

Supporting Document
to the
Capacity Allocation Mechanisms (CAM) Network Code Consultation

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A. Introduction

This supporting document accompanies the draft Network Code (NC) on Capacity Allocation Mechanisms (CAM), reference CAP0140-11, which is available on the ENTSOG website. The document is for information purposes only; it is not part of the NC and should not be interpreted as a commitment from ENTSOG.

Once the final NC has passed through comitology, it will become an annex to Regulation 715/2009. The draft NC is written as a legal document, similar in style to the version that will eventually become law. It does not contain explanatory material. ENTSOG has therefore produced this supporting document to help interested parties understand the draft code. This document is intended to inform respondents about the draft NC and to enable them to structure their responses to the code. It explains the background to the NC, the technical issues contained in it, and the decisions taken during its preparation. Additionally, it invites respondents to provide views on issues raised throughout the document as part of the consultation on the draft code. In the case of any doubt, the wording of the NC itself takes precedence over this supporting document.

On 27 January 2011, ENTSOG was invited to draft the NC based on ERGEG's Revised Pilot Framework Guideline (FG) on Capacity Allocation Mechanisms. The draft NC follows this version of the FG, rather than the version currently under development by ACER. The NC is therefore subject to agreement on the ACER FG.

ENTSOG welcomes responses to the draft CAM NC (see next page) and will carefully consider all views received. Following this consultation process, the final NC will be developed and is due to be submitted to ACER by 27 January 2012. After review by ACER, the NC will pass to comitology.

ENTSOG is fully committed to the harmonisation of the European gas market and would like to thank those market participants who have contributed to the development of the NC. We hope that the publication of the draft CAM NC, together with this supporting document, will prove a valuable step towards a workable, agreed set of rules that will significantly improve the functioning of the market.

B. How to respond to the draft network code

ENTSOG welcomes responses to the draft NC, and in particular would value comments on the specific questions that are raised throughout this document and listed together in Annex 1.

Please use the form in Annex 1 as the basis for your response. There are no restrictions on the length of responses.

In order to enable ENTSOG to consider responses as fully as possible, we would be grateful if respondents could:

- Consider both this document and the draft NC itself before commenting;
- Provide responses that are as concise as possible; and
- Provide full reasoning and supporting evidence (where available) for responses.

If you wish any part of your response to be treated as confidential, please mark these sections clearly. Please note however that ENTSOG's approach to developing the CAM NC relies heavily on the sharing and debate of views by all market participants. We would encourage you to allow your full response to be made public, unless this is impossible for reasons of commercial confidentiality.

Please send responses to this document via email using the subject, "Response to the CAM NC consultation" to info@entsog.eu by 3 August 2011. Any questions regarding the NC or this supporting document can be sent to the same email address.

C. Underlying assumptions for code development

Designing a framework for capacity allocation cannot be done in isolation. The optimal design depends on the rules applying in a range of other areas. In some of these areas, such as tariffs and congestion management procedures, the final form of rules has not yet been decided, and these decisions may not be taken until after the final CAM NC has been produced.

In order to draft the CAM NC, ENTSOG has therefore been required to make assumptions about the form that these other rules will eventually take. For simplicity, and to avoid pre-judging the outcome of discussions taking place outside the CAM NC process, we have assumed that new rules will not be introduced, and that there will be no changes to the rules currently in place (e.g. the existing CMP framework).

If this assumption is proved incorrect, and changes are in fact made to rules that affect the CAM area but that are not included in the NC, the framework set out in this code may no longer be appropriate and will need to be modified through the appropriate processes. Below, we set out some examples of areas in which future changes are possible, and where it is possible that these changes would necessitate modifications to the CAM NC.

Tariff issues

Capacity allocation mechanisms and tariffs are intricately connected. The draft CAM NC was developed under certain tariff assumptions, which ENTSOG considers as critical and indispensable for the entire CAM design presented. This is, first and foremost, the setting of reserve prices for all capacity products, in order that cross-subsidies are avoided, particularly between domestic and cross-border capacity, as well as between long and short term system usage. Appropriate reserve prices will also minimise the need for ex-post revenue correction mechanisms, which again involve cross-subsidisation and potential barriers to efficient cross-border trade. To achieve this, reserve prices should be set such that all products yield equivalent revenue, and such that TSOs are allowed to recover their allowed revenues.

In this respect the draft CAM NC and associated tariff treatment are to be seen as a package, and any revision of the above reserve price setting principle, particularly low or zero reserve prices for short term products, would generate an unsustainable regime, both from a TSO and from a user perspective, and would necessitate that the package be reconsidered.

Congestion Management Procedures (CMP)

The European Commission (EC) is currently leading discussions on its proposed modifications¹ to congestion management procedures. The EC envisages that these proposals will eventually proceed to comitology without passing through the alternative framework guideline and network code process.

As these discussions are ongoing, ENTSOG cannot guarantee that the NC will not require adjustment once the details of the CMP are finalised. We note that there are strong links between CMPs and capacity allocation mechanisms, particularly for shorter capacity durations. Some of these links are

¹ The EC's proposed modifications, together with ENTSOG's response to them, can be found in the 'Congestion Management' section at http://www.entsog.eu/publications/index_g_capacity.html

noted in this document, for example in relation to the source of the capacity that will be offered in each auction (articles 4.6 (7); 4.7 (7); 4.8 (6); and 4.9 (8)).

ACER FG

As noted above, the draft NC is based on ERGEG's Revised Pilot Framework Guideline (FG) on Capacity Allocation Mechanisms. If there are any changes that could be considered substantive between this FG and the version eventually published by ACER, and particularly if the ACER version introduces additional provisions, ENTSOG will require additional time to develop and consult on the necessary changes to the CAM NC.

Other network codes

There are strong links between the CAM NC and the likely content of future network codes, notably those covering Balancing and Interoperability. To minimise the chances of inconsistency between this draft NC and future codes, the CAM NC has been developed in conjunction with ENTSOG members working in interconnected areas.

It is important that the framework guidelines prepared for these interconnected areas are consistent with the key provisions of this NC. Articles 2 (5) and (6) of the NC, and the relevant section of this supporting document, provide more detail on this issue.

Other rules

Developments in other areas, such as in relation to the gas Target Model currently being developed by CEER, and in relation to the Energy Infrastructure Package as being developed by the EC, may have an impact on capacity allocation. If these developments introduce requirements that are not consistent with the provisions of the CAM NC, the code will need to be modified.

D. General issues

Draft network code development process

The draft CAM NC is the result of discussions that have taken place over a long period. Many of the issues set out in this document have been the subject of debate between ENTSOG, ERGEG, network users and other stakeholders since 2009.

In the period leading up to the publication of the draft NC, ENTSOG has intensified its consultation activity. The process for producing the CAM NC was the subject of consultation during February 2011. Following this planning phase, stakeholders were encouraged to contribute their views on key CAM issues via the four Stakeholder Joint Working Sessions organised by ENTSOG during April and May 2011. These full-day sessions were open for all stakeholders to attend, and covered each of the key CAM topics:

- SJWS 1: Bundling and platforms (material covered in articles 5 and 8 of the draft NC)
- SJWS 2: Auctions (article 4)
- SJWS 3: Within-day allocation and interruptible capacity (section 6 and the within-day part of article 4)
- SJWS 4: Wrap up (all NC articles)

During these sessions, ENTSOG set out its proposals and participants were invited to provide views. Interested parties were also invited to submit views to ENTSOG outside the SJWSs.

ENTSOG welcomes the close involvement of the market, and is grateful to those who have engaged closely with the process so far and who have provided valuable feedback. Our aims are that the content of the draft NC should reflect the outcome of our discussions with stakeholders as far as possible, and that it should not contain any surprises for those who have followed its development.

As set out in this document, a number of issues remain to be resolved. We look forward to further productive discussions with stakeholders to enable us to move towards a final CAM NC.

Level of detail in the NC

ENTSOG aims to produce a NC document that can, if the principles in it are approved by ACER, pass straight into the comitology process. With this aim in mind, we would welcome stakeholder views on whether the level of detail in the draft NC is appropriate for an EU Regulation.

Question 1

Do you consider that the level of detail in the draft NC is appropriate for an EU Regulation?

Code modification process

Network codes may need to be refined for a number of reasons. For example, as set out in section C above, the code may need to be revised to be consistent with new legislation introduced after the NC comes into force. It is also likely that as market participants gain experience of the new procedures introduced by the code, it will become clear that certain changes could be beneficial. As users gain experience with auctions, for example, it may become possible to identify ways in which the auction design could be improved to help the market function more effectively. This issue is not unique to CAM but affects future NCs equally.

At ENTSG's fourth Stakeholder Joint Working Session, users expressed a preference for a NC that is sufficiently detailed to ensure as much harmonisation as possible across Europe. Stakeholders also felt, however, that there should be a process to modify the code (following consultation) where this is necessary. A rigid code is not appropriate.

ENTSG's intention is that the binding rules should set out capacity allocation mechanisms in a high level of detail, and this draft code reflects this approach to the extent possible. However, ENTSG recognises the challenges associated with ensuring that the code governance system allows changes to be made in future where these are supported by the market. The governance process set out in the Third Package² requires that any suggested changes are considered by ACER before passing through a full comitology process. This is likely to be a lengthy and difficult procedure.

Question 2

Should this NC set out detailed rules? If so, do you consider that where changes are necessary, they should be made through the change process foreseen in the Third Package, or (if legally possible) through a separate procedure where modifications can be made following stakeholder request and discussion?

Question 3

In your view, is it credible that principles and details of CAM mechanisms could be separately identified? What elements of this (or other) code(s) might be considered for a "lighter" change process and how might such changes be made binding?

Incentives

The NC does not include provision for incentives, which are outside the Framework Guideline process. It is, however, important that TSOs are incentivised appropriately to offer additional capacity above available technical capacity to the market. At the Stakeholder Joint Working Sessions, users supported this position as it is linked to the TSOs' willingness to offer capacity. Incentives will

² This change process is set out in article 7 of Regulation 715/2009, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0036:0054:EN:PDF>

therefore need further consideration as part of the development of a market-based approach to capacity allocation.



E. Issues arising in the draft Network Code

Relationship between NC, FG and supporting document

The table below shows how the articles of the NC correspond to the provisions of the FG. The table also lists the areas in which this supporting document provides further explanation.

Note that this document does not cover every article of the NC. Rather, it focuses on areas where we consider that further explanation would be valuable, for example where key decisions have been taken or where outstanding questions remain.

NC article	Topic	Relevant ERGEG	FG	Supporting document section
1.1	Subject matter	<i>Needed for legal reasons</i>		-
1.2 (l)	Harmonisation of gas day	2.1		-
1.2 (a)-(k); (m)-(cc)	Definitions	Various		-
1.3-1.6	Legal provisions: <ul style="list-style-type: none"> • Equal treatment, non-discrimination and transparency • Confidentiality • Relationship with European and national legislation • Entitlement to participate in capacity bookings 	<i>Needed for legal reasons</i>		-
2 (1)-2 (2)	Application of the Network Code	1.1		-
2 (3)	Incremental capacity	1.1		Yes; page 12
2 (4)	Capacity contracts	1.3		-
2 (5)-2 (6)	Interaction with other areas	<i>Needed to deal with future network codes</i>		Yes; page 13
2 (7)	Modification of the NC	<i>Needed for legal reasons</i>		Yes; page 8
2 (8)	Implicit auctions	3.1.1		-
3.1	Coordination of maintenance	1.4		-
3.2	Standardisation of communication	1.3; 1.4		Yes; page 13
3.3	Capacity calculation and maximisation	1.4		-
4.1	Allocation methodology	2.3; 3; 3.1.1		Yes; page 15
4.2	Standard Capacity Products	2.1		Yes; page 16
4.3	Applied booking unit	2		Yes; page 18

4.4-4.8	Auction design; Long Term Capacity auctions; annual monthly capacity auctions; rolling monthly capacity auctions; rolling daily capacity auctions	1.5 (consultation); 2.3; 3.1.1; 3.2	Yes; pages 16, 18
4.9	Within-day capacity auctions	2.1; 3.1.5	Yes; page 19
4.10-4.12	Auction algorithms	3.1.1	Yes; page 22
5 (1)-5 (4)	Offer of bundled capacity	2.4.1	Yes; page 28
5 (5)-5 (6)	Treatment of divergent capacity	<i>Needed to allow TSOs to meet obligation to maximise capacity offer</i>	Yes; page 29
5 (7)	Single nomination	2.4.1	Yes; page 29
5 (8)	Virtual Interconnection Points	2.4.3	Yes; page 30
6.1	Allocation of interruptible services	2; 2.2; 3.1.4	Yes; page 31
6.2-6.4	Standardised interruption lead times; coordination of interruption process; defined sequence of interruptions	2.2	Yes (article 6.4); page 31
7 (2)-7 (3)	Reserve price	3.1.2	Yes; page 32 and annex 2
7 (4)-7 (5)	Split of revenues from bundled capacity	<i>Needed to implement bundling</i>	Yes; page 33 and annex 2
7 (6)	Over recovery	3.1.3	Yes; page 33 and annex 2
7 (7)	Under recovery	<i>Needed to implement auctions</i>	Yes; page 33 and annex 2
8	Booking platforms	3.3	Yes; page 34
9	Exceeding required decisions	1.5	-
10	Adaptation, implementation and interim period	1.2; 3.1.6	Yes; page 35
11	Entry into force	<i>Needed for legal reasons</i>	-

1) Rationale of the Capacity Allocation Mechanisms Network Code

This article does not contain any discussion points.

2) Application of the Network Code

Article 2 (3): Incremental capacity

3) *This Network Code shall not apply to capacity allocated via open season. Nevertheless processes for determining Incremental Capacity, i.e. capacity to be made available above the prevailing level of existing technical capacity, will have to be consistent with the provisions of this Network Code.*

In line with the provisions of the FG, the draft NC does not include a mechanism for allocating incremental capacity. As requested by stakeholders at ENTSOG's second Stakeholder Joint Working Session, however, the proposed auction design set out in article 4 of the draft NC may provide a foundation on which an approach for incremental capacity release could be developed, in anticipation of the possible requirement for such release in future legislation. The detailed development is outside the scope of this NC but ENTSOG recommends that it be addressed as part of a subsequent framework guideline and network code process.

Articles 2 (5) – (6): Interaction with other areas

- 5) *This Network Code is not intended to cover areas other than capacity allocation, such as balancing, tariffs, interoperability, congestion management procedures or transparency, except to the extent necessary to address interactions with these areas.*
- 6) *In the event of any conflict or inconsistency between the terms of this Network Code and any provisions of another network code related to capacity allocation mechanisms issues that are described in articles 4 to 6 and article 8 of this Network Code, the terms of this Network Code shall prevail.*

These articles set out the relationship between the CAM NC and other pieces of legislation that are currently envisaged.

This NC focuses on capacity allocation mechanisms. The key aspects of the mechanisms to be implemented are set out in articles 4 (allocation of firm capacity), 5 (cross-border capacity), 6 (interruptible capacity) and 8 (booking platforms) of the draft code. ENTSOG will work to ensure that any conflict between this and future NCs on these core CAM issues is minimised. For the avoidance of doubt, however, if any conflict arises with respect to these key issues then article 2 (6) explains that this NC will take precedence. This approach ensures that it is clear which NC takes precedence in relation to each area of harmonisation.

The CAM NC also contains some provisions that do not relate to core CAM issues. Notably, article 3 relates primarily to issues that will be further specified in a future NC while article 8 relates to issues that may be further specified by future legislation in the Tariff area. As set out in article 2 (5), these provisions have been included only where this is essential for compliance with the FG and/or necessary for the implementation of the CAM mechanisms. This will help to minimise potential conflict between this NC and future codes.

3) Principles of co-operation

Article 3.2: Standardisation of communication

3.2 Standardisation of communication

- 1) *To ensure interoperability between each network user's IT systems, particularly for capacity booking, transfers of capacity rights, planning day-to-day network operation and information on potential congestion, transmission system operators shall coordinate the development and implementation of standard communication procedures, coordinated information systems and*

compatible electronic on-line communications such as shared data exchange formats and protocols, as well as agreed principles as to how this data is treated.

- 2) ENTSOG shall develop a coordinated and agreed approach between network users and transmission system operators to move towards the goal of achieving greater coordination and harmonisation of IT and communication matters which will lead to agreed solutions regarding the electronic exchange of data.*
- 3) ENTSOG shall specify processes for adopting technical solutions regarding compatible electronic on-line communications needs.*
- 4) Technical solutions adopted by ENTSOG shall be contained in a single document known as the ENTSOG Data & Solutions Handbook. The Handbook shall contain additional items such as a list of agreed data types to be exchanged and published, as well as a mapping of data types and principles with related technology standards. Any solution adopted by ENTSOG shall have an implementation plan and duration of applicability. The solutions shall ensure confidentiality, including of commercially sensitive information.*
- 5) The Handbook shall also contain any relevant technical solutions (such as the data format or exchange protocol) referred to in this Network Code.*
- 6) The latest version of the Handbook shall be available through ENTSOG's website.*
- 7) All solutions adopted for the needs of the Network Code shall be compatible with the specifications set out in the relevant paragraphs of this Network Code.*

This article sets out principles for the standardisation of communication, explains that the details of common communication procedures will be set out in a separate 'Data & Solutions Handbook', and states how the handbook will be published.

This text has been included in the NC following consideration of the following options:

- To leave the issue of communication standards open, for decision between TSOs and stakeholders. We do not consider that this is a viable option, as the FG requires ENTSOG to define standard communication procedures (Option rejected);
- To specify detailed communication standards in the CAM NC. We believe that this approach would bind TSOs and users to an unworkable degree, since even small, uncontroversial changes (such as a move to a newer, more effective type of electronic communication standard as technology progresses) would require a full comitology procedure (Option rejected); or
- To include these detailed technical specifications in a handbook that would be published before the implementation of the CAM NC. The handbook would be referenced in the NC, rather than all details being included in the NC. The handbook would be binding on TSOs but could be changed following appropriate consultation with stakeholders (Option included in draft NC).

The ENTSOG expert group that is examining this area has advised that a handbook is an appropriate solution in this situation due to the highly technical nature of communication procedures, particularly electronic procedures, and the likelihood that best practice in this area may need to change due to technological developments. A handbook would make the change process

manageable. We do not believe that it would be appropriate for detailed technical standards to be specified in a network code, or for changes to communication procedures to be made through a comitology procedure.

While we believe that a handbook is the best solution in this case, we note that there is a legal question to be answered regarding how the document could be made binding on market players, including TSOs.

Question 4

How do you consider that a process to review the handbook, and to modify it where necessary, should be designed?

4) Allocation of firm capacity**Article 4.1 (5)**

5) *For a given auction, the availability of the relevant Standard Capacity Products shall be communicated in accordance with articles 4.5 to article 4.9 and according to the Auction Calendar.*

ENTSOG will publish an Auction Calendar each year showing the dates of auctions. The calendar will be published in January, and will cover the period from March of the same year (when annual auctions of long term capacity take place) to February of the following year.

Articles 4.5-4.7 of the draft NC provide a broad indication of the timing of long term, annual monthly and rolling monthly auctions. It is not possible to specify exact dates for these auctions in the NC, as it is desirable for the auction period to avoid public holidays as far as possible. The dates of these holidays may vary each year.

The calendar will be published on ENTSOG's website, www.entsog.eu, to ensure all parties can access the information.

Article 4.1 (6)

6) *When defining the available capacity for the auction of Long Term Capacity, at least 10% of the available capacity shall be withheld for Short Term Capacity auctions.*

The draft NC proposes that long term capacity will be sold through auctions of quarterly products. 'Long term' capacity may therefore have a duration of up to sixty quarters, but may be as little as one quarter. This definition is a pragmatic one as it enables the draft NC to incorporate quarterly auctions, the option favoured by network users (see next section).

This definition of long term capacity is relevant only when talking about the FG's requirement that TSOs withhold a certain proportion of available capacity (at least 10%) for short term auctions. Under the text proposed in the draft NC, this reserved capacity would first be offered during annual

monthly auctions; any unsold capacity from these auctions would be offered in rolling monthly and shorter duration auctions.

This approach is necessary to implement auctions for quarterly products as requested by users. We consider that the approach is fully in line with provision 2.3 of the FG, since any reserved capacity will be sold at auctions where the maximum possible duration of capacity purchased is one year.

Articles 4.2 and 4.4: Standard Capacity Products /Auction design

4.2 Standard Capacity Products

- 1) The following Standard Capacity Products shall be defined: quarterly, monthly, daily, Within-day.*
- 2) Quarterly Standard Capacity Products shall be the capacity, which may be applied for and registered as held (in a given amount) by a network user for each Gas Day in a particular calendar quarter (starting respectively on the 1st of January, 1st of April, 1st of July or the 1st of October).*
- 3) Monthly Standard Capacity Products shall be the capacity, which may be applied for and registered as held (in a given amount) by a network user for each Gas Day in a particular calendar month (starting on the 1st Gas Day of each month).*
- 4) Daily Standard Capacity Products shall be the capacity, which may be applied for and registered as held (in a given amount) by a network user for a particular Gas Day only.*
- 5) Within-day Standard Capacity Products shall be the capacity, which may be applied for and registered as held (in a given amount) by a network user from a start time within a particular Gas Day until the end of the same Gas Day.*

4.4 Auction design

- 1) Long Term Capacity shall be offered via annual quarterly capacity auctions.*
- 2) Short Term Capacity shall be offered via annual monthly capacity auctions, rolling monthly capacity auctions, rolling daily capacity auctions and Within-day auctions.*
- 3) If Bidding Windows last more than one business day, the entity responsible for the auction shall publish aggregate interim information at the end of each business day except the allocation results which shall be published after the closing of the Bidding Window.*

Standard capacity products

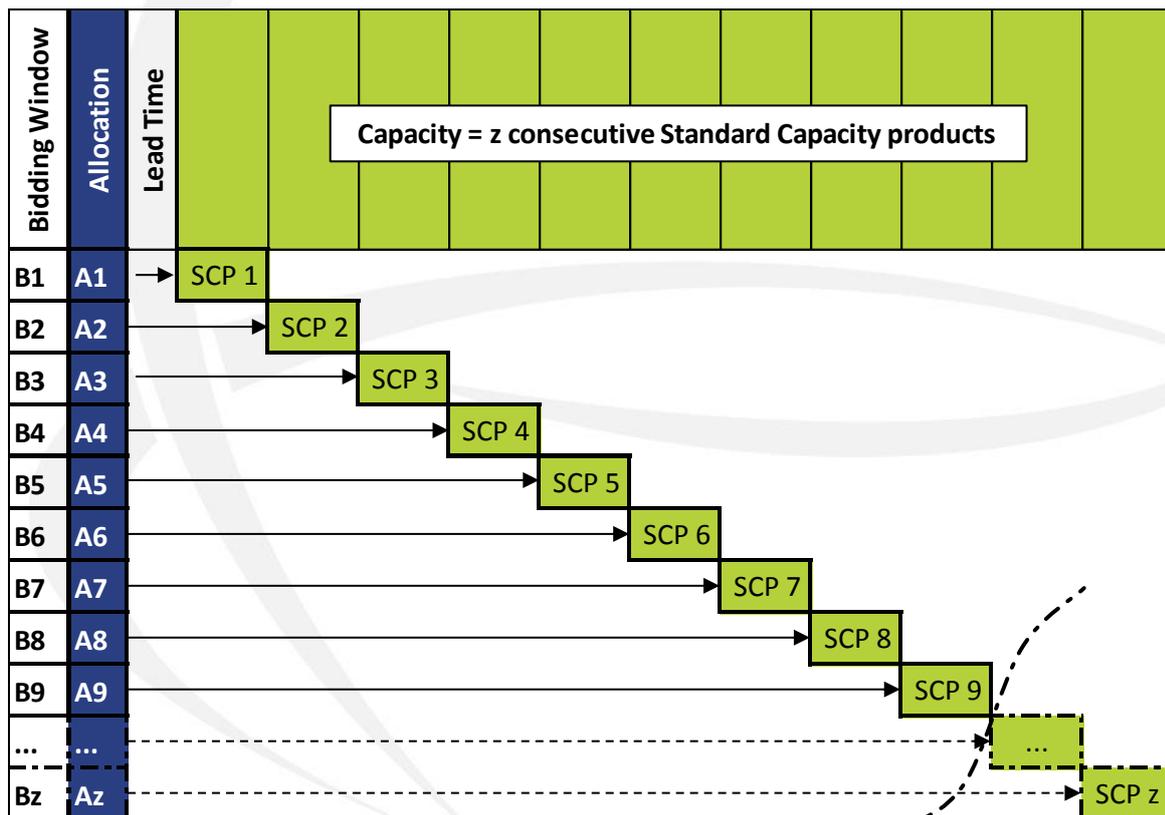
The draft NC specifies that auctions will be for the following standard capacity products: long-term, annual monthly, rolling monthly, daily, and within-day.

According to the draft NC, the product sold during long-term auctions will be quarterly capacity for the next 15 years (60 quarters). This text has been included in the NC following consideration of the following options:

- An annual product, in which 15 consecutive years are auctioned (Option rejected);
- An annual-quarterly hybrid, in which, for example, each auction includes 5 quarterly products for the next available year, followed by 14 yearly products for subsequent years (Option rejected); and
- A quarterly product, in which 60 consecutive quarters are auctioned (Option included in draft NC).

Under each of these options, independent but concurrent auctions would be run for each long-term product on offer, as shown in the diagram below. Participants would be free to bid separately for their desired quantity of capacity for each of the 60 quarters offered, allowing them to build a profile of capacity bookings over the following 15 years to match their expected usage.

The quarterly product option has been included in the draft NC following strong support from shippers at ENTSG’s second Stakeholder Joint Working Session, who explained that this option gave them greater flexibility to profile their bookings and to offer seasonal products. Under this option, users are able to build up an annual or longer product, should they wish, by purchasing consecutive quarters.



- SCP = Standard Capacity Product**
- B = Bidding Window for the individual bid**
- A = Allocation of each Standard Capacity Product**

The FG specifies that the determination of standard capacity products shall be consulted on, and that this consultation must include yearly and quarterly products (among others). Discussions are also ongoing between ENTSG and the EC, in order to ensure that the NC is compliant with the Third

Package. Therefore, while the draft NC includes the quarterly product option, this issue has not been finalised, and ENTSOG would welcome further views from stakeholders.

ENTSOG notes that the use of a quarterly product introduces the possibility of profiling of capacity over the year and that this may create redistributions between users. Thus, regulated Reserve Prices will need to be set such that they reduce the risk of under-recovery of revenue. Annex 2 to this supporting document explains the issue in more detail. Feedback from market participants on this Annex would be welcomed.

Question 5

Do you agree with the NC proposal for long term auctions of quarterly products? If not, please explain your proposed alternative and the rationale for this.

Auction design

As noted above, the draft NC specifies that auctions for consecutive long-term standard capacity products will be held concurrently each year, but that each standard capacity product will be auctioned independently within this process. To enable system users to secure capacity over supply routes and/or over longer time periods, the NC allows re-bidding (adjustment of bids) during the bidding window, to enable system users to satisfy their requirements, and specifies that aggregated interim information will be published each day during the auction window.

Question 6

Do you consider that the auction design set out in the draft NC includes sufficient measures to allow system users to purchase the long-term capacity they want? If not, how could the measures be improved, while remaining consistent with the FG and keeping the complexity of the auction design to a manageable level?

Article 4.3: Applied booking unit

4.3 Applied booking unit

The capacity offered shall be expressed in energy units per unit of time. The following units shall be used: kWh/h or kWh/d assuming a flat flow rate over the day.

Capacity will be offered in energy units per unit of time, which may be kWh/h or kWh/d. If kWh/d is used, the TSO will assume that gas is flowed at a flat rate over the day; so, for example, 24 000 kWh/d grants a right to flow 1 000 kWh/h.

Articles 4.6 (7); 4.7 (7); 4.8 (6); 4.9 (8)

4.6 (7) The capacity to be offered in the annual monthly auction shall be, each month, equal to:

B + L

Where:

B is the at least 10% of the total available firm capacity (A) reserved for Short Term Capacity auctions according to article 4.1 (6);

L is the unsold capacity from Long Term Capacity auctions (if any) plus any extra capacity;

[4.7 (7); 4.8 (6); 4.9 (8) also refer to ‘any extra capacity’]

These articles of the NC set out the elements that make up the total capacity to be offered in the annual monthly, rolling monthly, rolling daily and within-day capacity auctions.

The element described in the NC as “Any extra capacity” (included in quantities L, C, R and G in annual monthly, rolling monthly rolling daily and within-day capacity auction articles) may include a number of elements of capacity that TSOs are required to offer, or choose to offer. It may for example include oversubscription, capacity freed up by UIOLI measures, capacity surrender, and/or capacity identified by recalculation. The exact make up of this extra capacity will depend on the outcome of CMP comitology. The wording of this article will be revised, if appropriate, to reflect ENTSOG’s understanding of progress on CMPs when the final network code is being prepared.

Article 4.9: Within-day capacity auctions

General

The FG provides that within-day allocation may be either via auctions or first come first served. This issue was raised in ENTSOG’s Launch Documentation and has been subject to consultation with stakeholders through the third Stakeholder Joint Working Session. The draft NC specifies that auctions will be held for within-day capacity. Among the reasons users gave for this preference were that auctions allow purchasers to show the true value that they place on capacity, which is particularly important at congested points. First come first served, by contrast, is perceived by many stakeholders to be a more arbitrary system.

Also in response to user feedback, the draft NC proposes within-day auctions every hour (subject to a lead time) to allow users to adjust their portfolios regularly.

Users’ experience of the within-day allocation process is likely to be very similar whichever allocation methodology is ultimately applied. Allocation would be hourly in each case (via a confirmation round in the case of first come first served). In both cases, the availability of capacity at any point during the day will depend on the extent of previous capacity requests.

ENTSOG notes that there is a potential conflict between the draft NC, and provision 5 of the proposed CMP modification, which specifies that users may nominate any remaining capacity at any time within day without requiring prior booking. While hourly auctions enable users to purchase capacity throughout the day, providing it remains available, this methodology may not technically comply with the EC’s proposal. Similarly, given the desirability of harmonising the offer of firm and

interruptible capacity, there may be a conflict with section 2.2 of the FG which specifies that users may submit nominations on an interruptible basis at any time within day. Despite this, ENTSOG considers that an auction methodology is most likely to meet users' needs.

Question 7

Do you consider that the within-day auction proposal set out in the draft NC could be improved from a user perspective? If so, what improvements would you suggest?

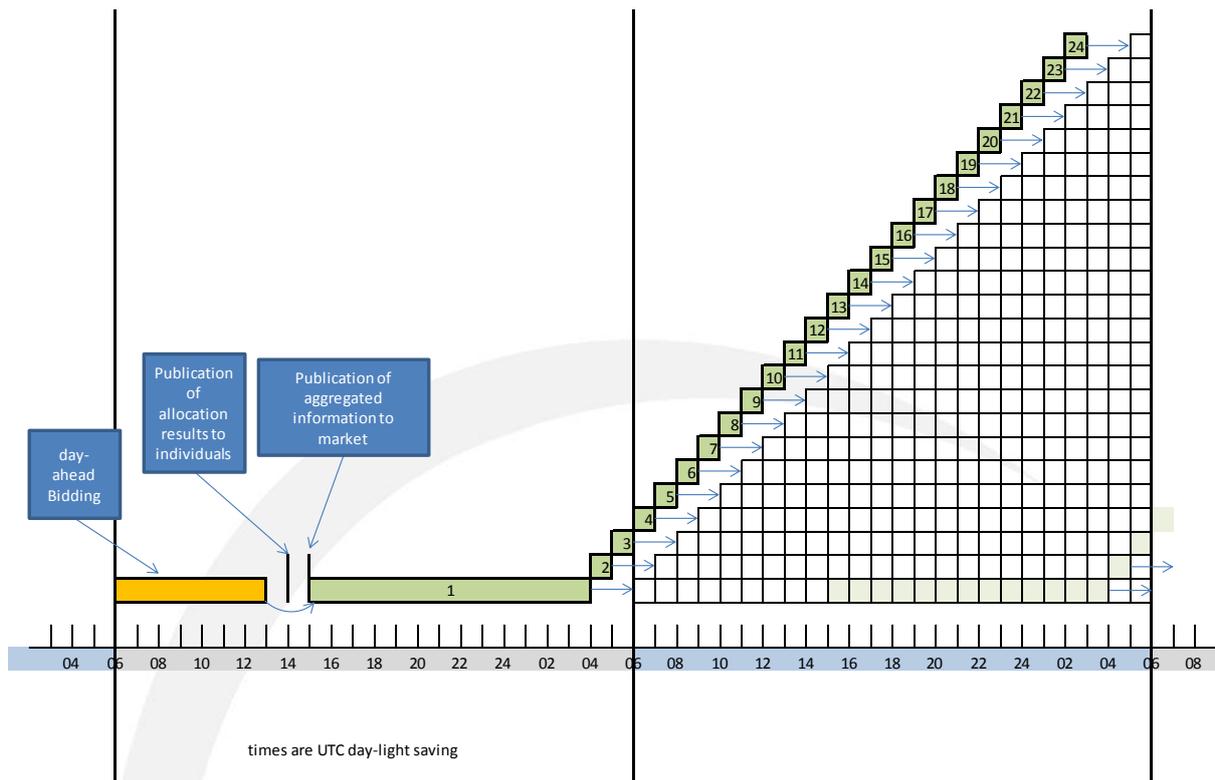
Question 8

The draft NC proposes that TSOs will implement all auction systems at all Interconnection Points (IPs). However, if no purchases of capacity are made in within-day or day ahead auctions at a particular IP over a certain period of time, do you consider that it would be appropriate to suspend these auctions for some time, in order to reduce operational costs?

Article 4.9 (1) – (7)

- 1) *Subject to capacity being made available, a Within-day capacity auction shall be held every hour during a relevant Gas Day (subject to article 4.9 (3)).*
- 2) *The first Bidding Window shall open directly on the next hour bar following the publication of results of the day-ahead auction in accordance with article 4.8. The first Bidding Window closes at 03:00 UTC (winter time) or 04:00 UTC (daylight saving) before the Gas Day. The allocation of successful bids shall be effective from 05:00 UTC (winter time) or 06:00 UTC (daylight saving) on the relevant Gas Day.*
- 3) *The last Bidding Window shall close at 02:00 UTC (winter time) or 03:00 UTC (daylight saving) on the relevant Gas Day.*
- 4) *Network users shall be entitled to withdraw or amend bids from the opening of the first Bidding Window until 02:00 UTC (winter time) or 03:00 UTC (daylight saving) within-day, unless the respective transmission system operator is running an allocation process.*
- 5) *Each hour on the relevant day, capacity effective from the hour + 2 shall be auctioned as Within-day capacity.*
- 6) *Each Bidding Window shall open at the start of every hour on the relevant day.*
- 7) *The duration of each Bidding Window shall be 1 hour as of the opening of the Bidding Window.*

The diagram below illustrates the within-day auction timetable set out in articles 4.9 (1) – (7).



Any within-day capacity offer is made for the whole of the relevant gas day. Since it is impossible to nominate gas flow for a time period in the past, a user purchasing within-day capacity effectively buys the capacity rights for the period between the time of allocation and the end of the gas day. Thus it is not possible, for example, only to bid for capacity between 8am and 10am. Any user wishing to buy within-day capacity rights starting at 8am must bid in the auction finishing at 6am (or earlier), in order to obtain rights starting at 8am and lasting until the end of the gas day.

This approach allows users requesting the longest within-day durations to buy capacity first, in line with the approach specified for other capacity auctions. It also allows users to purchase capacity for the remainder of the day with a single bid.

If capacity is offered in units of kWh/d (see article 4.3), the amount of capacity on offer will be reduced as the day progresses to reflect that less gas can be flowed over a shorter period. If capacity is offered in units of kWh/h, this modification will not be necessary.

Article 4.9 (10)

10) Transmission system operators shall provide network users who bid in the day-ahead auctions with the option to have un-allocated bids automatically entered into the subsequent Within-day auction, in so far as the day-ahead bid was not accepted in the day-ahead auction.

Following user feedback, ENTSG has included an ‘automatic bidding’ option in the draft NC to enable users to enter a bid day-ahead for capacity offered in a within-day auction, should they wish. Users can submit bids in the day-ahead auction and can specify that these bids, if unsuccessful, should be entered automatically into the relevant within-day auction.

As set out in article 4.9 (2) and illustrated in the diagram above, users are also able to enter a manual bid for within-day capacity in advance of the relevant day, since the first bidding window will open on the next hour bar following the publication of results of the day-ahead auction (that is, at 15.00h UTC day-light saving time).

Articles 4.10, 4.11, 4.12: Auction algorithms

4.10 Auction algorithms

- 1) If several Standard Capacity Products are offered during an auction, the respective allocation algorithm (Cleared-Price auction) shall be applied separately for each Standard Capacity Product when it is being allocated. Bids for the different Standard Capacity Products shall be considered independently from each other in the application of the auction algorithm.*
- 2) For Long Term Capacity auctions, annual monthly capacity auctions and rolling monthly capacity auctions, a Volume-Based Cleared-Price auction algorithm shall be applied in accordance with article 4.11.*
- 3) For day-ahead capacity auctions and Within-day capacity auctions, a Uniform-Price auction algorithm shall be applied in accordance with article 4.12.*

4.11 Volume-Based Cleared-Price auction algorithm

[Text omitted here for reasons of length; please refer to NC]

4.12 Uniform-Price auction algorithm

[Text omitted here for reasons of length; please refer to NC]

Auction algorithms describe the process that bidders will follow to participate in an auction, and the process that the TSO will follow to determine which bidders are allocated the capacity on offer and the price paid.

This section of the supporting document explains the algorithms that are set out in the draft NC, with examples to demonstrate how each is envisaged to work, then considers the implications of adopting these models.

ENTSOG believes that the auction design included in the draft NC is a workable methodology that is consistent with users' preferences. In line with feedback at the second Stakeholder Joint Working Session, the algorithms involve a single round auction and a cleared price methodology, under which all successful bidders pay the same price. A range of alternative auction designs have been considered, but ENTSOG considers that these have disadvantages that may make them less suitable than the preferred design included in the draft NC. For completeness, these alternatives are described briefly at the end of this section.

Long term, annual monthly and rolling monthly auctions: proposed algorithm (article 4.11)

For long term, annual monthly and rolling monthly capacity auctions, the draft NC specifies a volume-based cleared-price algorithm. The diagram below illustrates how these auctions are envisaged to work.



If demand for capacity falls by a large percentage between any two successive price steps, there is a risk that demand for capacity at the clearing price will be substantially lower than the amount on offer. If in the example above, users had instead bid for only 100 units at the clearing price P3, 350 units would have been unsold in this auction and would have been rolled over to the annual monthly auction. This would happen even though there were bidders prepared to purchase all 450 units of long term capacity at the reserve price or higher.

This outcome would be suboptimal both for users and TSOs, and adjacent TSOs will endeavour to agree price steps to minimise the chance that this will happen. In order to achieve this, they will aim for a situation in which demand reduces by a small amount at each price step, eventually falling below the available capacity.

An alternative to the above methodology would have been to set clearing price at the price step at which demand is **greater than or equal to** availability. This would have meant that users would have received only a proportion of their requested capacity (pro rata method). During the Stakeholder Joint Working Sessions, users expressed a desire to avoid pro rata allocation of capacity, which would not reflect users' true demand.

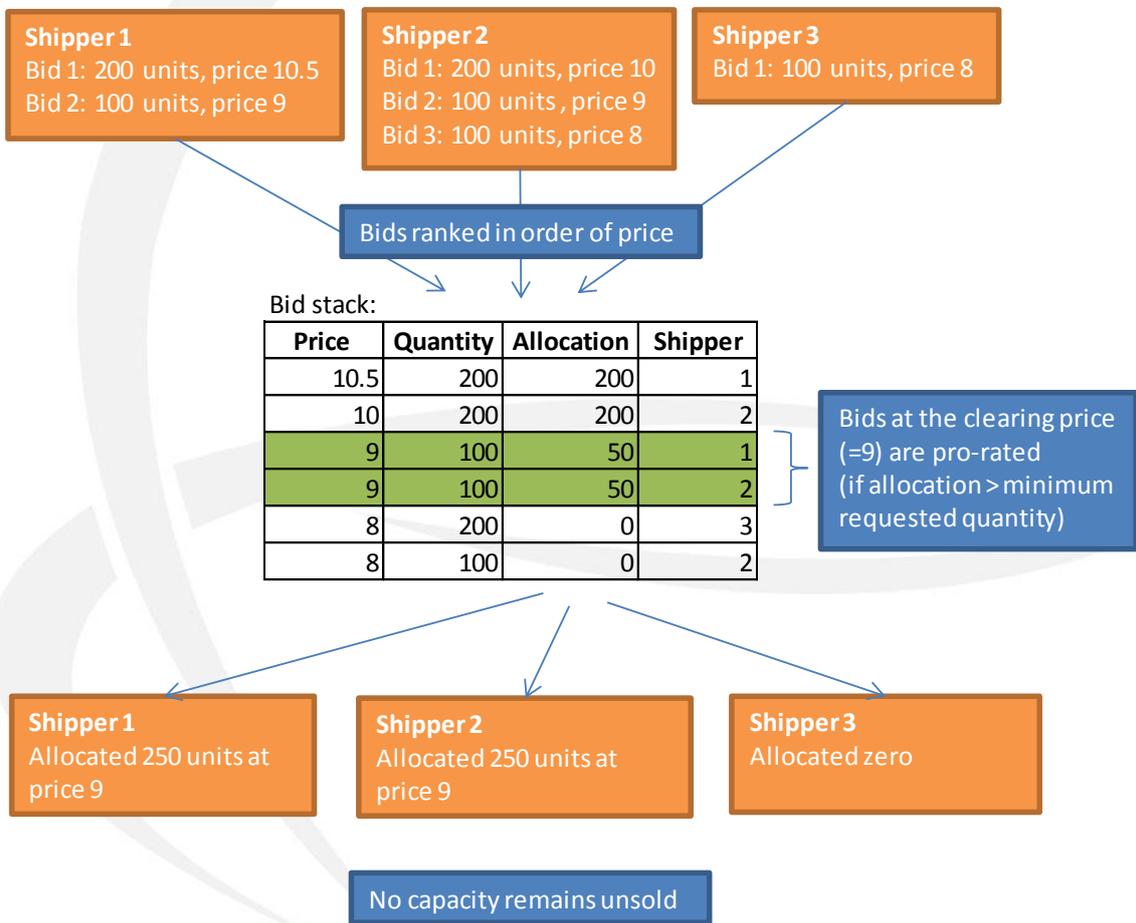
Pro rata allocation will be used only where demand for capacity exceeds the highest price step (article 4.12 (8)). Adjacent TSOs will work to agree a proposal for price steps in a way that minimises the need for pro rata allocation.

Day-ahead and within-day auctions: proposed algorithm (article 4.12)

For day ahead and within-day auctions, the draft NC specifies a uniform price algorithm. Under this methodology, users can submit up to 10 independent bids. The price may be chosen freely and there are no pre-specified price steps. Bids are additive.

The diagram below illustrates this methodology:

Day-ahead auction: 500 units available



Implications

The algorithms described above have been included in the draft NC for the following reasons:

- The volume-based algorithm is proposed for long term, annual monthly and rolling monthly in response to requests from participants at the second Stakeholder Joint Working Session for a volume-based mechanism, likely to provide a foundation for incremental capacity release.

Further advantages of the methodology are that it is relatively easy for new bidders to understand, and that it facilitates the allocation process for TSOs.

- For day-ahead and within-day, we consider that the open-bid algorithm described above is more appropriate than a volume-based methodology, as it may be less likely to result in unsold capacity. At these short durations, any unsold capacity cannot be rolled over to a subsequent auction and could remain unused even if there were a demand for it, which would not be in the interests of users or TSOs. ENTSOG is also concerned that it might not be reasonable to require users to bid daily or hourly against each of a large number of price steps at each IP.

The proposed volume-based approach enables users to place their volume bids against more than one predetermined price step at once, if they wish to do so, by filling out a complete bidding sheet listing all the price steps. The different prices will not be called out successively.

Under this approach, network users may freely withdraw and amend their bids during the fixed length bidding window. Without additional rules, this would create an incentive for shippers to expose their real preferences just before the close of the bidding window. This would mean that network users wanting to purchase capacity at a number of IPs would be unable to assess their chances of a successful bid at one IP before placing their last bid at another IP. Network users taking part at an auction at only one IP might end up with no capacity, without having another chance to increase their bid.

Therefore, additional rules are likely to be necessary in order to ensure that interim results (published at the end of each day during the bidding window) contain information that is valuable and not misleading. ENTSOG suggests some possible mechanisms in the section entitled 'Value Discovery Mechanisms' below. However, these additional rules may increase the overall complexity of the approach.

Alternative models

The algorithms included in the NC and above are both single-round, uniform price methodologies. Below we briefly describe three potential alternatives, in order to prompt discussion: a pay-as-bid methodology (as an alternative to uniform price), a multiple-round methodology (as an alternative to single round), and a uniform price methodology in which the number of price steps is not pre-determined.

- ***Pay-as-bid algorithm***

The alternative to a uniform price algorithm is a pay-as-bid auction, in which the highest bidders are allocated capacity, and successful bidders pay the price specified in their bid. This option is not included in the draft NC, following stakeholder input.

The methodology applied in a pay-as-bid auction would be identical to that described above for an open-bid uniform price auction, except that the final price paid by each successful bidder would be the price specified in the bid.

- ***Multiple round algorithm***

Under this model, rather than users bidding simultaneously against a series of price steps, prices would be called out successively, at regular intervals, starting with P_0 (an ascending clock approach).

There would be a limited number of rounds (i.e. prices). Capacity would be allocated once demand at a certain price steps was equal to or lower than the capacity on offer. This approach would mean that network users would always have the chance to actively decide whether to place a bid at a higher price or not.

One disadvantage of this approach is that there is no fixed end point, so auctions would not be concurrent between IPs. Auctions starting at the same time at multiple IPs across Europe could finish at very different times, depending on the clearing price.

- ***Volume based algorithm with unlimited price steps***

Instead of limiting the number of price steps to 30, as described in the NC and above, it would be possible to specify only the size of a price step, and to leave the number of price steps open. Such an approach may limit or avoid the need to applying a pro-rata rule (which would be the case when in the proposed approach the market-clearing price is larger than P_{29}) while still being volume-based auctions in which users place volume-bids against a range of prices. There may, however, be some practical disadvantages to this approach.

Question 9

Do you consider that the auction algorithms set out in the draft NC are appropriate for the Standard Capacity Products to which they are proposed to apply? If not, what modifications would you suggest?

Question 10

Do you believe that any of the potential alternatives described would be more suitable? In particular, do you consider that a Pay-As-Bid methodology would be more appropriate than uniform price, particularly for auctions of shorter duration products?

Question 11

Under a non volume-based algorithm (whether uniform price or pay as bid), do you consider that ten bids per user is a sufficient number?

Value discovery mechanisms

ENTSOG is considering measures that could be used within a single-round auction to encourage users to bid early and not withdraw their bids, thus stimulating price formation. Such mechanisms could benefit users and TSOs by showing the true value that users place on capacity at an early point during the bidding window and by discouraging gaming (for example, through deliberate overbidding followed by bid withdrawal, or through submission of bids immediately before the auction deadline).

ENTSOG considers that interim publication of relevant aggregated information during a single round auction process, as specified in the draft NC, is likely to be helpful in this regard. Additional measures

to meet the objective of reflecting actual demand from the beginning of the auction might for example include the following options, which were presented at the fourth Stakeholder Joint Working Session:

- Obligation to bid from the first day of the bidding window;
- Restrictions on placing and/or amending bids; and
- Early closure of the bidding window after a defined period of bid stability.

The draft NC does not refer to such mechanisms, since these have not yet been discussed in detail with stakeholders. ENTSOG would welcome views on whether such mechanisms would be appropriate and, if so, how best to design them.

Question 12

Do you consider that mechanisms supporting value discovery should form part of the NC? If so, which mechanisms do you believe would be most effective?

5) Cross-border capacity

General

A bundled service is a combined firm entry and exit capacity at a specific IP sold as one bundled product. This means that at a given IP, the shipper books a single firm capacity product (via the auction procedures described in this document) and is allocated a bundled entry/exit capacity product. On this basis, the shipper avoids two separate allocations on each side of the country/market area border, removing the risk of being allocated different capacities.

Adjacent TSOs are required to make the bundled capacity available through booking platforms, described in article 8 of the NC.

The draft NC implements the provisions set out in the FG for cross-border bundling of available capacity at IPs. It cannot, however, implement provision 2.4.2 of the FG, the ‘sunset clause’. This provision specifies that existing capacity contracted before the entry into force of legally binding network codes shall be bundled five years thereafter, and indicates that TSOs should be entitled to split the bundled capacity between the original capacity holders proportionally to their capacity rights, if no alternative agreement can be reached between the contracting parties. Effectively, this would require a TSO to forcibly terminate all existing contracts for non-bundled capacity, and to impose new contracts for bundled services.

ENTSOG aims to reflect the FG provisions as far as possible in the NC. However, entrusting TSOs with the right (or the task) of unilaterally changing transmission contracts to which they are parties could, if this right is exercised, be held as abusive. This could expose TSOs to damage claims and/or a renegotiation or a termination of the contracts with subsequent losses of revenues. We would welcome a provision relying on agreement between the contracting parties. However if such an agreement cannot be reached, the final decision should come from a competent body that is a third party to the relevant contracts (though TSOs should be involved in discussions).

We are aware that ACER is addressing this issue in its ongoing impact assessment, and have shared our legal advice with them. Pending the outcome of this assessment, we have excluded this issue from the draft NC.

If the conclusion of this impact assessment is that the implementation of the sunset clause is legally feasible, ENTSOG will include in the final code a methodology for taking a proportion of capacity away from existing holders and reallocating it to other holders in order to implement bundling. A number of options exist for this process. ENTSOG is currently developing this methodology and would welcome users' views on how such a split might best be arranged.

Question 13

In your view, how could a split of bundled capacity between existing holders of unbundled capacity best be arranged?

Articles 5 (1),(2),(3),(4): Offer of bundled capacity

- 1) *All firm capacity shall be offered as Bundled Capacity, in so far as the capacity is firm on both sides of the Interconnection Point.*
- 2) *Transmission system operators shall make available capacity for the duration considered on a booking platform for the network users registered at the relevant platform, in accordance with article 8 of this Network Code and in accordance with the applicable booking procedure timelines, as set out in article 4.*
- 3) *The booking platform(s) shall be designed in such a way, that the joint capacity to be offered by the transmission system operators concerned at an Interconnection Point once the corresponding available capacity is available as a bundled product, shall be booked through a single booking and allocation procedure.*
- 4) *Network users shall comply with applicable terms and conditions of the Capacity Contract(s) of the transmission system operators concerned as from the booking. For the avoidance of doubt, once allocated the capacity shall be deemed a contracted capacity as defined in article 2 of Regulation (EC) 715/2009.*

These articles specify that capacity must be bundled at interconnection points as required by the FG, and set out a methodology for making this happen. This methodology is explained in ENTSOG's CAM NC launch documentation.

We are aware that users are strongly against mandatory bundling and in favour of a voluntary model. ENTSOG itself would prefer voluntary bundling, or a 'Combined Service' as proposed and presented by the Prime Movers at the first Stakeholder Joint Working Session. The FG is clear that mandatory bundling must be implemented and ENTSOG has therefore developed the NC on this basis. However, ENTSOG would welcome further views, in particular from network users, on the impact of mandatory bundling.

Question 14

In your view, what effect would mandatory bundling have on network users? Please provide supporting evidence, if available.

Articles 5 (5) and 5 (6): Treatment of divergent capacity

- 5) *Where due to technical reasons there is more firm capacity available on one side of an Interconnection Point than on the other side and where this results in a mismatch between the available firm capacities of a specific duration, the transmission system operator with the most available firm capacity on offer shall offer the divergent capacity to the network users as an unbundled firm product in accordance with the Auction Calendar.*
- 6) *Firm capacity becoming available on one side of an Interconnection Point exceeding the available capacity on the other side of the Interconnection Point shall be allocated for a duration not exceeding the expiration date of the corresponding Capacity Contract on the other side of the Interconnection Point. Adjacent transmission system operators shall monitor and plan this process.*

Technical differences between two adjacent entry-exit systems may result in a mismatch of the available firm capacity at either side of an IP (article 5 (5)). A temporary mismatch may be caused by a difference in the expiry date of capacity contracts on either side of an IP (article 5 (6)).

The draft NC specifies that in each of these cases, the TSO with the greater amount of available firm capacity will offer it as an unbundled firm product. The procedures used in the case of a technical mismatch and a temporary contractual mismatch are different from each other and are set out in the draft NC.

- In the case of a technical mismatch, the TSO with the greater amount of available firm capacity will offer the divergent capacity as unbundled firm, at the same time as the corresponding bundled firm auction.
- In the case of a temporary contractual mismatch, adjacent TSOs will co-operate to ensure that the divergent capacity is offered as unbundled firm for a duration no longer than the time left to expiry of the corresponding contract on the other side of the IP.

The key similarity, however, is that TSOs will comply with their obligation to maximise the amount of capacity that they offer by selling an unbundled product where it is impossible to sell a bundled one.

Article 5 (7): Single nomination

- 7) *Adjacent transmission system operators shall establish a joint nomination procedure for Bundled Capacity, providing network users with the means to nominate the flows of their Bundled Capacity via a single nomination.*

An important feature of bundled capacity is that users should be able to flow gas from one system to another across an IP on the basis of a single nomination. TSOs will where possible develop procedures to allow allocation to be made on the basis of a single nomination.

Separate nominations will however be necessary, in situations where a single nomination is not feasible. This applies in the case of interruptible capacity (which the FG does not require to be bundled), already booked capacity, and unbundled firm capacity (see articles 5 (5) and 5 (6)).

Article 5 (8): Virtual Interconnection Points

- 8) *Where two or more Interconnection Points connect the same two adjacent transmission systems, the adjacent transmission system operators in question shall offer the available capacities at the Interconnection Points at one Virtual Interconnection Point according to the following conditions:*
- (a) the total virtualised capacity shall be equal to or higher than the sum of the individual capacities available at the relevant Interconnection Points;*
 - (b) to the reasonable judgement of each transmission system operator concerned regarding its own transmission network, the characteristics of the transmission systems involved shall allow virtualisation of capacities;*
 - (c) Virtual Interconnection Points shall only be established, if they facilitate the economic and efficient use of the system including but not limited to rules set out in article 16 of Regulation (EC) No 715/2009; and*
 - (d) adjacent transmission system operators shall start the analysis of the possible establishment of a Virtual Interconnection Point in due time for any Virtual Interconnection Point to be functional no later than 5 years after the entering into force of this Network Code.*

Virtual Interconnection Points (VIPs) will be established whenever this is a viable option. The challenges associated with establishing VIPs were however recognised at the first Stakeholder Joint Working Session. Not all potential VIPs (collections of two or more IPs connecting the same two entry-exit systems) would be viable VIPs. VIPs are likely to be viable where:

- The total virtualised capacity is no lower than the sum of the individual capacities available at the relevant IPs,
- The characteristics of the transmission systems involved allow virtualisation of capacities, and
- They facilitate the economic and efficient use of the system.

In order to facilitate the establishment of viable VIPs, once cross-border bundling has been implemented, TSOs will examine whether these conditions are met for each potential VIP. This process ensures that TSOs do not waste time pursuing unfeasible VIPs, but instead focus their resources on developing those potential points that are most likely to be viable. In line with the FG, the NC specifies that TSOs will assess potential VIPs and establish VIPs wherever the conditions are met, within a period of five years from the NC coming into force.

Question 15

Do you consider that the approach to bundled capacity set out in the NC is appropriate, within the constraints of the FG?

6) Interruptible capacity**General**

Feedback from users at the third Stakeholder Joint Working Session suggests that interruptible capacity remains a valuable product, but that its value and role are likely to decrease in future. Measures introduced through the CAM NC and modifications to congestion management procedures, for example, are likely to free up more firm capacity at short durations. The increase in the availability of firm capacity will cause an increase in the probability of interruption, where interruptible capacity is sold. CMP measures are also likely to impact on the value of existing interruptible contracts, by making greater amounts of short term firm capacity available and thus increasing the probability of interruption.

The impact of these changes on existing long term interruptible contracts will need to be dealt with under national law and regulation, and are not covered in the CAM NC.

Where it is offered, interruptible capacity (including within-day) will be sold by auction, in line with users' preference for a consistent allocation methodology across different capacity products. This consistent approach also has the advantage of being lower cost, as a first come first served system (based on nominations) would need to be set up differently from an auction system.

Article 6.1 (6): Allocation method

6) If offered, interruptible capacity shall be allocated via an auction process (with the possible exception of Within-day).

TSOs will offer interruptible capacity wherever possible, and at least on a day-ahead basis at IPs where firm capacity is sold out. Where interruptible capacity is offered, it will be sold via an auction process that opens shortly after the closure of the corresponding firm auction. In this way, the allocation of interruptible capacity will not restrict the allocation and use of firm capacity, as required by provision 3.1.4 of the FG.

Article 6.4: Defined sequence of interruptions***6.4 Defined sequence of interruptions***

1) The order in which interruptions shall be performed, if the total of nominations exceeds the quantity of gas that can flow at a certain Interconnection Point, shall be determined based on the Contractual Timestamp of the respective Capacity Contracts on an interruptible basis. The Capacity Contract with the oldest Contractual Timestamp shall prevail.

- 2) *If, after applying the procedure described in article 6.4 (1), two or more nominations are ranked at the same position within the interruption order and the transmission system operator does not interrupt both/all of them, a pro-rata reduction of these specific nominations on the basis of their respective nomination shall apply.*
- 3) *To accommodate the differences between the various interruptible capacity services within Europe, the adjacent transmission system operators will implement and coordinate the joint procedures described in this article 6.4 on an Interconnection Point by Interconnection Point basis.*

This article sets out a harmonised procedure for determining the sequence of interruptions, as required by the FG. If all users pay the same price for capacity (the clearing price), the contract that was signed first will prevail, meaning that the network user who purchased interruptible capacity most recently will be interrupted first. If there are two or more contracts of the same age (as is likely to be the case under a system of co-ordinated auctions), a pro-rata system will be applied, with each nomination from the respective users being reduced by the same percentage.

ENTSOG understands that there are disadvantages to a pro-rata system of interruptions and is open to alternative solutions for determining the interruption sequence for capacity sold under a uniform price algorithm.

Question 16

Do you consider that the process set out in the draft NC for determining the sequence of interruptions is appropriate? If not, what system would you prefer?

7) Tariffs

The aim of this article is to ensure that the CAM network code can function as a self-contained code. ENTSOG has aimed only to cover essential issues.

Annex 2 to this supporting document sets out tariff issues in more detail.

Articles 7 (2) and 7 (3): Reserve price

- 2) *The Regulated Tariff shall be used as the Reserve Price in all auctions for all Standard Capacity Products for firm and interruptible capacity.*
- 3) *The regulated prices as Reserve Prices for firm Standard Capacity Products shall be set such that bookings of a profiled set of products to meet the actual flow requirements throughout the year yield revenues which are, as far as reasonably possible, equivalent to the revenues from non-profiled longer capacity bookings to meet annual peak flow requirements. In order to achieve such equivalence, Standard Capacity Products shall be offered at regulated prices as Reserve Prices, which are derived per Interconnection Point and per direction by applying multipliers higher than one to a tariff determined from an annual accounting basis.*

These provisions reflect the FG provision that the reserve price is the regulated tariff. Further, they define the principle of revenue equivalence of the reserve prices of the standard capacity products foreseen in the CAM NC. This is to minimise the need for ex-post revenue correction and to avoid cross-subsidies. Users should note that this means that capacity can be purchased when the need for it is identified, and no undue necessity to move to the short term is induced. The annex to this document sets out this issue in more detail.

This principle is considered as essential and indispensable by ENTSOG, and if it is challenged, the entire auction design would need to be reconsidered (e.g. the application of cleared price auctions and the standard capacity product set).

Articles 7 (4) and 7 (5): Split of revenues from bundled capacity

- 4) *Auction revenues from Bundled Capacity need to be split between the transmission system operators placing capacity elements in a Bundled Capacity. The Reserve Price of the Bundled Capacity shall be the sum of Reserve Prices of the capacity elements in the bundle. All revenues from sales of Bundled Capacity shall be attributed to the contributing transmission system operators in relation to each capacity transaction.*
- 5) *Any revenue from an auction of Bundled Capacity shall be split between the transmission system operators placing capacity elements in the bundle according to a pro-rata rule, based on the proportions of the Reserve Prices of the capacity elements placed in the bundle at the time of the auction. By way of derogation, transmission system operators placing capacity in a Bundled Capacity can agree on a different split of the revenue from an auction of bundled products.*

This provision is necessary, because upon implementation of bundled product auctions, potential auction premiums have to be attributed to TSOs contributing to bundled products.

Articles 7 (6): Over recovery, and 7 (7): Under recovery

- 6) *Auction revenues exceeding the allowed revenue (or under a price cap, auction revenues arising from capacity prices above the regulated tariff) shall be used for different aims, subject to approval by the national regulatory authority.*
- 7) *In the event of revenue under-recovery (or under a price cap, capacity prices falling short of later regulated prices after the auction), national regulatory authorities shall allow transmission system operators to collect the revenue shortfall in a timely manner by adjusting tariffs accordingly.*

These provisions concern themselves with the ex-post correction of revenues. They reflect the FG and clarify that also a shortfall of foreseen revenues has to be covered. TSOs shall be entitled to adjust tariffs accordingly. This may include the adjustment of the regulated tariff element of the price of an auctioned product during the lifetime of that product, or any other tariff adjustment such as a commodity/throughput charge. The annex to this consultation document analyses the issues involved and presents options.

Question 17

ENTSOG would welcome feedback, observations and suggestions related to this section of the supporting document and to Annex 2. Do you consider that ENTSOG has correctly identified the key tariff issues in these sections?

8) Booking platforms**Article 8 (4)**

- 4) *Adjacent transmission system operators shall take the necessary steps towards applying the rules of this Network Code. This can be done by offering Bundled Capacity via the following:*
- (a) using already existing booking platforms;*
 - (b) one transmission system operator or an agreed party offering the Bundled Capacity including, where necessary, acting on behalf of the transmission system operator(s) towards the network users;*
 - (c) establishing a joint booking platform; or*
 - (d) establishing another platform approach not specified here.*

At the Stakeholder Joint Working Sessions, users asked that TSOs should implement interim platforms to offer bundled capacity using the best means available, while working in parallel towards a long term EU-wide solution.

Establishing interim platforms will involve a significant investment of time and resources by the TSOs. The draft NC therefore gives TSOs a wide range of options, to enable them to develop interim platforms in the way that they consider most appropriate and cost-effective. By minimising the time and resources devoted to establishing interim solutions, TSOs will be more able to focus on working towards an EU-wide solution.

Article 8 (5)

- 5) *The action plan on how to reduce the number of platforms and eventually establish a single EU-wide platform is as follows:*
- (a) no later than 1 year after the entry into force of this Network Code, ENTSOG shall publish a report describing the number and operation of existing and planned booking platforms;*
 - (b) based on this report ENTSOG shall start a market consultation process to identify the market's needs with respect to booking platforms;*
 - (c) this market consultation process shall last at most 12 months and shall end with the publication by ENTSOG of a comprehensive report setting out the market's requirements for booking platforms. This report shall also provide a reasoned assessment of costs and time needed to*

establish an EU-wide booking platform meeting the market's requirements. A road map towards a single EU-wide booking platform, including interim steps, if needed, shall also be part of this report.

A long-term solution for capacity booking may involve anything between one platform and a large number of platforms, each (for example) covering one country or one IP. Following stakeholder input, ENTSOG will work towards a single EU-wide platform. The draft NC sets out an action plan for achieving this.

9) Exceeding required decisions

This article does not contain any discussion points.

10) Adaption, implementation and interim period

Articles 10.1: Adaption of national terms and conditions, and 10.2: Implementation period

10.1 Adaption of national terms and conditions

Transmission system operators shall adapt relevant national terms and conditions to the extent affected by this Network Code within six months of this Network Code entering into force and shall start the relevant endorsement process subject to the relevant national mandatory procedures. The rules shall comply with the Implementation Period set forth herein.

10.2 Implementation period

Subject to article 10.1, for the implementation of the systems stemming from the provisions set out in this Network Code, including but not limited to technical aspects, an additional transitory period of [18 months] shall apply.

TSOs will modify relevant national terms and conditions to be in line with the provisions of the NC within six months of the code coming into force.

Implementing certain aspects of the NC, particularly those requiring new IT systems, will be a technically complex process requiring a substantial investment of time and resources. In order to ensure that these systems are fit for purpose and cost effective, TSOs will require an additional implementation period. The 18 month period suggested in the draft code is an initial estimate of the time that may be needed for this process. It will be reviewed by ENTSOG during preparation of the final CAM NC and a final number determined once all other aspects of the NC are finalised.

Article 10.3: Interim period for auctions

In case the characteristics of a national or regional market are not considered appropriate for the purpose of applying auctions on a national level at the time of the coming into force of the corresponding provisions, an interim period may be adopted for this market. During this interim

period, adjacent transmission system operators shall apply a compatible allocation mechanism at each Interconnection Point.

In the case of auctions, an additional interim period may apply before the relevant provisions of the NC come into force, in accordance with provision 3.1.6 of the FG. This period will be set following discussions between NRAs, TSOs and stakeholders regarding the appropriate solution for each national or regional market.

11) Entry into force

This article does not contain any discussion points.

F. ENTSOG's overall processes

ENTSOG would welcome feedback on its process to produce the draft CAM NC, and on the interaction with stakeholders during this process. This feedback will help us to ensure that the process followed to produce the final CAM NC, and future NC processes, are valuable for all market participants.

Question 18

What is your view of the process that ENTSOG has followed in order to produce the draft NC? Would you recommend that ENTSOG use a similar process to develop future NCs? What approaches would you suggest to enable ENTSOG to improve the process?

Question 19

ENTSOG is developing a new website and would welcome stakeholder views on how to make it as useful as possible. What are your views about the current ENTSOG website, www.entsog.eu, and what could be improved?

Annex 1: Consultation response sheet

Responses to Draft CAM Network Code Consultation

Consultation Response Sheet

Please complete the fields below and send via email using the subject, "Response to the CAM NC consultation" to info@entsog.eu by 3 August 2011.

Name

First and Last Name:

Organisation

Company/Organisation Name:

Job Title:

Contact details

Email:

Tel:

Mobile:

Address

Street:

Postal Code:

City:

Country:

Question 1: Do you consider that the level of detail in the draft NC is appropriate for an EU Regulation?

Response:

Question 2: Should this NC set out detailed rules? If so, do you consider that where changes are necessary, they should be made through the change process foreseen in the Third Package, or (if legally possible) through a separate procedure where modifications can be made following stakeholder request and discussion?

Response:

Question 3: In your view, is it credible that principles and details of CAM mechanisms could be separately identified? What elements of this (or other) code(s) might be considered for a “lighter” change process and how might such changes be made binding?

Response:

Question 4: How do you consider that a process to review the handbook, and to modify it where necessary, should be designed?

Response:

Question 5: Do you agree with the NC proposal for long term auctions of quarterly products? If not, please explain your proposed alternative and the rationale for this.

Response:

Question 6: Do you consider that the auction design set out in the draft NC includes sufficient measures to allow system users to purchase the long-term capacity they want? If not, how could the

measures be improved, while remaining consistent with the FG and keeping the complexity of the auction design to a manageable level?

Response:

Question 7: Do you consider that the within-day auction proposal set out in the draft NC could be improved from a user perspective? If so, what improvements would you suggest?

Response:

Question 8: The draft NC proposes that TSOs will implement all auction systems at all Interconnection Points (IPs). However, if no purchases of capacity are made in within-day or day ahead auctions at a particular IP over a certain period of time, do you consider that it would be appropriate to suspend these auctions for some time, in order to reduce operational costs?

Response:

Question 9: Do you consider that the auction algorithms set out in the draft NC are appropriate for the Standard Capacity Products to which they are proposed to apply? If not, what modifications would you suggest?

Response:

Question 10: Do you believe that any of the potential alternatives described would be more suitable? In particular, do you consider that a Pay-As-Bid methodology would be more appropriate than uniform price, particularly for auctions of shorter duration products?

Response:

Question 11: Under an open-bid algorithm (whether uniform price or pay as bid), do you consider

that ten bids per user is a sufficient number?

Response:

Question 12: Do you consider that mechanisms supporting value discovery should form part of the NC? If so, which mechanisms do you believe would be most effective?

Response:

Question 13: In your view, how could a split of bundled capacity between existing holders of unbundled capacity best be arranged?

Response:

Question 14: In your view, what effect would mandatory bundling have on network users? Please provide supporting evidence, if available.

Response:

Question 15: Do you consider that the approach to bundled capacity set out in the NC is appropriate, within the constraints of the FG?

Response:

Question 16: Do you consider that the process set out in the draft NC for determining the sequence of interruptions is appropriate? If not, what system would you prefer?

Response:

Question 17: ENTSOG would welcome feedback, observations and suggestions related to this section of the supporting document and to Annex 2. Do you consider that ENTSOG has correctly identified the key tariff issues in these sections?

Response:

Question 18: What is your view of the process that ENTSOG has followed in order to produce the draft NC? Would you recommend that ENTSOG use a similar process to develop future NCs? What approaches would you suggest to enable ENTSOG to improve the process?

Response:

Question 19: ENTSOG is developing a new website and would welcome stakeholder views on how to make it as useful as possible. What are your views about the current ENTSOG website, www.entsog.eu, and what could be improved?

Response:

Do you have any other comments or observations you would like to make?

Response:

Annex 2: Tariff provisions

This annex to the consultation document for the draft CAM network code provides more detailed reasoning, explanation, and questions on the tariff provisions contained in the draft CAM NC.

In principle, the CAM NC shall not rule on tariff issues. However, given that the CAM NC may enter into force before specific tariff provisions are in place, a minimum set of rules on tariffs is necessary, to allow for the implementation of a self-contained CAM NC.

The following considerations led to the inclusion of the tariff provisions in the CAM NC.

General Provisions

Article 7 (1)

This article is taken from the CAM FG. The tariff provisions in the CAM NC are to enable the application of the CAM rules, as long as a tariff network code is not in place yet.

Article 7 (2)

This provision is taken unmodified from the CAM framework guideline.

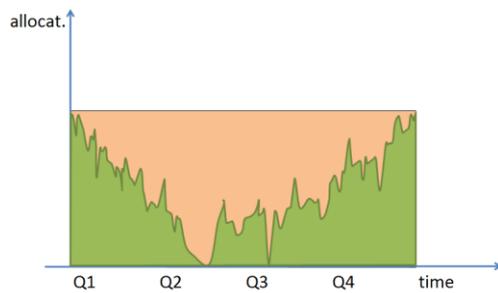
Product specific reserve prices

Article 7 (3)

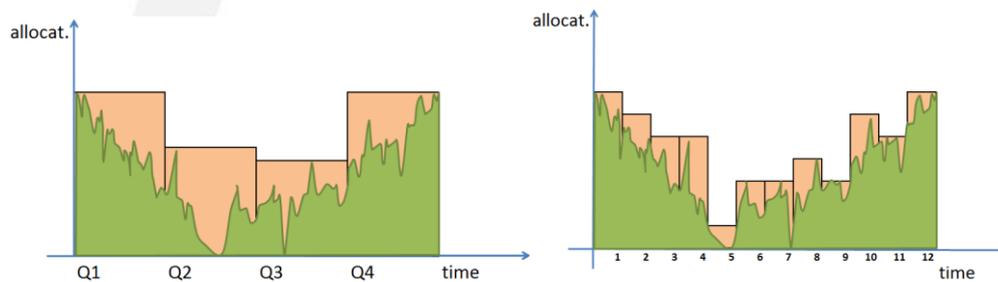
As there is not yet a definition of the “regulated tariff” for each of the specific and newly introduced standard capacity products of the CAM NC in any system, a rule is necessary on what the relationship between the reserve prices of the different capacity durations shall be. The first sentence of article 7 (3) sets out the principle, which ENTISO considers self-evident: regardless of the booking behaviour of network users, whether they procure longer term products or a set of products forming a profile, the target revenues shall be attained.

A tariff could be determined on an annual accounting basis, based on the assumption that all estimated capacity sales are fulfilled via a “standard annual transport contract” (which is mentioned in article 14 (2) of Regulation 715/2009). The target revenue, if not otherwise defined, would be the annual accounting value to be attained at an IP or group of IPs and could be based on the estimated peak annual capacity requirement multiplied by the annual tariff. Under the CAM NC, capacity will be sold via products different from a “standard annual transport contract”. Therefore, adjustments have to be made to the tariffs (reserve prices) of those products with shorter durations. This shall enable revenue recovery without causing undue cross-subsidies between system users, when due to the profiled booking behaviour of users not all capacity on offer is sold. It also allows users to book as soon as they identify a need for capacity.

An illustrative example of an allocation profile with non-profiled capacity booking to meet annual peak flow requirements is given here. The tariff determined from an annual accounting basis would be the target revenue divided by the annual capacity sales, which are illustrated by the red surface:



Sentence two of article 7 (3) states how the aim of sentence one (revenue equivalence of booking profiles) is to be attained, namely by applying multipliers to the reserve prices of products. The underlying concept is as follows: system users waiting more closely to the time of gas flow will be able to match their product portfolio more closely to the actual flow requirements. With every step to the next shorter capacity product, the overall capacity sales from a more closely matched product profile falls shorter of the overall capacity volume on offer. An illustration of this effect for quarterly and monthly products matching an example flow profile is shown below, where the area above the product profile is the shortfall of capacity sales, compared to the non-profiled booking:

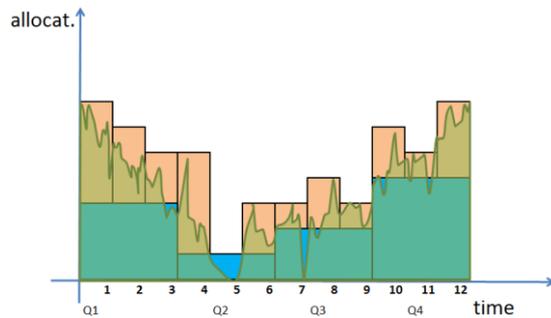


The reserve price for any product shall aim to compensate for the shortfall in sales volume: the payment effect of procuring either a longer term product or a set of shorter term products to match the profile of flows should be broadly neutral for a network user. This does not necessarily imply that the product multiplier is evenly applied throughout the year: the objective can also be achieved with seasonal pricing.

A methodology to determine multipliers will for instance have to make assumptions on future capacity sales (while these, in turn, are susceptible to price incentives). Flow allocations (commercial flows per direction at an IP) could be a starting point for the analysis on how system users will be able to profile their bookings.

When determining multipliers, booking behaviour of system users should be factored in. For example, two potential behaviours by users have to be taken into account: First, users may book conservatively and when profiling, book more capacity than the past flow allocation profiles suggest. This may have an effect of reducing or avoiding TSO under recovery. Second, users most probably combine products to build a profile: They may first book longer blocks, which are then stacked up with shorter products. This would exacerbate the negative effect on TSO revenues from profiling: it leads to lower sales from shorter products, which result in even lower revenues, if not countered by appropriate reserve prices. Shippers should be expected to optimise, taking account of the relative

prices for capacity and their risks associated with waiting for the short term. A set of stacked products above the example profile could look like this (where the quarterly blocks are in blue):



Keeping in mind such effects, alternative ways of multiplier determination can be considered to achieve revenue equivalence. A starting point to calculate appropriate multipliers could for example be a method where the maximum capacity sales level is divided by an average of the expected capacity sales levels along the flow allocation profile during the year. This method would give multipliers that are lower than what would result from taking into account the above “stacking” effect, and higher than what would result from taking into account potential conservative bookings by system users.

This approach, put forward as an example for discussion, yields the following formulas:

- Quarterly multiplier=maximum yearly flow allocation/average peak quarterly flow allocation
- Monthly multiplier=maximum yearly flow allocation/average peak monthly flow allocation
- Daily multiplier=maximum yearly flow allocation/average yearly flow allocation (Average yearly flow allocation = average flow allocation for each day of the year)

Upon entry into force of the CAM NC, reserve prices for the different products will need to be set. ENTSGO intends to offer more analysis, in order to facilitate NC implementation by TSOs, and will set out a timetable for this work in due course.

Good attainment of target revenues will minimise ex-post management of over and under recovery, which involves all kinds of incentive issues, cross-subsidisations, hampering of trade in the case of high commodity tariffs, loss of investment signals, tariff volatility and other potential uncertainties and disadvantages both for users and TSOs (cf. below articles 7 (6) and 7 (7) for further elaboration).

Adhering to the principle of revenue equivalence of long term versus profiled short term capacity will assist in maintaining non-discrimination, and will safeguard the value of sold capacity: otherwise, the secondary market would be hampered.

Attribution of revenues from bundled products

Articles 7 (4) and 7 (5)

These provisions contain a rule on how to attribute the revenues from the auction of bundled products, which is necessary because bundled products may already be offered before a tariff network code comes into force. Article 7 (4) states the self-evident: the reserve prices of the capacity elements in the bundle should add up to the product reserve price. Furthermore, it is

clarified that every capacity transaction will be followed by a split (as opposed to a conceivable approach where a split is applied to the revenue from several auctions after a period of time).

Article 7 (5) then provides for an attribution factor for splitting the auction premium on the capacity elements in the bundle per contract of the involved TSOs. The factors sum up to 100% (for example 50%:50% split). An attribution factor based on the proportion of the reserve price of each capacity element in the bundle is offered as a reasonable approach, assuming the application of a methodology of reserve price calculation according to Regulation 715/2009 by all TSOs contributing to the bundled product. Certainly, other distribution rules are conceivable; however, all drivers involve potential unintended consequences and distortions.

Over and under recovery

Articles 7 (6) and 7 (7)

Article 7 (6) is taken from the CAM FG. As the framework guideline omits the possibility of a shortfall of revenues from the target revenues, article 7 (7) serves as clarification that these have to be recovered from network users. Here, it should be clarified that there are different ways of doing so: inter alia by adjusting the regulated tariff element in the price of an auctioned product during the lifetime of the product (as currently being implemented in Germany) or by using a dedicated commodity tariff (as in Great Britain). The further work on tariffs will have to analyse these and alternative options and will have to clearly set out the respective pros and cons.

Generally, recycling over recovery from auctions back to system users, or charging ex-post to recover any shortfalls, raises important issues:

- Ex-post lowering of tariffs counters the idea of market based auctions and involves perverse incentives: if users can be sure of getting all or part of their auction premiums back, via a lowering of tariffs at a number of IPs across which they hold capacity, they can outbid competitors who may have a less diversified capacity portfolio. Bigger network users are thus at an advantage.
- Tariff adjustments to or from users other than those who paid the auction premiums or benefitted from an under recovery are cross-subsidies, affecting cost-reflectivity, network usage incentives and non-discrimination.
- Ex-post over or under recovery mechanisms involve tariff volatility. Depending on how many IPs there are in a system, and on how the over or under recovery can be spread, volatility may become substantial.
- Under recovery management via a dedicated commodity charge may be considered to hamper trade, when the commodity charge assumes a dimension that acts as a tax on allocated gas quantities. This frustrates the policy objective of efficient short term markets and market integration.
- Ex-post over or under recovery mechanisms involve cash and interest rate issues: How are TSOs or network users treated in terms of the time value of money?

In the following, a systematic overview of the principles and issues involved in over and under recovery is given:

Principles

The method of dealing with over or under recovery should avoid creating cross subsidies between different classes of network users, should promote trading/competition, and should be consistent with system users procuring the capacity they need and avoiding capacity hoarding. It should also lead to tariffs that are predictable and visible for system users and should incentivise them to procure capacity at the time when they identify a need.

The redistribution mechanism should minimise the impact on bidding behaviour by minimising the level of such revenue, associated with bidding in excess of auction reserve prices, resulting in a credit or reduced charges for the party bidding in excess of the reserve price.

Sources of Auction Revenue Under and Over Recovery

Under recovery; contributing factors are:

- Aggregate level of capacity sold being less than forecast;
- Level of capacity procured for each capacity product (duration) i.e. greater than expected profiling of capacity to meet seasonal flow requirements; and
- Target (allowed) revenue increasing following the auction.

Over recovery; contributing factors are:

- Aggregate level of capacity sold being greater than forecast;
- Level of capacity procured for each capacity product (duration) i.e. less than expected profiling of capacity to meet seasonal flow requirements;
- Target (allowed) revenue reducing following the auction; and
- Capacity sold at prices in excess of the reserve price.

The source of over/under recovery is important in deciding on which the best method is for dealing with under or over recovery. If appropriate multipliers apply to capacity products, then under or over recovery might be limited to bidding in excess of the reserve price, unsold capacity and changes in target (allowed) revenue.

Options for revenue correction

Over recovery

- Reduce charges retrospectively (rebate or credit based on capacity and/or through-put/commodity)
- Reduce within-year charges (capacity and/or through-put/commodity)
- Reduce future year charges (capacity and/or through-put/commodity)

Under recovery

- Increase charges retrospectively (additional charge or debit based on capacity and/or throughput/commodity)
- Increase within-year charges (capacity and/or through-put/commodity)
- Increase future year charges (capacity and/or through-put/commodity)

Locational v System wide

These options could be applied either at a system wide level e.g. flat rate commodity charge or fixed capacity charge adjustment, or they could be applied at a locational level i.e. the under or over recovery at a point or in relation to a zone only affects charges/credits at that point or zone. There is a danger with locational schemes that a system user that bids a high price, in excess of the reserve price, for capacity at a point and gains all of the available capacity will simply recover the costs of bidding high through the over recovery scheme and hence a locational scheme might favour large/dominant system users at a particular point on the system.

Entry v Exit

Should entry and exit over/under recovery be kept separate or should under/over recovery be recycled via all parties or from entry to exit and exit to entry? This may affect the aim to avoid cross subsidies.

Current v Future Year

Under and over recovery could either be dealt with in the year in which it occurs, or in future years. Dealing with over or under recovery in future years might create cross subsidies and new system users may benefit or suffer from existing and old users' bidding behaviour. Within year adjustments, in turn, might cross-subsidise users who activate their contracts at different points of time during the year.