entsog
european network
of transmission system operators
for gas

CAPACITY ALLOCATION MECHANISMS NETWORK CODE

AND GUIDELINES FOR CONGESTION MANAGEMENT PROCEDURES

Cover picture courtesy of NET4GAS

CONTENT

INTRODUCTION

On 16 March 2017 the European Commission published the Commission Regulation (EU) 2017/459 which established a Network Code on Capacity Allocation Mechanisms (CAM NC) in gas transmission systems for existing and incremental capacity.

When the CAM NC entered into force in 2017, it repealed the Commission Regulation (EU) No 984/2013 developed by ENTSOG, based on the Framework Guidelines on Capacity Allocation Mechanisms of the Agency for the Cooperation of Energy Regulators (ACER), which had been valid since 2013. The CAM NC development went through the following steps:

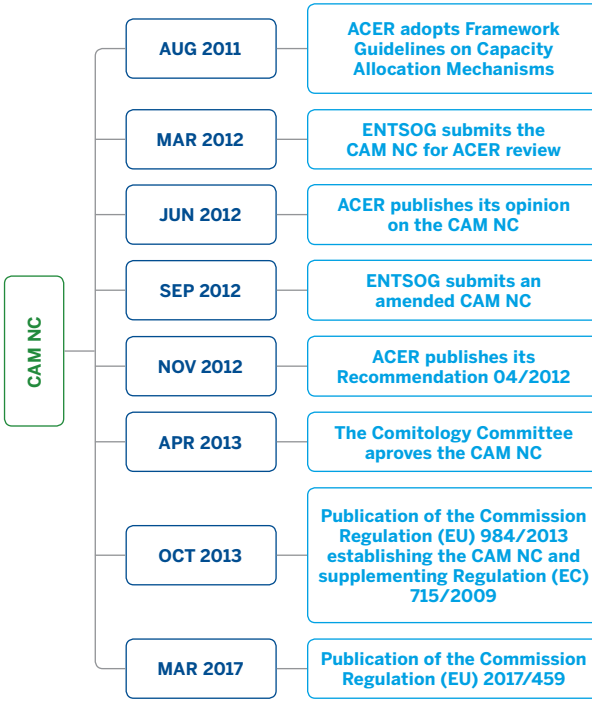

Figure 1: Steps followed for the development of the CAM NC

There are a number of building blocks used to improve the European internal gas market. The CAM NC is part of these blocks and contributes together with other NCs and guidelines to this common objective.

The information contained in this leaflet is written for introductory purposes for new stakeholders dealing with the Gas Market Regulation and for setting the background for training purposes

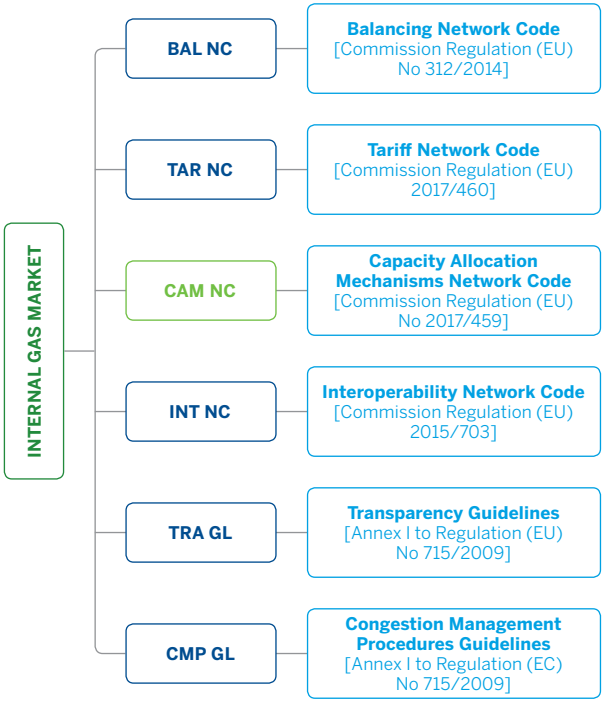

Figure 2: Building blocks to improve internal gas market

AIM OF THE NETWORK CODE

The aim of the CAM NC is to achieve the harmonisation of capacity allocation at all interconnection points across the European Union through the establishment of rules regarding the offer and allocation of firm and interruptible transmission capacity.

In addition, the CAM NC's purpose is to guarantee a non-discriminatory third-party access to the gas networks and to promote the cooperation between adjacent transmission operators for facilitating capacity sales.

Furthermore, National Regulatory Authorities (NRAs) should ensure that capacity allocation mechanisms are efficiently implemented at the interconnection points across the European Union.

Picture courtesy of SNAM RETE GAS

DESCRIPTION OF KEY ELEMENTS

SCOPE

The CAM NC harmonised the rules regarding capacity allocation by establishing auctions as the procedure for the offer and allocation of standard capacity products at the relevant interconnection points (IPs). An IP is defined as a physical or virtual point connecting adjacent entry-exit systems or connecting an entry-exit system with an interconnector in so far as these points are subject to booking procedures.

The scope of the Commission Regulation (EU) 2017/459 applies to all firm, interruptible and incremental capacity at IPs. It may also apply to entry points from third countries and exit points to third countries, subject to the decision of the relevant NRA. However, it does not apply to exit points to end consumers and distribution networks, entry points from liquified natural gas (LNG) terminals and production facilities and entry points from storage facilities, or to exit points to storage facilities.

STANDARD CAPACITY PRODUCTS AND AUCTIONS AS THE MECHANISM FOR THEIR ALLOCATION

Across the European Union, Transmission System Operators (TSOs) offer capacity as standard products which are subsequently allocated via auctions at the IPs (for incremental capacity an alternative allocation mechanism may apply subject to NRAs' approval). The products offered are:

- Yearly standard capacity products: capacity that a network user may request for all gas days during a particular gas year starting on 1st October.

- Quarterly standard capacity products: capacity that a network user may request for all gas days during a particular quarter, which can start on 1st October, 1st January, 1st April or 1st July.
- Monthly standard capacity products: capacity that a network user may request for all gas days in a month starting the first day of each month.
- Daily standard capacity products: capacity that a network user may request for one gas day.
- Within-day standard capacity products: capacity that a network user may request within a day until the end of that gas day.

Standard capacity products of longer duration are offered first followed by those products with the next shortest duration for usage during the same period.

There also exist standard capacity products for interruptible capacity which are allocated via auctions according to the auction calendar published by ENTSOG for firm and interruptible capacity. These interruptible products can be offered if the corresponding monthly, quarterly or yearly standard capacity product for firm capacity was sold at an auction premium, was sold out, or was not offered. Daily capacity products for interruptible capacity shall be offered in both directions of an IP when the corresponding standard capacity product for firm capacity was sold out day-ahead or was not offered.

TSOs shall not set aside capacity that can be offered as firm capacity in order to offer it as interruptible capacity.

An exception exists for within-day interruptible capacity products which shall be allocated through an over-nomination procedure.

The main characteristics of auctions can be summarized as follows:

- Auctions have standardised design and timing. Biding rounds are held between 8:00–17:00 UTC during winter time and between 7:00–16:00 UTC during summer time.
- At least 20% of the technical capacity at each IP shall be set aside or the totality of the available capacity, if this is lower than the proportion of technical capacity to be set aside. From this capacity, at least 10% is offered no earlier than in the annual quarterly capacity auction during the gas year preceding the start of the relevant gas year, while the remaining capacity set aside (at least 10%) is offered no earlier than in the annual yearly capacity auction held in accordance with the auction calendar during the fifth gas year preceding the start of the relevant gas year.
- Capacity shall be offered for at least 5 years and no longer than 15 years.
- kWh/h or kWh/d are the energy units used for expressing capacity.
- Annual yearly, annual quarterly and rolling monthly capacity auctions use an ascending clock auction algorithm, i.e., volume bids are placed against escalating prices in consecutive bidding rounds.
- Rolling day-ahead and within-day capacity auctions use a uniform-price auction algorithm, which means that there is only one bidding round in which the network user bids price as well as quantity.

Furthermore, according to Chapter VII of CAM NC, capacity shall be offered on both sides of an IP or VIP through one or a limited number of joint web-based booking platforms. Currently, auctions are running across the European Union via three booking platforms: PRISMA, GSA Platform (GSA) and the Regional Booking Platform (RBP).

Table 1 summarises the main points addressed in this section:

Type of standard capacity product	Yearly	Quarterly	
Frequency of auction	Once a year	4 times each gas year	
Type of auction	Annual yearly capacity auction	Annual quarterly capacity auction	
Auction algorithm	Ascending-clock*	Ascending-clock	
Starting date of auction	1st Monday of July	1st Monday of August, November, February and May	
Offered capacity	A – B – C + D + E – F ***	A – C + D	
Notification on offered capacity (TSO -> NU)	At least 1 month before the auction starts	2 weeks before the auction starts	
Publication of allocation results	Available no later than the next business day after the closing of the bidding round	Available no later than the next business day after the closing of the bidding round	

* Ascending clock auctions (Art. 17 of CAM NC): <<*enable network users to place volume bids against escalating prices announced in consecutive bidding rounds, starting at the reserve price P0*>>. Used for annual yearly, annual quarterly and rolling monthly capacity auctions.

** Uniform-price auction (Art. 18 of CAM NC): <<*there is a single bidding round in which the network user bids price as well as quantity. During the bidding round of a given auction, network users may submit up to 10 bids*>>. This algorithm is used for rolling day-ahead and within-day capacity auctions.

Table 1: Standard capacity products and auctions

	Monthly	Daily	Within-day
	Once a month	Once a day	Every hour during the gas day
	Rolling monthly capacity auction	Rolling day-ahead capacity auction	Within-day capacity auction
	Ascending-clock	Uniform price**	Uniform price
	3rd Monday of each month	Every day at 15:30 UTC during winter time or 14:30 UTC during day-light saving	1st bidding round opens directly on the next hour following the publication of results of the last day-ahead auction
	A – C + D	A – C + D	A – C + D
	One week before the auction starts	At the time the bidding round opens	After the closure of the last day-ahead auction
	Available no later than the next business day after the closing of the bidding round	No later than 30 min-utes after the closing of the bidding round	Within 30 minutes of the closure of the bidding round

*** **A** – the transmission system operator's technical capacity for each of the standard capacity products; **B** – the amount of technical capacity (A) set aside in accordance with Article 8(7); **C** – the previously sold technical capacity, adjusted by the capacity which is re-offered in accordance with applicable congestion management procedures; **D** – additional capacity, for such year, if any; **E** – the incremental capacity for such year included in a respective offer level, if any; **F** – the amount of incremental capacity (E), if any, set aside in accordance with Article 8(8) and (9).

BUNDLED CROSS BORDER CAPACITY PRODUCTS

To simplify the transport of gas through Europe, CAM NC introduced the concept of bundled capacity, which refers to those standard products of firm capacity offered at both sides of an IP where the capacity contracted at one side matches with the capacity contracted at the other side of the IP. This means that capacity products are sold in a bundled way, which implies that only one booking is needed for the allocation of capacity from one market area to another.

TSOs shall jointly offer, through a single allocation procedure, all firm capacity available as bundled capacity on both sides of an IP. In case the capacity available at one side is higher than on the other, the TSO may offer its exceeding capacity as an unbundled product.

Networks users who are parties to unbundled transport contracts must reach a contractual arrangement ("bundling arrangement") for the bundling of their capacity. This shall be reported to the respective NRA. In any case the duration of the bundling arrangement shall not exceed the duration of the original transport contracts. Existing transport contracts for unbundled capacity cannot be renewed, prolonged or rolled over after their expiration date.

Since 1st January 2018, TSOs shall offer a free of charge capacity conversion service which helps network users to convert contracted unbundled capacity at one side of an IP into bundled capacity.

VIRTUAL INTERCONNECTION POINTS

In order to provide a single capacity service, Virtual Interconnection Points (VIPs) have been introduced as the result of integrating two or more IPs that connect the same two adjacent entry-exit systems. For the establishment of a VIP, the following criteria should be met:

- The total technical capacity at the VIP shall be equal to or higher than the sum of the IPs contributing to the VIP.
- The VIP should 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.

According to CAM NC, the TSOs shall establish functional VIPs no later than 1st November 2018.

Picture courtesy of TAP

INCREMENTAL CAPACITY

The incremental capacity procedure has been introduced for a streamlined and harmonised Union-wide process to react to possible market-based capacity requests for an increase in technical capacity or creation of new capacity. This increase in the technical capacity can be achieved, for example, through the construction of a new pipeline, the introduction of a reverse flow or upgrading the existing physical infrastructures.

The requested incremental capacity may be offered based on market demand. Building the capacity is based on binding commitments and subject to the positive outcome of an economic test.

The aim on setting rules for incremental capacity was to propose an EU-wide harmonised and market-based approach to identify the need for incremental capacity based on market demand and to allocate both existing and incremental capacity in an integrated way.

This process lasts two years and is divided in two phases, a non-binding phase in which the demand for incremental capacity is assessed, and a binding phase where network users provide binding commitments for incremental capacity.

Chapter V of the CAM NC comprises five main steps for the incremental capacity process:

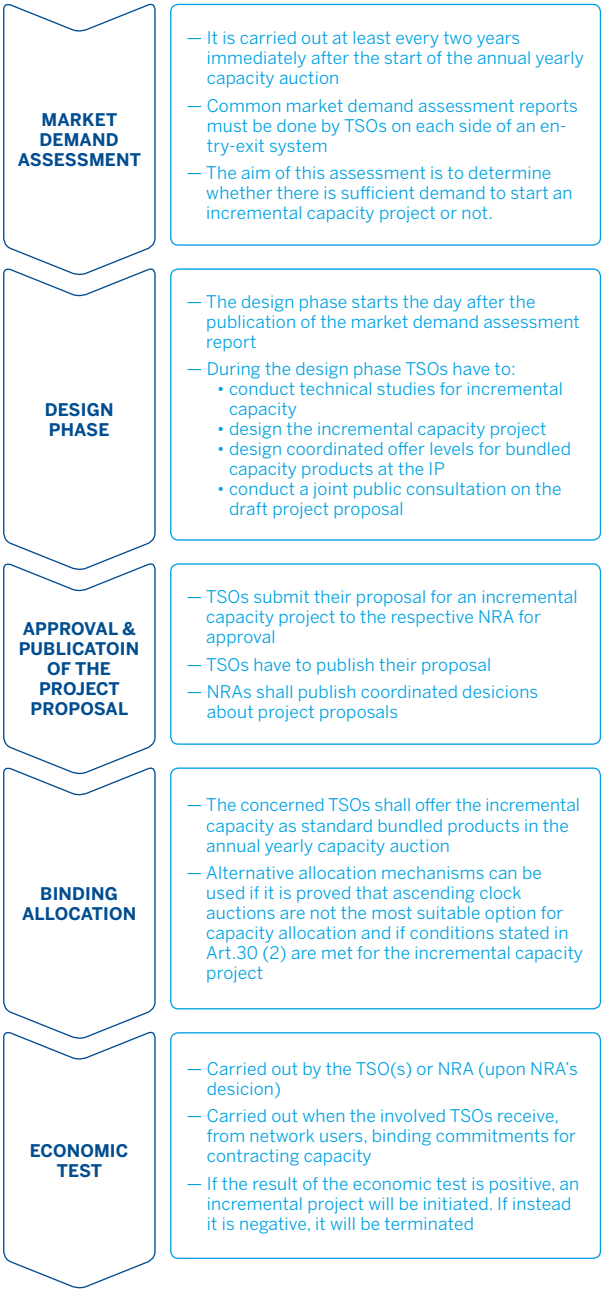

Figure 3: Incremental capacity process

CONGESTION MANAGEMENT PROCEDURES

On 24th August 2012 the European Commission published an amended Annex I to Regulation (EC) No 715/2009 on congestion management procedures. The provisions of the Congestion Management Procedures (CMP) Guidelines introduced new, more comprehensive obligations for TSOs and NRAs regarding the design of congestion management procedures, in case of contractual congestion at IPs.

Contractual congestion "means a situation where the level of firm capacity demand exceeds the technical capacity". In other words, contractual congestionn happens when network users demand more firm capacity than the TSO can offer.

The CMP Guidelines are based on the idea to bring unused capacity back to the market to be reallocated through regular allocation process (e. g. an auction). The implementation date for the CMP Guidelines was 1st October 2013.

The amended Annex I determines four different mechanisms for managing contractual congestion at IPs.

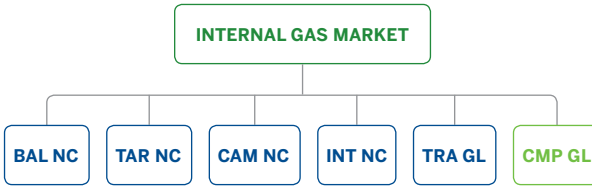

Figure 4: Building blocks to improve internal gas market

CAPACITY INCREASE THROUGH OVERSUBSCRIPTION AND BUY-BACK MECHANISM (OS + BB)

The OS + BB mechanism is based on the idea that the TSO offers more firm capacity than is technically available by taking into consideration the amount of capacity that is likely to not be used by those network users that contracted this capacity. In case all the capacity is sold and nominated but cannot be physically released, the TSO may buy back the capacity.

This procedure shall be based on an incentive regime which reflects the risks of TSOs in offering additional capacity. The allocation of revenues and costs between the TSO and the network user will be decided by the NRA.

FIRM DAY-AHEAD USE-IT-OR-LOSE-IT MECHANISM (FDA UIOLI)

The NRA can also decide to apply FDA UIOLI instead of OS + BB if it considers necessary on the basis of 2.2.3.1 of the CMP GL.

The FDA UIOLI mechanism is used when at a given IP the demand exceeds the level of offered capacity in at least:

- three firm capacity products with a duration of one month
- two firm capacity products with a duration of one quarter
- one firm capacity products with a duration of one year or more
- where no firm capacity product with a duration of one month or more has been offered

In those cases, NRA(s) should demand to the TSO to implement a restriction on re-nomination rights.

The NRA may decide to terminate the use of the FDA UIOLI if it can be shown that a situation mentioned above will not happen again in the following three years.

SURRENDER OF CONTRACTED CAPACITY

This procedure allows the network user to offer back to the TSO capacity that is no longer needed and, allowing the TSO to reallocate it.

The network user retain its rights and obligations until the capacity is reallocated by the TSO and to the extent the capacity is not reallocated by the TSO. This mechanism is not obligatory for capacity products with a duration of a day or shorter.

In those cases, in which the TSO receives capacity offers from several network users, the TSO should apply the time stamp approach which implies that the capacity will be reallocated following the order in which the capacity has been offered to the TSO.

LONG-TERM USE-IT-OR-LOSE-IT MECHANISM (LT UIOLI)

LT UIOLI has been designed for preventing anti-competitive behaviour over the long run. When this mechanism is applied, the TSO reoffers capacity that is underutilised at an IP (upon NRA's decision) triggering the partial or complete withdrawal of a network user's capacity contract.

ABBREVIATIONS

ACER	Agency for the Cooperation of Energy Regulators
CAM NC	Capacity Allocation Mechanisms Network Code
CMP	Congestion Management Procedures
EC	European Commission
ENTSOG	European Network of Transmission System Operators for Gas
FDA UIOLI	Firm day-ahead use-it-or-lose-it
GSA	GSA Platform
IP	Interconnection Point
LNG	Liquified Natural Gas
LT UIOLI	Long-term use-it-or-lose-it
NRA	National Regulatory Authority
NU	Network User
OS + BB	Oversubscription and Buy Back
PRISMA	PRISMA European Capacity Platform GmbH
RBP	Regional Booking Platform
TSO	Transmission System Operator
VIP	Virtual Interconnection Point

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