline and the Compensation Regime consulted with stakeholders?

Yes. Both are within the Allocation Rules pursuant Article 55 and these rules are subject to regulatory approval pursuant Article 8.5.e prior to market consultation, pursuant Article 5.2.h. The reason for having organised it this way is to avoid having several market consultations and regulatory approval processes for the very same elements.

70. What are the differences between the Long Term Firmness Deadline and the Day-ahead Term Firmness Deadline?

The Day-Ahead Firmness Deadline is pan-European and related to Day-Ahead capacity. The Long-Term Firmness Deadline is a regional subject, determined on a border-basis and referred to the Long Term Transmission Rights only. Both are necessary, since the Nomination Deadline varies from region to region, on a border basis.

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71. What is the Long Term Firmness Deadline?

The Long Term Firmness Deadline is a point in time that divides the period before the Day Ahead Firmness Deadline into two sub-periods. The Long Term Firmness Deadline introduces an increasing step-wise firmness regime, as capacity undergoes further confirmation by Transmission System Operators. It aims at further aligning firmness with information availability levels in time and capacity calculation processes. It is fully subject to NRAs approval. The proposal by Transmission System Operators of a Long Term Firmness Deadline will be based on product characteristics, regional calculation processes and the principles of the draft code.

72. What compensation will a market player receive in case of curtailment for force majeure or emergency situations?

In Force Majeure and Emergency Situations, System Security should be prioritized over market matters. For these reasons, Transmission System Operators are in these particular situations entitled to curtail Long Term Transmission Rights which have already been allocated. In all cases, curtailment shall be undertaken in a coordinated manner having liaised with all directly affected Transmission System Operators. The Transmission System Operator which invokes a Force Majeure or an Emergency Situation shall make every possible effort to limit the consequences and duration of the Force Majeure or Emergency Situation. In order to establish a market-oriented framework and in accordance with the Framework Guidelines such curtailments are fully compensated at the initial price paid. According to the NC FCA, any imbalance costs or benefits arising from curtailments are neutralized. This, in turn, necessitates clear and unambiguous cost recovery provisions in order to avoid risk exposure of Transmission System operators who would ultimately have to cover these costs.

73. Why are cost recovery provisions in the network code?

While the framework guideline does not explicitly mention the issue of cost recovery, we consider that being clear in the network code about how the costs are dealt with enhances certainty (but does not impose on the right of regulators to decide how to deal with costs or the right of unregulated parties to make their own commercial decisions). Also, on issues such as firmness (where costs are unpredictable and potentially highly significant) comfort on cost recovery is a prerequisite for offering a market friendly firmness regime.

74. What's the approach that ENTSO-E has taken?

Broadly speaking, ENTSO-E has tried to identify the categories of costs which the network code could give rise to. For each of those categories, we have tried to say who will be responsible for bearing the costs. Where the costs will require regulatory approval, we have tried to facilitate this approval. This includes being willing to provide forecasts of costs where possible and having processes to review costs ex-ante to ensure they were efficiently incurred.

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75. How should the costs be recovered for Establishing and operating the coordinated capacity calculation process?

As described in the network code, each Transmission System Operator shall support its own costs for establishing and operating the capacity calculation process. These costs shall be approved by the National Regulatory Authority and recovered via appropriate national mechanisms defined by the National Regulatory Authority.

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9 ANNEX 5 - ASSESSMENT OF THE FINAL FCA NETWORK CODE AGAINST THE REQUIREMENTS OF THE FRAMEWORK GUIDELINES

	REQUIREMENT OF THE FRAMEWORK GUIDELINE	EXTENT TO WHICH THE PROVISION IS MET
1.2	The CACM Network Code(s) shall set out deadlines for the implementation, for the different timeframes and across the European Union, of the target model for CACM as defined in these Framework Guidelines, with 2014 as the overall deadline for the completion of the Internal European Market.	The Forward Capacity Allocation chapter sets deadlines first for regulatory decision about the necessity of introduction of Long Term Transmission Rights or appropriate cross zonal risk hedging opportunities are already exist. If LTR is deemed, Article 35 sets deadline for the introduction of the Long Term Transmission Rights (PTR, FTR option or FTR obligation). The NC is foreseen entry into force in Q4/2014.
1.2	The CACM Network Code(s) may also provide for transitional arrangements allowing: - regional platform for the allocation and for anonymous secondary trading of long-term transmission rights to operate, as indicated and subject to the conditions specified in Sections 4.1 and 4.2;	- Regional Platform both for allocation and secondary trading are allowed under certain conditions and are covered in Article 68-74.
1.3	The CACM Network Code(s) shall contain a section with a glossary and definition of words and expressions adopted.	The glossary is contained in Article 2.
1.4	The CACM Network Codes(s) shall provide that ENTSO-E or TSO(s), as relevant, submit to ACER, without delay, all the relevant documents related to the opening of any approval procedure by NRA(s), as laid down in these Framework Guidelines. The relevant NRA(s) shall inform ACER of the outcome of such procedures. The competences of ACER as defined in Articles 4, 7 and 8 of Regulation (EC) No 713/20093 shall remain unaffected.	Obligations in the network code have been drafted to apply to NRAs, except in cases where ACER already has powers. In cases where a process requiring regulatory approval is specified, steps have been taken to ensure that information is submitted to ACER in a timely manner.
Capacity Calculation Methods		
2.1.1	The CACM Network Code(s) shall require the use of either a Flow-Based (FB) method or an Available Transfer Capacity (ATC) method for capacity calculation at each zone border for a given timeframe.	This point is covered in Article 14 (Capacity Calculation Methodology): For the long term Capacity Calculation timeframes the Capacity Calculation Approach shall be a Coordinated Net Transmission Capacity Approach, or a Flow Based Approach

2.1.1.	Both methods shall make use of locational information on relevant generation and consumption units, through a detailed common grid model and ensure compliance with legal provisions for transparency.	This point is covered Section 3 when describing the Individual Grid Model, the Common Grid Model and the European Merging Function.
2.1.1	Both methods shall be described in the CACM Network Code(s).	This is covered with the detailed description of the capacity calculation inputs, the capacity calculation methodology and capacity calculation process: this is the whole chapter 1, especially sections 2, 3 and 5.
2.1.1	The CACM Network Code(s) shall foresee that the practical usage of the FB calculation and allocation starts only after market participants have been consulted and allowed sufficient time for their preparation and for a smooth transition to the new arrangement.	This is covered in Article 14.4 where there is an explicit prerequisite that “Market Participants have been provided with six months to adapt their processes”.
2.1.1	Long-term capacity calculation methodologies shall be fully compatible with the adopted short term capacity calculation	This requirement is met by definition, since all combinations of ATC and FB in long term and short term are compatible. In addition, Article 14 paragraph 2 explicitly says " 2. The capacity calculation methodology for Forward Capacity Allocation shall ensure compatibility and consistency with the capacity calculation methodology of the Day Ahead and Intraday timeframes pursuant to the Network Code on Capacity Allocation and Congestion Management" ensuring this requirement.
2.1.1	In cases where different capacity calculation methods are applied on different borders of the same zone, the CACM Network Code(s) shall thoroughly describe the required solution in order to ensure technical and operational feasibility, neither reducing social welfare nor operational security in the network. In particular, the CACM Network Code(s) shall specify the coordination of ATC and FB methods.	This is ensured by applying the requirements set in CACM NC
2.1.1	The CACM Network Code(s) shall stipulate that the capacity calculation methods, including the approach to assess the required security margins and to split capacity between interdependent borders, are submitted to the relevant NRAs for approval.	This is covered with article 8 (Regulatory approvals), which set requirements that CC methodology shall be subject to NRA approval.
2.1.2	The CACM Network Code(s) shall ensure that the process for determining the common grid model and common base case does not discriminate between exchanges internal to a zone and cross-border (cross-zonal) exchanges.	This is achieved by Section 2 (Common Grid Model Methodology) and setting requirements to comply with those set in CACM NC.
2.1.2	The CACM Network Code(s) shall ensure that the description of the capacity calculation method is made publicly available by the relevant TSOs and that it contains a detailed and clear explanation of the common grid model, of the security assessment methods and the level of security margins and where applicable, of the critical branches taken into account.	This is covered by Article 5 (Consultation), Article 6 (Publication of Information) and Article 7 (Transparency). These articles request to publication and consultation of topics addressed in FW GL.

2.1.3	The CACM Network Code(s) shall require that the TSOs establish one or more common grid models suitable for community-wide application.	This is covered with section 5 (Capacity calculation process) where is foreseen that all System Operators shall establish a single European Merging Function and section 3 (Common Grid Model methodology) where requirements to build a common grid model are set.
2.1.3	As a minimum, each common grid model shall cover an area appropriate for the capacity calculation method used, at least the synchronous area.	This is covered in section 3 (Common Grid Model Methodology) and section 5 where requirements for European and regional application are set for building a model and process to create a model.
2.1.3	The common grid model(s) shall include a detailed description of the transmission network including the location of generation units and demand.	This is covered in section 3 (The Common Grid Model methodology), containing how to build scenarios and individual grid models applying data provided by market participants. The Individual Grid Model shall consist of best forecasts of system conditions, covering the relevant part of the European power system for capacity calculation.
Bidding Zones		
2.2	The CACM Network Code(s) shall define a zone as a bidding area, i.e. a network area within which market participants submit their energy bids day-ahead, in intraday and in the longer term timeframe	FCA NC applies CACM NC requirements, which comply with FW GL
2.2	The CACM Network Code(s) shall ensure that, when defining the zones, the TSOs are guided by the principle of overall market efficiency. This includes all economic, technical and legal aspects of relevance, such as, socio economic welfare, competition, network structure and topology, planned network reinforcement and redispatching costs.	FCA NC applies CACM NC requirements, which comply with FW GL
2.2	The definition of zones shall further contribute towards correct price signals and support adequate treatment of internal congestion.	FCA NC applies CACM NC requirements, which comply with FW GL
2.2	Zone definitions concern all timeframes: long-term, day-ahead and intraday. Moreover, zone delimitations should be coordinated with balancing zones.	FCA NC applies CACM NC requirements, which comply with FW GL
2.2	The CACM Network Code(s) shall provide that TSOs propose the delimitation of zones for subsequent approval by the relevant NRAs.	FCA NC applies CACM NC requirements, which comply with FW GL

2.2	In cases where it can be shown that there is no significant internal congestion within or between control areas, one or several control areas may constitute on zone.	FCA NC applies CACM NC requirements, which comply with FW GL
	The above-mentioned market efficiency principle and aspects such as system security must be reflected in the proposal and be assessed in a sound and comprehensive substantiation for either the proposed new delimitation or preservation of existing zones.	FCA NC applies CACM NC requirements, which comply with FW GL
2.2	The assessment shall be prepared in a region-wide coordinated way, also taking into account possible impact on other zones in the respective region	FCA NC applies CACM NC requirements, which comply with FW GL
2.2	The CACM Network Code(s) shall envisage that the relevant TSOs repeat the assessment when network topology or patterns of generation and load, or local energy situations (deficits or surplus) are significantly changed or if it is necessary to ensure system security.	FCA NC applies CACM NC requirements, which comply with FW GL
2.2	NRAs shall assess the delimitation of zones against the criteria of overall market efficiency. In case a change in the zone delimitation is foreseen, it is of the utmost importance that market participants be consulted and have sufficient time to prepare.	FCA NC applies CACM NC requirements, which comply with FW GL
2.2	While limiting cross-border capacity to solve internal congestion inside a control area is generally not permitted, the CACM Network Code(s) shall provide that, if such a situation occurs, it is reported transparently. Detailed information on internal and cross-border congestion and limiting constraints (exact location, exact hour of congestion) shall also be reported to the relevant NRAs.	FCA NC applies CACM NC requirements, which comply with FW GL
2.2	The CACM Network Code(s) shall require TSOs to submit every two years, on a regional basis to the responsible NRAs and to the Agency, an analysis of the current zone delimitation based on detailed data on redispatching/countertrade costs and structural congestion.	FCA NC applies CACM NC requirements, which comply with FW GL

2.2	Based on this analysis, the market structure and possible market power issues shall be evaluated by the relevant NRAs and the Agency and, where necessary, measures shall be adopted.	FCA NC applies CACM NC requirements, which comply with FW GL
2.2	The CACM Network Code(s) shall foresee stable and robust zones over time.	FCA NC applies CACM NC requirements, which comply with FW GL
Forward Capacity Allocation		
4.1	The CACM Network Code(s) shall foresee that the options for enabling risk hedging for cross border trading are Financial Transmission Rights (FTR) or Physical Transmission Rights (PTR) with Use-It-Or-Sell-It (UIOSI), unless appropriate cross-border financial hedging is offered in liquid financial markets on both side of an interconnector.	The FTR/PTR with UIOSI are covered by the Article 35 describing the proposal that System Operators have to develop and submit to NRAs in case NRAs decide to do so. The Regulatory decision is covered by Article 34.
4.1	PTR shall be defined as options and subject to UIOSI.	This is covered by Article 45(1) saying "Long term Cross Zonal Capacity shall be allocated to Market Participants by the Allocation Platform(s) in the form of Physical Transmission Rights in accordance with the Use-it-or-sell- it (UIOSI) principle or in the form of Financial Transmission Rights. "
4.1	The CACM Network Code(s) shall define the nature of FTR in terms of options or obligations.	This is covered by Article 37 (Financial Transmission Rights - Options) and 38 (Financial Transmission Rights - Obligation). Both articles cover the specialities of these products including the payment obligations.
4.1	The CACM Network Code(s) shall also foresee a harmonised set of rules for borders where PTRs with UIOSI are applied and a harmonised set of rules for borders where FTRs are applied.	This is covered by the whole Chapter 5. It includes the different steps including a detailed list about the provisions to be harmonised It also covers the amendment produce if necessary.
4.1	The CACM Network Code(s) shall require that the TSOs provide a single platform (single point of contact) for the allocation of long-term transmission rights (PTR and FTR) at European level.	This is covered by the whole Chapter 4. The general tasks of the platform and functional requirements are described in Article 52 and 53. The Article 54 covers the establishment process of these platform.

4.1	As a transitional arrangement, regional platforms may operate, as long as this does not hamper the improvement and harmonisation of allocation rules.	Regional Platform both for allocation and secondary trading are allowed under certain conditions and are covered in Article 69-71.
4.1	The CACM Network Code(s) shall also foresee greater harmonisation of the nomination rules, deadlines and processes.	This is covered in the Section 2 in Article 40 The Article 40 lists the provisions to be included to the Nomination Rules which rules shall be progressively harmonised for all Bidding Zone Border(s) on which Physical Transmission Rights are applied.
4.2	The CACM Network Code(s) shall require that PTR are subject to the UIOSI requirement at the time of nomination (or equivalent market allocation process), which means, as a default, the resale of non-nominated capacity rights.	This is covered by Article 35(1) saying "Long term Cross Zonal Capacity shall be allocated to Market Participants by the Allocation Platform(s) in the form of Physical Transmission Rights in accordance with the Use-it-or-sell- it (UIOSI) principle or in the form of Financial Transmission Rights. "
4.2	TSOs shall give the total financial resale value of capacity (in the case of an explicit auction this is equal to the clearing price of the auction in which the capacity is resold; in the case of an implicit auction this is equal to the day-ahead price differential between the two zones) back to the market participants who owned the PTR.	This is covered by Art.39 (1) and (2) which establish the following. In general: (1) Allocation Platform on a Bidding Zone Border shall remunerate the Long Term Transmission Right holders based on the Market Spread between the two concerned Bidding Zones in case the price difference is positive in the direction of the Long Term Transmission Right.. For FTR obligations: (2) The Financial Transmission Right Obligation holders shall remunerate the Allocation Platform based on the Market Spread between the two concerned Bidding Zones in case the price difference is negative in the direction of the Financial Transmission Right Obligation.
4.2	The CACM Network Code(s) shall require that TSOs determine the volume of long-term capacity rights in accordance with the technical capabilities of the network and for each long-term timeframe.	Article 24 (Methodology for splitting long term cross zonal capacity) covers that the System Operators of each Capacity Calculation Region need to develop a methodology for splitting long term cross zonal capacity in a coordinated manner between different Forward Capacity Allocation timeframes.
4.2	The CACM Network Code(s) shall also ensure that the TSOs submit (at least indicative) levels of capacity available for the whole year sufficiently in advance before the yearly allocation takes place.	Article 43 (1) specifies that the corresponding Allocation Rules define the auction specification. The auction specification needs to contain the Long term Cross Zonal Capacity to be auctioned as well as the date and time of gate opening and fate closure of the auction.
4.2	NRAs shall review and approve the volume of yearly capacity rights, as well as the principles for sharing capacity between the different time frames.	ENTSO-E agrees with the general principle, it is believed that the regulatory approval of the methodology and of the splitting between the different timeframes is sufficient to ensure that the yearly volumes are calculated correctly and appropriate level of capacity, considering all relevant constraints, is offered to the market. Complying with FWGL requirement literally would imply that NRAs have to bear the risk related to their decision. In addition in Article 28 it is stated that "6. Transmission System Operators shall, upon request, provide to their National Regulatory Authorities a report detailing how the value Long Term Cross Zonal Capacity for a specific Long Term capacity calculation timeframe has been obtained." which ensures the regulatory oversight.

4.2	In line with the point 2(12) of the CM Guidelines, the CACM Network Code(s) shall foresee that the TSOs provide a single platform for anonymous secondary trading at the European level.	This is covered by the whole Chapter 4. After the agreement of the Stakeholder Advisory Group including ACER ENTSO-E was advised to limit the role of TSOs in the secondary market. Thus the FCA NC requires TSOs to facilitate secondary market with a bulletin board function. This function is to be provided by the Single Allocation Platform therefore separate Secondary Trading Platform is no longer required.
4.2	As a transitional arrangement regional platforms may operate.	Regional Platform both for allocation and secondary trading are allowed under certain conditions and are covered in Article 69-71.
General Issues, Requirements & Provisions		
6.2	A common definition of *force majeure* shall be given in the CACM Network Code(s) to be used in all capacity allocation rules (including auction rules, market coupling rules, rules for continuous trading).	Definition provided in the CACM NC which is applicable for FCA NC by its nature
6.4	The CACM Network Code(s) shall provide that curtailments of cross-zonal transactions is applied only in emergency situations and ensure that the affected TSOs avoid any discrimination between the different types of commercial exchanges, between the relevant time frames and between exchanges internal to countries and cross-border exchanges.	The NC FCA (Article 57.1) sets up that any curtailment is to be performed to ensure System Security and pursuant to Article 29. If any curtailment takes place, all the details related to it and the subsequent information about coordination processes among Transmission System Operators due to it, are to be submitted to National Regulatory Authorities annually, in order to prevent any type of discrimination.
6.4	Other measures, such as redispatching and countertrading, shall be considered before curtailing capacities and the most efficient solution shall be applied.	The definition of System Security (as per CACM) means the ability of the power system to withstand unexpected disturbances or contingencies. Since as per Article 57.1 curtailment is done for System Security it is implicit that the ability of the system to withstand unexpected events would be impacted without the application of such measure (thus by the mere application of redispatch, countertrading or other more efficient solutions) The definition of System Security (as per CACM) means the ability of the power system to withstand unexpected disturbances or contingencies. Since as per Article 57.1 curtailment is done for System Security it is implicit that the ability of the system to withstand unexpected events would be impacted without the application of such measure (thus by the mere

		application of redispatch, countertrading or other more efficient solutions)
6.4	Congestion rents shall be used, *inter alia*, for guaranteeing the firmness of allocated capacity rights, in particular through the activation of coordinated/countertrade actions.	This provision is already contained in Reg (EC) 714/2009. Pursuant Article 67 of the Cost Recovery Section the costs of ensuring firmness shall be borne by Transmission System Operators. These costs shall include, but shall not be limited to the costs of Redispatching, Countertrading, correcting imbalances, incurred market mechanism imbalance costs and compensation mechanisms associated with ensuring firmness.
6.4	TSOs shall ensure, on a coordinated basis, that enough redispatching/countertrade means are available for ensuring firmness	This is relevant for shorter timeframes as described in CACM NC
6.4	Capacities shall be firm. After the nomination deadline, physical firmness is the preferred approach, but financial firmness may be accepted in case of explicit auctions.	This is covered by the Chapter 6 (Firmness). After Day-Ahead Firmness Deadline capacities are indeed fully firm. There is obligation to establish an additional and previous Long-Term Firmness Deadline, which will divide the period prior to the Day-Ahead Firmness Deadline in two sub-periods under a step-wise increasing firmness compensation regime. The Long Term Firmness Deadline is placed at the nomination deadline for PTRs and with sufficient time for market parties to adapt their positions in the case of FTRs (pursuant Article 58.2). Between Long Term Firmness Deadline and Day-Ahead Firmness Deadline, the total monthly congestion income (day-ahead and monthly long-term congestion income) for the congestion income based cap is considered. The prioritization scheme for the compensation of curtailments occur after Long Term Firmness Deadline (pursuant Articles 59.3 and 59.4) would make long term capacities become financially firm *de facto* for this sub period.
6.4	The CACM Network Code(s) shall require that, except in the case of *force majeure*, capacity holders shall be compensated for any curtailment. Compensation shall generally be equal to the price difference between the concerned zones in the relevant time frame.	This is covered by the Chapter 6 (Firmness). The provisions of the FCA network code are broadly in line with the FWGL ensuring the possibility of having a capped market spread based firmness regime. Compensation rules have to be approved by NRAs and consulted with Market Participants. The Long Term Firmness Deadline is foreseen as an obligation by Article 58 (to be placed before the Day-Ahead Firmness Deadline, at the nomination deadline for PTRs and with sufficient time for market parties to adapt their positions in the case of FTRs and also subject to NRA approval and consultation with market parties)
6.4	As a derogation to the general compensation rule, on some borders and subject to approval by the relevant NRAs, caps on the compensation may be introduced: - in the case of curtailment announced before the nomination deadline;	This is covered by the Chapter 6 (Firmness). The Firmness Regime has been designed to simultaneously cover all three derogations. The definition and placement of the Long Term Firmness Deadline (Article 58) and the definition of the Compensation Regime (Articles 59) interpret the application of the first two derogations, whilst the third one is covered in Article 60.3. for the curtailments of long duration and for Bidding Zone border(s) consisting of one single interconnector.

	- in the case of curtailment announced before a reasonable lead-time defined by the concerned NRAs, taking into the account the liquidity of the relevant markets and the possibility for grid users to adjust their cross-border positions; - for curtailments of long duration.	
6.4	The CACM Network Code(s) may also provide that, until the introduction of day-ahead market coupling, alternative compensation arrangements apply as a transitional measure. These transitional arrangements shall be fair, transparent and non-discriminatory.	The FCA network code contains a provision on allocation under explicit allocation regimes (Article 72). “Until the introduction of price coupling in the Day Ahead timeframe, alternative Compensation Rules shall apply as a transitional firmness measure. These transitional arrangements shall be fair, transparent and non-discriminatory. Compensation for curtailment of Long Term Transmission Rights on Bidding Zone Border(s) where Day Ahead Market Coupling has not been introduced yet shall be equal to at least the Initial Price Paid.".
6.4	The CACM Network Code(s) shall define a certain period of time ahead of capacity allocation during which capacity announced for an auction (explicit or implicit) can no longer be changed. This time period shall be subject to approval by the NRAs concerned.	The “Day Ahead Firmness deadline” (Article 61) is recalled from CACM network code. This deadline is subject to NRA approval
6.4	The CACM Network Code(s) shall foresee that capacity which cannot be used as a consequence of a *force majeure* event shall be reimbursed on the basis of the initial price paid.	Article 62 (Firmness in case of force majeure) covers this requirement saying “Allocated Long Term Cross Zonal Capacities, which become subject to an Emergency Situation or Force Majeure situation, shall be reimbursed for the period of that Emergency Situation or Force Majeure situation by the Transmission System Operator which invokes the Force Majeure or Emergency Situation. In this case, Market Participants shall be entitled to compensation equal to the value of the capacity set during the Forward Capacity Allocation process."
6.5	The CACM Network Code(s) shall ensure that the TSOs and PXs provide all the necessary data to the NRAs and ACER, to enable all necessary monitoring and supervision of the areas covered by these Framework Guidelines.	The Regulatory Approval Article 8(6) contains obligations to submit relevant documents to NRAs