"Short Term Auction for Reserves ("STAR") Procedures and user manual"

Summary	This manual explains the Rx short-term auction procedures and how to use the application STAR for the Rx-auctions.	
Version	5.0	
Date	19/06/2019	
Status	☐ Draft ☐ Final	

Document creation

Author	Gevorg Demurchyan/ Sophie Gorlé/ Sébastien Rousseaux/ Marie Swinkels/ Sophie Van Caloen/ Pieter-Jan Marsboom / Matthias Masschelin
Function	Implementation Manager/ Business Analyst/ Business Analyst/ BAL-AS Development Mgr/ BAL-AS Development Mgr/ Contract Manager
File location	http://www.elia.be/en/grid-data/extranet-for- customers/Star/

Disclaimer: This document has no legal value and is established with the purpose to explain the STAR platform and procedure for ARPs. This document should always be aligned with the general framework for the respective products and Balancing rules. In case of mismatches, the General Framework agreement and Balancing rules prevail and are to be considered as valid reference.

Table of contents

1	Intr	oductio	on	3
	1.1		ent scope	
	1.2		Short-Term Auctioning	
	1.3		ements for participation to the Short term auction	
2	Bidd	ling she	eet assistance & obligations	4
	2.1	Product	ts modalities	4
	2.2	Bidding	obligations	4
		2.2.1		4
		2.2.2	Concrete bidding obligations for FCR/R2	4
		2.2.3		8
_	A	ian Du	acces O. Dulas	4.2
3			ocess & Rules	_
	3.1		process via local procurement platform (STAR)	
		3.1.1	Standard business process for local procurement platform (ST	AR)
		3.1.2		15
		3.1.3	Back-up procedures for local procurement platform (STAR)	
	3.2	Method	of optimal bid selection & Award Criteria	17
		3.2.1		
		3.2.2	Constraints for R3	18
	3.3	Viewing	auction results	18
	3.4	Transpa	arency Publications	18
	3.5	Auction	calendar	19
1	CT A	D Hear	Manual	20
7	4.1		modify or delete an offer	
	7.1	4.1.1		20
		4.1.2	Create a new R3 offer	
		4.1.3		
		4.1.4	Modify an introduced offer	
		4.1.5	Delete an introduced offer	
	4.2		e Bidding Obligation	
	4.3		tatus	
	4.4		an Offer Report	

1 Introduction

1.1 Document scope

The scope of this document is to describe the auction process and related topics of the Belgian auction via the local platform STAR.

For more information about the regional procurement platform, please refer to Regelleistung.net.

1.2 About Short-Term Auctioning

The total volume of the different services and a description of the services to be procured by ELIA is determined on a yearly basis and fixed in the "dossier volumes". In its decision (B)1808 of 18 October 2018, the CREG approved the Volume Dossier for the required amount of ancillary services products for the year 2019.

The rules of repartition of the total procured volume by ELIA, between the different services and between long term and short term procurement, are described in the Balancing Rules¹ and approved by CREG. From 2014, short term procurement was introduced for FCR and secondary reserves. The short term procurement has been enlarged to tertiary reserves in 2016. A short term procurement is defined in the balancing rules as a procurement for periods of maximum one month.

In order to enable short term auctioning, a new platform STAR was created. The objective of this user manual is to describe the procedures applicable for this platform.

It's critical that <u>all resources</u> that are technically able to provide reserves offer their available capacity on the short term market via STAR.

Short Term volumes for 2019 can thus be firmly confirmed as follows:

- 2019 Short Term Required Volume for a total FCR Symmetrical 200mHz reaction = 80 MW in BASE (=PEAK & L-OFFPEAK)
- 2019 Short Term Required Volume for a total R2 Symmetrical reaction =
 145 MW in BASE (=PEAK & L-OFFPEAK)
- 2019 Short Term RequiredVolume for a total R3 Asymmetrical Upwards reaction = 844MW of tertiary reserves in Base through monthly auctions (R3 Std and Flex) with minimum of 314MW of R3 Standard service from CIPU & non-CIPU.

For more information about product development and evolutions, please consult our website on: http://www.elia.be/en /Users-group/ad-hoc-taskforce-balancing.

In the remainder of this document the following related topics to STAR can be found: bidding obligations, auction process & rules and a specific user manual. Based on the experience gained from the different auctions, the content of this document might be subject to change after discussion between the different stakeholders.

1.3 Requirements for participation to the Short term auction

In general, If a potential participant wants to participate for the short-term procurement of the FCR/R2/R3-reserve products, he should: be a qualified supplier;

- have signed the necessary general framework agreement(s) for the respective services and;
- must have adequate knowledge of the bidding obligations and tools (STAR) through a training given by Elia.

Elia will respect a reasonable time for implementation and signature of these documents in order to allow effective participation in a realistic and feasible time frame. The latter documents requiring signature prior to allowed participation can be obtained through a request via e – mail to contracting_AS@elia.be.

_

¹ http://www.elia.be/en/products-and-services/balance/balancing-mechanism

2 Bidding sheet assistance & obligations

The purpose of this section is to help the participantsfor each of the FCR, R2 and R3 AS products, in order to make short term sourcing a success. However it is the participants own responsibility to bid enough volumes and combinations: It is key that they offer as many choices as reasonably possible in order to be able to select the most optimal combination.

In the following subchapters, attention is spent in particular to the Products' modalities (§2.1 "Products modalities"), as well as to the concrete bidding obligations (§2.2 "Bidding obligations").

2.1 Products modalities

Due to the product specificities, the auction for FCR/R2 is held at the same moment. This allows to offer multiple reserve products (FCR-product type, R2-up, R2-down) in a single offer (= 1 offer number = 1 horizontal line) if technically feasible, allowing division of fixed costs, if any, over either a bigger volume or over a longer period (peak, L-offpeak or base offers). The latter can be reflected in the price that is offered for a certain volume of the products, when these products are offered all at once.

2.2 Bidding obligations

2.2.1 General bidding information

Elia is procuring the necessary volumes by combinatorial optimization, in order to guarantee optimal competition between all types of offers and least-cost selection.

In order to guarantee the existence and quality of a solution to the optimization problem, Elia should dispose of not only sufficient volumes but also as many offers as possible, on a wide variety of individual products (and if possible product combinations). Offering a variety of combinations, will improve the overall optimality of the global solution for each auction, and will also improve the reserve providers' chances of being selected. Not only will this improve Elia's chances to find an optimal solution and possibly avoid iteration & renegotiation, it will also improve the reserve provider's chances of being selected for a certain capacity bid.

For this purpose, section $\S 2.2.2$ provides binding bidding obligations for the short-term procurement of FCR/R2 and section $\S 2.2.3$ summarizes binding bidding obligations for the short-term procurement of R3 2 .

2.2.2 Concrete bidding obligations for FCR/R2

The following obligations are the minimum obligations to be respected for each Service Type. ELIA invites every Supplier to submit more Capacity Bids in order to increase the possibility to be retained in the optimal selection.

The obligations are applicable for BASE offers only. For the avoidance of doubt, it is clearly stated that these bidding obligations do not concern procurement through the Regional Procurement Platform.

1. Combinability of Capacity Bids

For all Base Capacity Bids:

<u>All</u> Capacity Bids with tariff period Base are considered as not combinable with other Capacity Bids with the tariff period Base <u>with the same service type.</u>

For all Peak/Long-Off peak Capacity Bids:

The Supplier is free to set the combinability (or may not be combined with).

Consequently, in Base, a Supplier should submit Capacity Bids for an increasing volume.

Example: A Supplier wishes to offer 2 blocks of 5MW to ELIA.

_

² For all information about the bidding obligations for the procurement, we refer to Annex 1 of the General Framework.

ELIA expects a Capacity Bid for 5MW and a Capacity Bid for 10MW (2 combinable Capacity Bids for 5MW is not allowed).

It's allowed to submit Capacity Bids for Peak/Long Off Peak that are combinable or not combinable with these Base Capacity Bids.

2. Obligations regarding to the offered volume (obligation 1, 2 and 3)

The obligations described under obligations 1 and 2 are only applicable to Base (Tariff Period) Capacity Bids and only offers with the same volume R2 Up as R2 Down are considered.

Obligation 1 – Smallest offered volume: The smallest offered volume should not exceed the volumes defined below in table 1. Capacity Bids for a smaller volume are allowed an encouraged.

The obligation applies for individual bids for all FCR services and secondary control services as wel as for combined offers FCR and R2.

Obligation 2 - Volume increments:

When sorting the Capacity Bids in terms of offered volume, the difference in terms of volume between 2 Capacity Bids can be at maximum the volumes defined in Table 1 (maximum delta between 2 Capacity Bids).

	volume [MW]
FCR 200mHz	14
FCR 100mHz	6
FCR UP	6
FCR DOWN	6
R2*	24

Table 1: Maximum volume step

The obligation applies for individual bids for all FCR services and Secondary Control Power services as well as for combined offers for FCR and R2.

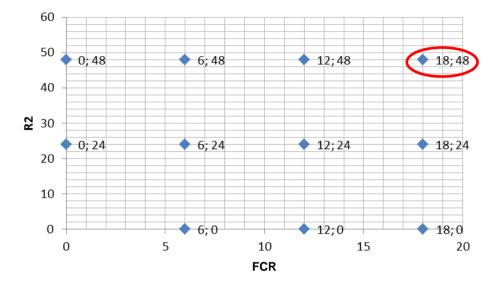
In case of combined offers for FCR and R2, the maximum increments should be respected for one product for all offers with the same amount of the other product:

- The difference of R2 volume between 2 Capacity Bids combined with the same volume of FCR (and the same service type), can be maximum the volume as defined in Table 1.
- The difference of FCR volume between 2 Capacity Bids with the same service type combined with the same volume R2 can be at maximum equal to the volume defined in Table 1.

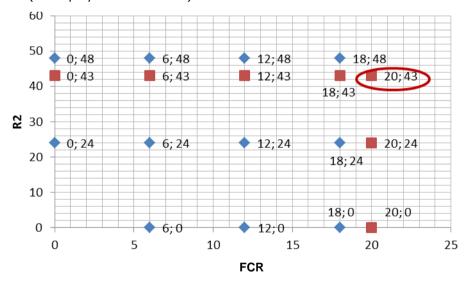
For combined FCR and R2 offers, the smallest offered volume and volume increments rules must be respected for each combination between FCR and R2 offers. For example if a Supplier wishes to offer 18MW of FCR 100 mHz and 48MW of R2 he must at minimum do the following offerset:

FCR 100mHz	R2
18	48
12	48
6	48
0	48
18	24
12	24
6	24

0	24
18	0
12	0
6	0



In the same example, if the Supplier also wishes to make an additional offer of 20MW of FCR and 43MW of R2 he will then have to also add necessary offers to be in respect of the Bidding Obligations (as displayed below in red).



Obligation 3 – Base offer available: When offering both in Peak and Long Offpeak, the Supplier should submit a BASE Capacity Bid, while remaining in respecting with the other instructions, for a volume that is at least minimum of the maximum volume offered in Peak and the maximum volume offered in Long Offpeak.

Consequences of non-respect

In case a Supplier does not respect the obligations, all his Capacity Bids for this product type will be rejected at Gate Closure Time.

1. Divisibility of Capacity Bids

All Capacity Bids with Service Type FCR Asymmetrical and with tariff period Base are considered to be divisible between the offered volume and the Capacity Bid with the next smaller volume at the same unit price. The smallest offered volume is indivisible.

The granularity of the divisibility is 1MW.

Example: with 30MW as the minimum volume to be offered:

#	Capacity Bids	Volume selectable *
1	5MW @ 3,00€/MW/h	[1 – 5] @ 3,00€/MW/h
2	10MW @ 3,03€/MW/h	[6 – 10] @ 3,03€/MW/h
3	11MW @ 3,20€/MW/h	[11 – 11] @ 3,20€/MW/h
4	15MW @ 4,50€/MW/h	[12 – 15] @ 4,50€/MW/h

^{*} between brackets: the minimum and maximum volume that can be retained at the considered unit price.

For all Capacity Bids with other Service Types and/or tariff period different than Base:

The Supplier can make a Capacity Bid divisible or not. Divisible means that ELIA can retain a volume between 1MW and the offered volume with a granularity of 1MW.

2. Obligations regarding the total costs of Capacity Bids (obligation 4)

Obligation 4 – Total cost check: The total cost (unit price * volume) of the smallest volume that can be retained resulting from a Capacity Bid, should never exceed the total cost of the smallest volume that can be retained from a Capacity Bid with a larger offered volume.

The obligation applies for individual Capacity Bids for all FCR Service Types and Secondary Control Power services as well as for combined offers for FCR and R2. In case of combined offers for FCR and R2, the check is performed while keeping the volume of one product constant and varying the volume of the other product.

Consequences of non-respect

All Capacity Bids with a higher total cost than a Capacity Bid with a larger volume will be rejected.

In case this leads to a non-respect of the previous obligations, all Capacity Bids will be rejected.

Example of instructions

Example obligation 1 & 2: A Supplier with the technical potential of 30MW FCR_200mHz, 15MW FCR_100mHz and 35MW R2 is expected to submit following minimum offerset in terms of Volumes.

Other alternatives respecting the obligations are offcourse possible by offering a lower minimum offer or reducing the step between certain offers.

Offer number	FCR [MW]	FCR Type	R2 [MW]
1	6	FCR_100mHz	0
2	12	FCR_100mHz	0
3	15	FCR_100mHz	0
4	6	FCR_100mHz	24
5	12	FCR_100mHz	24
6	15	FCR_100mHz	24
7	6	FCR_100mHz	35
8	12	FCR_100mHz	35
9	15	FCR_100mHz	35

10	14	FCR_200mHz	0
11	28	FCR_200mHz	0
12	30	FCR_200mHz	0
13	14	FCR_200mHz	24
14	28	FCR_200mHz	24
15	30	FCR_200mHz	24
16	14	FCR_200mHz	35
17	28	FCR_200mHz	35
18	30	FCR_200mHz	35

Example obligation 4:

For the offered volumes in the table below, the following should be respected:

- The total cost of offer 1 should not exceed the total cost of offer 2, and both offers should not exceed the cost of offer 3.
- The total cost of offer 4 should not exceed the total cost of offer 5 and both should not exceed the total cost of offer 6.
- The total cost of offer 1 should not exceed the total cost of offer 4.

Offernnumber	FCR [MW]	R2 [MW]
1	6	24
2	6	46
3	6	69
4	12	24
5	12	46
6	12	69

Important remarks

Obviously, taking into account the exact underlying technical constraints behind the offers and the impact of such constraints on final offer prices, short-term auction participants may -and are encouraged to- propose alternative offers in addition to the above guidelines, which are best compliant from an economic perspective with their respective portfolio while respecting the spirit of the above bidding obligations. The final responsibility of providing sufficient useful bids remains with the short-term auction participants.

2.2.3 Concrete bidding obligations for R3

Besides the guarantee for Elia to be able to find the optimal solution, it's important to assure a level playing field for all suppliers. To allow Elia to achieve the latter the suppliers participating in a short term auction must respect the minimum 'bidding obligations' and should be aware of how capacity bids are treated by Elia (the auction rules) as defined in Annex 1B of the General framework for Tertiary Control by CIPU/Non-CIPU Technical Units . In case of mismatches, the General Framework agreement prevails and is to be considered as valid reference.

The final responsibility of providing sufficient useful bids remains with the short-term auction participants.

1. Combinability of Capacity Bids

For all BASE Capacity Bids: <u>All</u> Capacity Bids with tariff period BASE are considered as not combinable with other Capacity Bids with the tariff period BASE. Consequently, in BASE, a Supplier should submit Capacity Bids for an increasing volume.

For all Peak/Long-Off peak Capacity Bids: The Supplier is free to set the combinability (or may not be combined with).

Example: A Supplier wishes to offer 2 blocks of 5MW BASE to ELIA.

ELIA expects a Capacity Bid for 5MW and a Capacity Bid for 10MW (2 combinable Capacity Bids for 5MW is not allowed in BASE).

It is allowed to submit Capacity Bids for PEAK/LONG OFFPEAK that are combinable or not combinable with these BASE Capacity Bids.

2. Obligations regarding the volumes to be offered (obligation 1, 2 and 3)

The obligations described under obligations 1 and 2 are only applicable to BASE (Tariff Period) Capacity Bids.

The following obligations are the minimum obligations to be respected for each Service Type. ELIA invites every Supplier to submit more Capacity Bids in order to increase the possibility to be retained in the optimal selection.

Obligation 1 - Smallest offered volume

The smallest offered volume should not exceed following volumes:

- R3 CIPU (Standard & Flex): the Pmin of the unit with the second smallest Pmin listed in the dedicated Annex.
- R3 non-CIPU (Standard & Flex): 10 MW

Capacity Bids for a smaller volume are allowed and strongly encouraged! The obligation applies for individual bids of all Tertiary Control Service Types as well as for combined offers of Standard Tertiary Control Power and Flex Tertiary Control Power.

Obligation 2 - Volume Increments

When sorting the Capacity Bids in terms of offered volume, the difference between 2 Capacity Bids can be at maximum:

Table 2

Product Type	Max Step [MW]
R3 Standard	10 MW
R3 Flex	10 MW

The obligation applies for individual bids for all Tertiary Control Service Types as well as for combined offers of Standard Tertiary Control Power and Flex Tertiary Control Power.

In case of combined offers R3 Standard and R3 Flex, the maximum increments should be respected for one Service Type for all offers with the same amount of the other Service Type:

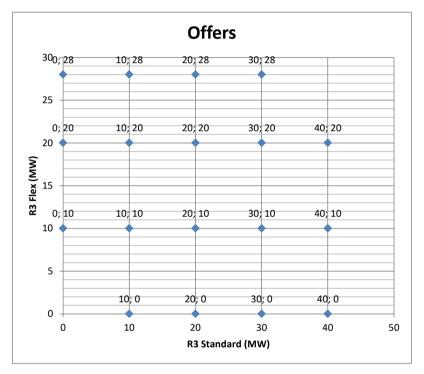
- The difference of R3 Standard volume between 2 Capacity Bids combined with the same volume of R3 Flex, can be maximum the volume as defined in Table 1.
- The difference of R3 Flex volume between 2 Capacity Bids combined with the same volume of R3 Standard, can be maximum the volume as defined in Table 1.

Example

If a Supplier would like to offer 40 MW of R3 Standard and 28 MW of R3 Flex with a maximal total volume of 60 MW, he must at minimum offer the following set:

011	Standard R3	Flex R3
Offer Number	Offered Volumes (MW)	Offered Volumes (MW)
1	0	10
2	0	20
3	0	28
4	10	0
5	10	10
6	10	20

7	10	28
8	20	0
9	20	10
10	20	20
11	20	28
12	30	0
13	30	10
14	30	20
15	30	28
16	40	0
17	40	10
18	40	20



Obligation 3 - Base offer available

When offering both in PEAK and LONG OFF-PEAK, the Supplier must submit a BASE Capacity Bid, while respecting the obligations below, for a volume that is at least minimum of the maximum volume offered in PEAK and the maximum volume offered in LONG OFF-PEAK.

Consequences of non-respect

In case a Supplier does not respect the obligations, all his Capacity Bids will be rejected at gate closure time/deadline to submit Capacity Bids.

3. Divisibility of Capacity Bids

For all Capacity Bids

The Supplier can make a Capacity Bid divisible, meaning that ELIA can retain a volume between 1MW and the offered volume with a granularity of 1MW, or not divisible.

4. Obligations regarding the total costs of Capacity Bids (obligation 4)

Obligation 4 - Total cost check

The total cost (unit price × volume) of the smallest volume that can be retained resulting from a Capacity Bid, should never exceed the total cost of the smallest volume that can be retained from a Capacity Bid with a larger offered volume.

The obligation applies for individual BASE Capacity Bids for all Tertiary Control Service Types as well as for combined BASE Capacity Bids of Standard Tertiary Control Power and Flex Tertiary Control Power. In case of combined offers for R3 Standard and R3 Flex, the check is performed while keeping the volume of one Service Type constant and varying the volume of the other Service Type.

Consequence of non-respect

In case of a non-respect with obligation 4 - a smaller volume at more expensive in total cost – only the applicable Capacity Bid(s) will be rejected.

In case this lead to a non-respect with the obligations 1 and/or 2 regarding to the volume as described in this annex, the entire set of Capacity Bids will be rejected.

Example:

If a Supplier wishes to offer 40 MW of R3 Standard and 28 MW of R3 Flex, he should respect the bidding obligation regarding the total cost check. Table 2 presents an offer set that is in line with the bidding obligations. Table 3 shows an offer set for which the total cost check of offer 7 is lower than the total cost check of offer 5. In consequence, obligation 4 is no longer respected and offer 7 will be rejected. The remaining offers will also be rejected as they do not satisfy anymore bidding obligation 2.

Offer Number	Standard R3 (MW)	Unit Price (€/MW/h)	Flex R3 (MW)	Unit Price (€/MW/h)	Total Cost (€/h)
1	0	0	10	3	30
2	0	0	20	2	40
3	0	0	28	1,8	50,4
4	10	5,1	0	0	51
5	10	4,5	10	2,5	70
6	10	3,2	20	2	72
7	10	2,7	28	1,9	80,2
8	20	4,2	0	0	84
9	20	3,5	10	2	90
10	20	3,4	20	1,8	104
11	20	3,2	28	1,7	111,6
12	30	3,8	0	0	114
13	30	3,4	10	1,8	120
14	30	3,2	20	1,7	130
15	30	3,1	28	1,6	137,8
16	40	3,7	0	0	148
17	40	3,5	10	1,8	158
18	40	3,2	20	1,7	162

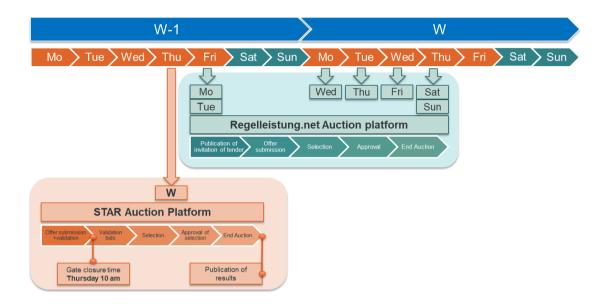
Table 2

Offer Number	Standard R3 (MW)	Unit Price (€/MW/h)	Flex R3 (MW)	Unit Price (€/MW/h)	Total Cost (€/h)
1	0	0	10	3	30
2	0	0	20	2	40
3	0	0	28	1,8	50,4
4	10	5,1	0	0	51
5	10	4,5	10	2,5	70
6	10	3,2	20	2	72
7	10	2,4	28	1,5	66
8	20	4,2	0	0	84
9	20	3,5	10	2	90
10	20	3,4	20	1,8	104
11	20	3,2	28	1,7	111,6
12	30	3,8	0	0	114
13	30	3,4	10	1,8	120
14	30	3,2	20	1,7	130
15	30	3,1	28	1,6	137,8
16	40	3,7	0	0	148
17	40	3,5	10	1,8	158
18	40	3,2	20	1,7	162

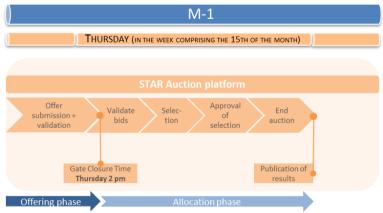
Table 3

3 Auction Process & Rules

The short term market reserve tendering for FCR and secondary reserves is a weekly (W-1) procurement process on the local procurement platform and will be daily on the regional procurement platform for the delivery as of 1 July 2019 . The picture below shows a default timeline for the FCR and secondary reserve tendering via the local procurement platform (STAR Auction platform) and for the FCR tendering via the regional procurement platform (Regelleistung.net). Possible changes of dates can occure, please see the official calendar published on Elia Website and Regelleistung.net respectively.



The short term market reserve tendering for tertiary reserves is a month-ahead procurement process via the local procurement platform (STAR Auction platform). The picture below shows a default timeline for this tertiary reserve tendering.



3.1 Auction process via local procurement platform (STAR)

The standard STAR auction process consists out of the following steps:

- Offering phase:
 - Bidders introduce and validate his offers;
- Allocations phase:
 - Elia validates the offers;
 - Elia performs and approves offer selection;
 - Elia ends the auction.

3.1.1 Standard business process for local procurement platform (STAR)

Offer introduction

For FCR/R2, the Bidder can start to make Capacity Bids for the next 4 Delivery Periods as soon as a new delivery period starts,. The Capacity Bids for each Delivery Period have to be introduced before each respective GCT (Gate Closure Time).

For R3, the bidder can start to make offers from the 1^{st} day of each month for the delivery period +1. The offers have to be introduced before GCT (Gate Closure Time). The GCT is determined by Elia and published on the website elia.be>Grid data>Extranet for customers>Star.

When the auction is open, new offers can be introduced and already created offers can be modified or cancelled, regardless of their status. When a new offer is created and saved, it automatically has the status 'Received'.

An automatic process is implemented to check if the offer set respects the binding bidding obligations (§2.2.3):

- If the offer set respects the bidding obligations, the status changes to 'Checked';
- If the offer set does not respect the bidding obligations, the status changes to 'Rejected' for all concerned offers (§2.2.3).

Each time the offer set is saved, an email is sent with a report of the latest offer set. In addition to this process, a report is sent each time the STAR user checks the respect of the bidding obligations.

In addition, Elia manually checks feasibility and consistency of the Received offers; following this process, the status of an offer is changed to 'Accepted' or 'Rejected'. Rejection of an offer or a set of offers is limited to cases when:

- Such offer or group of offers shows manifest errors or inconsistencies, and after consultation of the bidder via the comment box;
- The bidding obligations (§2.2.3) are not respected.

A log of this communication will be held at all times so that traceability is guaranteed. Short-term auction participants remain fully responsible for their offers. Bids are firm at GCT.

For the FCR/R2 auction, a fictional divisible Base bid (RPP Bid) will be introduced by ELIA for the selection of the 200mHz Service, for a volume equivalent to the maximum that ELIA could procure from the Regional Procurement Platform (RPP) and for a price equivalent to the most recent average price of the Regional Procurement Platform (RPP) known two days before GCT at the Local Procurement Platform.

Therefore the price equivalent will be the average of the last seven days marginal price for Belgium known two days before the GCT of Local Procuremen Platform, which represents an average price over a period of one week. The calculation of marginal price is explained in Article 8 – TSO-BSP settlement ' of the RPP rules and processes for FCR.

Standard GCTs

The standard gate closure day and times are published on the website via the Auction Calendar section (http://www.elia.be/en/grid-data/extranet-for-customers/Star). These GCTs follow a specific standard rule for the monthly auctioning process. The auction for the delivery period of the next month will be closed at the following moment:

- For the auction of FCR/R2:
 - As soon as a new delivery period starts, the Bidder can start to make Capacity Bids for the next 4 Delivery Periods. The Capacity Bids for each Delivery Period have to be introduced before each respective GCT (Gate Closure Time).

 Each Thursday at 10:00 a.m.an auction is held for the delivery period W+1 (e.g. The auction for the delivery period of week 2 is held on Thursday of week 1) unless an official holiday takes place, in which case the auctioning day is switched to the next possible day or which is most convenient preceding the auction.

- For the auction of R3:

- From the first day of each month after GOT the Bidder can start to make Capacity Bids. The Capacity Bids have to be introduced before GCT.
- Each Thursday at 2:00 p.m. in the week comprising the 15th of the month (unless an official holiday takes place, in which case the auctioning day is switched to the next possible day before or which is most convenient).

Live communication around GCT for bid validation process

At each point in time and for each different auction, the bidders and Elia have the possibility to communicate via a comment-box, integrated in STAR. This comment box will allow to log all Q&A's regarding the different bids submitted by the bidders.

Bidders are requested to be available in the last hour before GCT to allow for these Q&A-sessions during the Elia validation process of the bids (accepting/ rejecting).

Offer validation & selection

After GCT, no new offers can be introduced, nor existing offers can be modified or cancelled. Elia accepts or rejects all offers which have not yet been validated (remaining offers with status received). Elia selects the optimal set of offers as described in subsection 3.2.

In case the RPP bid is retained in the award of the FCR, ELIA will procure the equivalent volume retained in the next Regional Procurement Platform Auction to be held (before Delivery).

End auction

When Elia ends the auction, the status of the selected offers changes to "Retained". The status of the other offers remains unchanged (Accepted or Rejected).

All bidders receive an email to inform that the auction ended and can consult if and which of his offers have been retained in the Auction overview.

The aggregated and anonymous results are published on:

 http://www.elia.be/en/suppliers/purchasing-categories/energypurchases/Ancillary-services/Ancillary-Services-Volumes-Prices

Ending of an auction

At the end of each auction, when the final optimal bid selection has been performed by Elia, each bidding participant for the respective delivery period will automatically be informed by e-mail via STAR at the latest 24 hours after the final GCT. At that point in time, each bidder is able to log-in via STAR to see their individual retained bids (if any). Based on the optimal bid selection, average prices and the total retained volume will be calculated and published for transparency reasons via http://www.elia.be/en/suppliers/purchasing-categories/energy-purchases/Ancillary-services/Ancillary-Services-Volumes-Prices

3.1.2 Fallback procedures for local procurement platform

In case of shortfall of volumes, a fallback procedure is applicable: The auction will be ended and all selected volumes will be awarded.

Subsequently, after auction ending, a new gate will be opened for the remaining volume. The same auction process is applicable for this additional auction round.

The GCT of this additional auction round is determined by Elia and – if opened for a certain delivery period – published on the website elia.be>grid data>extranet for customers>Star.

These additional GCTs will follow a specific standard rule:

- For FCR and secondary reserves, the default gate closure time is on Friday W-1 at 10 am (unless an official holiday takes place, in which case the auctioning day is switched to the next possible day);.
- For tertiary reserves, the default gate closure time is on Thursday the week after the first auction round at 2 pm (unless an official holiday takes place, in which case the auctioning day is switched to the next possible day before);

Elia will again select the additional optimal set of offers among all Accepted offers.

Short-term auction participants remain fully responsible for their offers. Bids are firm at GCT.

3.1.3 Back-up procedures for local procurement platform (STAR)

The back-up procedure is applicable if:

- 1. Individual connection problems were to occur at the bidders' side;
- 2. The auction platform would be unable to hold the short-term auction under standard conditions.

Individual connection problems

If individual connection problems were to occur at the bidders' side; a back-up mode is identified.

The back-up procedure consists of each bidder communicating simply by mail their offers for the respective auction and delivery period. Elia will provide at that point in time an Excelfile in which the different bids can be filled in in a similar way as the STAR-interface.

Submitted offers via one of the above fallback modes are to be communicated to Elia via either mail (contracting_AS@elia.be) or and this always before the latest GCT.

It's important that communicated offers via this rollback procedure should come from an authorized contact; i.e. either from an e-mailadress listed in the contract references or a fax-document signed by such a person.

The auction platform would be unable to hold the short-term auction under standard conditions.

If the auction platform would be unable to hold the short-term auction under standard conditions (as specified in this user manual as the standard business process in 3.1.1), a back-up mode can be identified.

Changing of GCTs

In case for a specific reason one of the GCT's must change and this is known ex-ante by Elia, Elia will notify the BSP by e-mail and updatethe Auction Calendar section on the website (http://www.elia.be/en/grid-data/extranet-for-customers/Star)

In case the GCT must be delayed due to operational problems on the day of the auction, this will not be notified by e-mail but will be updated automatically in real-time via the Auction Calendar section on the website (http://www.elia.be/en/grid-data/extranet-for-customers/Star). Short-term auction participants are hence requested to watch the Auction Calendar on the website systematically.

Changing of delivery period

Exceptionally, Elia has the possibility to change the length of a certain delivery period in case this would be needed. Should this be the case, the Auction Calendar will be updated automatically and all bidders will ex-ante be informed manually via mail by Elia as well.

The standard gate closure day and times for an additional auction round are <u>not</u> published on the website via the Auction Calendar section (http://www.elia.be/en/grid-data/extranet-for-customers/Star) but will become visible as soon as an Auction Round 2 was opened by Elia.

Live communication around GCT for bid validation process

In the exceptional event of a second auction round, the comment box will also be used for additional bid requests from Elia to all individual bidders.

In case technical difficulties were to occur in using the comment-box functionality, Elia will contact the bidders individually by mail/phone on the auctioning day around GCT.

3.2 Method of optimal bid selection & Award Criteria

The selection method & award criteria, as described in annex 1 of the general framework, for offers received via the short-term auction has as goal to achieve a minimal total reservation procurement cost, while at least the minimum requested volumes are satisfied for respectively both FCR, R2 and R3-products, and respecting the constraints specific to each offer and each set of offers received.

Given the combinatorial complexity and hence the large number of possible combinations between all bids, an optimization algorithm is used which evaluates all possible combinations in an automated manner, which would manually be impossible to perform in a reasonable time and accurate way. The selected optimization practice is that of mixed-integer linear programming, in which a certain goal-function, in the case the total reservation procurement costs in \mathfrak{C} , is chosen and minimized, subject to problem-specific constraints. These constraints are auction specific and are explained for the auction of FCR/R2 and subsequently for the auction of R3.

This practice has as benefit that a global optimal solution can be attained, within the problem-specific constraints, provided of course such a solution exists.

Using a commercial solver-software package XPRESS, developed and aligned with an expert company in the field of optimization the above mixed integer linear programming problem is solved. The tailor-made solver will go through the global solution space in an intelligent way to finally retain the most optimal solution.

3.2.1 Constraints for FCR/R2

- Respecting the different FCR-products and their characteristics so that sufficient FCR-volumes are retained to have a compliant overall reaction across the required frequency distribution spectrum i.e. [-200mHz, +200mHz].
- As described in Art. 4.2, starting from 1 August 2016 at earliest, ELIA participates in an international cooperation with other Participating TSO's in order to procure, if economically optimal, a part of its required FCR Power through a Regional Procurement Platform. A limit is imposed based on the varying total FCR-demand for Belgium i.e. an additional cap is in place where Belgium may maximally contract 70% of its FCR-total demand from a regional platform.
- As of 1 July 2019, Regional Procurement Platform will move to daily procurement.
- Volumes offered for multiple products (all FCR-product-types, R2_up, R2_down) on the same horizontal offer line are of the 'all-or-nothing' type. In case a certain offer line is selected, all volumes of the different offered products must be chosen and not just 1 product of choice.
- One or more volumes offered via one horizontal offer line can be divisible or indivisible. If the volume is given to be indivisible, this means either the entire volume should be taken or none at all.
- One can indicate whether an offer line may or may not be combined with other offer lines. This can be indicated via the column 'may-not-be-combined-with'. In case this column is not filled in, this offer will be considered as combinable with all other filledin offer lines.
- Each offer line has a valid tariff period; meaning the offered volume is only valid in the respective tariff period.
- The final selected offer lines and hence volumes must cover at least the minimum volume pursued for both FCR/R2_products in each tariff period for the respective delivery period.

In the unlikely case an alternative optimum exists, the following criteria will successively be applied to determine the solution: 1) maximize overall retained volume 2) maximizing the number of retained Bidders 3) maximizing the equal distribution of the overall volume demand amongst all retained Bidders.

3.2.2 Constraints for R3

- Volumes offered for multiple products (R3 Standard, R3 Flex) on the same horizontal
 offer line are of the 'all-or-nothing' type. In case a certain offer line is selected, all
 volumes of the different offered products must be chosen and not just 1 product of
 choice.
- One or more volumes offered offered via one horizontal offer line can be divisible or indivisible³ (for PEAK and LONG-OFF PEAK capacity bids).
- All capacity bids with tariff period BASE are considered as not combinable with other capacity bids with the tariff period BASE. Consequently, in BASE, a supplier should submit capacity bids for an increasing volume. This can be indicated via the column 'may-not-be-combined-with'.
- For all PEAK/LONG-OFF PEAK capacity bids, the supplier can indicate whether an offer line may or may not be combined with other offer lines via the column 'maynot-be-combined-with'. It's allowed to submit capacity Bids for PEAK/LONG OFFPEAK that are combinable or not combinable with BASE Capacity Bids. In case this column is not filled in, this offer will be considered as combinable with all other filled-in offer lines.
- Each offer line has a valid tariff period; meaning the offered volume is only valid in the respective tariff period.
- The final selected offer lines and hence volumes must cover at least the minimum volume pursued for R3_products in each tariff period for the respective delivery period.

In the unlikely case an alternative optimum exists, the following criteria will successively be applied to determine the solution: 1) Maximizing overall retained volume of R3 – Standard 2) Maximizing overall retained volume of R3 (=R3-Standard & R3-Flex) 3) Maximizing the number of retained bidders 4) Maximizing the equal distribution of the overall volume demand amongst all retained bidders.

3.3 Viewing auction results

After an auction has ended, each bidder will be informed automatically via e-mail that the final optimal bid selection has been done. From that point in time, the individual retained bids will be visible for each bidder separately.

At each moment, bidders are able to see the results from previous auctions in a similar way by selecting the appropriate delivery period for which bids were made in the past. A functionality is included as well as to generate such specific reports.

More information can be found in the User Manual section 4 further below.

3.4 Transparency Publications

Since the end of 2013 and as agreed in Elia's Users' Group meeting of 05/12/2013, Elia publishes both long-term and short-term prices of all ancillary services Rx products on its website (http://www.elia.be/en/suppliers/purchasing-categories/energy-purchases/Ancillary-services/Ancillary-Services-Volumes-Prices). To be compliant with EU regulation on transparency requirements on submission and publication of data in electricity markets, which isobligatory from January 2015 and which was published by the Commission Regulation (EU) No 543/2013 on the 14th of June 2013, Elia will publish the average prices per product type and per delivery period (also volume demand and selected total volume in the same manner) to comply with the stipulations in Article 17. To align with these Transparency obligations, Elia also incorporated the right to publish the aggregated (anonymous) prices and volumes in the respective short-term contracts for FCR/R2/R3-delivery and will continue to do so in the future general framework agreement.

In the next section, an overview will be given of all respective publications concerning volumes and prices for the FCR/R2/R3-reserve products:

Minimum volume demand:

³ If the volume is given to be indivisible, this means either the entire volume should be taken or none at all.

For each procured product, the minimum volume demand for each delivery period will be published on Elia's website via: http://www.elia.be/en/suppliers/purchasing-categories/energy-purchases/Ancillary-services/Ancillary-Services-Volumes-Prices

Contracted volume after auction

For each procured product, the final total contracted volume after each auction will be published as well on Elia's website via:

http://www.elia.be/en/suppliers/purchasing-categories/energy-purchases/Ancillary-services/Ancillary-Services-Volumes-Prices

Average prices

For each procured product, the average price for each delivery period will be published in an anonymous way on Elia's website via:

http://www.elia.be/en/suppliers/purchasing-categories/energy-purchases/Ancillary-services/Ancillary-Services-Volumes-Prices

3.5 Auction calendar

The standard auction timings and exceptions are described in 3.1.1. The defined standard auction timings for 2019 can be consulted on the website Elia.be⁴.

It is possible that some dates differ from the general rule of having the auction because of either planning constraints or national holidays in order to guarantee a smooth auction process.

_

⁴ http://www.elia.be/en/grid-data/extranet-for-customers/STAR

4 STAR User Manual

This user manual covers the usage instructions of STAR FCR/R2 and R3. In the title of each section you can find the reserve products to which it applies.

4.1 Create, modify or delete an offer

4.1.1 Create a new FCR/R2 offer

To create a new FCR/R2 offer, navigate to Auction Overview >> FCR/R2, you will find an overview of all FCR/R2 offers that you have submitted for the delivery period selected in the dropdown menu.

To introduce a new offer, first select the delivery period for which you want to introduce your offers. The next 4 delivery periods that start after today (StartsOn > today) are available. By default the first delivery period is selected.

Click on **Create New** on the blue line and fill in the specifications of the offer:

Specify the FCR product , contract and country:

FCR Product:

Depending on your prequalification the following FCR products are available in a dropdown list:

- FCR Sym 200
- FCR Sym100
- FCR Upwards
- FCR Downwards
- FCR empty: FCR empty should be selected if only R2 volume is offered in the bid.

Contract:

- In combination with the FCR product type select the correct contract type (CIPU/non-CIPU). This contract type indicates the type of asset(s) on which the volume will be delivered..
- For FR the delivery type is by default 'Generation/Load'.

Country:

- For Belgian suppliers the country will always be 'BE'.
- For XB suppliers the country will reflect the origin of the reserves.
- Specify the volume and price per product type.
 - In the following cases a FCR or R2 volume and price cannot be submitted and will be greyed out in the user interface:
 - the bidder has no valid R2 contract, no R2 volume or price can be submitted
 - the bidder has no valid FCR contract, no FCR volume or price can be submitted
 - FCR upward or downward is selected, no R2 volume or price can be submitted
 - FCR empty is selected , no FCR volume or price can be submitted
 - For each product in the offer, a volume should be filled in (there can be no empty cells). The offered volume/price can however be 0 €/MW/h.
 - The volume is automatically rounded to an integer; the price is automatically round to a figure with two decimals.
- Select the Tariff period (P, L_OP, BASE)
- Specify the MNBCW (may not be combined with):

In this column the offer numbers of the offers that cannot be retained together with the concerned offer are specified.

Depending on the FCR product type and the tariff period, the MNBCW column is *automatically* completed with some mandatory offer numbers.

- BASE 200SYM offer >> MNBCW will automatically contain all other BASE 200SYM offers
- BASE 100SYM offer >> MNBCW will automatically contain all other BASE 100SYM offers
- BASE Upward offer >> MNBCW will automatically contain all other BASE Upward offers
- BASE Downward offer >> MNBCW will automatically contain all other BASE Downward offers
- BASE FCR empty offer >> MNBCW will automatically contain all other BASE empty offers

These offer numbers are automatically mirrored for the concerned offers. When the FCR product type or tariff period changes, the mandatory MNBCW offer numbers are automatically changed to comply with the above rules.

You can modify the MNBCW column as follows:

- It is possible to add additional offers that cannot be combined with the respective offer;
- It is NOT possible to remove any of the mandatory offer numbers. The mandatory offer numbers are automatically added when the offer set is saved.
- It is possible to change MNBCW to All. In this case this offer number will be mirrored in all other offers (existing or newly created), regardless of their FCR product type or tariff period.



When the MNBCW column contains inconsistencies (e.g. an offer number that does not exist, invalid syntax, ...), the user is informed about this. When clicking on **close**, the incorrect offer numbers are automatically removed from the MNBCW column. After this, the user should still click on **save** to save all modifications.



Specify whether the volume of the offer is divisible (Yes, No):

If a bid is divisible, the solver can retain a part of the offered volume for any of the different products offered on the same offer line.

If the volume is not divisible, the solver must retain the entire volume for all products offered on the same offer line or nothing at all.

In case the FCR product type is Asymmetrical and the tariff period is BASE, the volume divisibility will be Yes* and cannot be changed. The offer will be divisible until the volume of the offer with the next smaller volume + 1 MW.

The following characteristics are filled in automatically:

When a new offer is created, the offer number is assigned automatically. This offer number cannot be edited.



When an offer is cancelled or deleted, the offer number is not recycled.

For example Bidderx:

- creates an offer with offer number 1
- creates an offer with offer number 2 does not save the offer (=cancelled)
- the next offer that will be created will have offer number 3
- When a new offer is created, the **status** is 'Received' by default.
- When a new offer is saved or modified, a reception time is automatically registered or adapted. The reception time is not editable.
- After the auction has ended, Elia will calculate and publish the price indicator for each offer. The price indicator is a percentage that indicates how much the cost of the offer should be reduced in order to be retained in the optimal selection.

Click **Save** to introduce the offer. Whenever you save modifications, you will receive the Offer report (pdf).

The offer has to be **saved** before the gate closing time in order to be retained.

4.1.2 Create a new R3 offer

To create a new R3 offer, navigate to Auction Overview >> R3>2017. This screen gives an overview of all R3 offers that have been submitted for the delivery period selected in the dropdown menu. By default the ongoing delivery period will be displayed.

To introduce a new offer, select the correct delivery period, click **Create New** on the blue line and fill in the specifications of the offer:

- Specify the **delivery type.** (R3CIPU/ R3non-CIPU). Only one delivery type can be selected per offer. Only the delivery types for which the framework agreement and short-term contract was signed, will be available for reception.
- Specify the **volume and price** per bid, for both the Standard and Flex R3 type. A volume and price can only be introduced for the product types for which a valid contract exists.
 - For each offer, a volume should be filled in if a valid contract exists (there can be no empty cells), but the offered volume/price can be 0 MW/€/MW/h.
 - The volume is automatically rounded to a figure without any decimal; the price is automatically round to a figure with two decimals.



If the offer has been retained when the auction has ended, the column **'Retained volume'** will be completed with the selected volume.

- Select the Tariff period (P, L_OP, BASE)
- Specify the combinability restrictions (MNBCW)
 - All Base offers are considered as being not combinable with other offers with the same delivery type and tariff period. The MNBCW values of BASE offers will automatically comply with this rule.
 - It is possible to add additional (non-Base) offers with the same delivery type.
 - It is not possible to add offers with another delivery type.

- It is not possible to remove any of the mandatory offer numbers. The mandatory offer numbers are automatically added when the offer set is saved.
- For all **Peak/Long-Off peak Offers**: The supplier is free to set the combinability (or may not be combined with) within the respective delivery type by enumerating all offer numbers for which this is the case. The convention to be used is separating the different offer numbers by ';' for which combinations for the respective offer number are not allowed. The relevant offer numbers can also be selected from a selection menu.
- For all types of offers the user can choose the option 'All CIPU' or 'All non-CIPU' depending on the delivery type of the offer. This selection indicates that the offer cannot be combined with any other offer with the same delivery type, regardless of the tariff period.
- Specify whether the volume of the offer is divisible (Y, N)
 - Y: the volume is divisible. The solver may retain a part of the offered volume for any of the different products offered on the same offer line.
 - The granularity of the divisibility is 1MW.
 - The minimum volume to be retained per product is 1 MW.
 - N: the volume is not divisible. The solver must retain the entire volume for all products offered on the same offer line or nothing at all.

The following characteristics are filled in automatically:

When a new offer is created, the offer number is assigned automatically. This offer number cannot be edited.



When an offer is cancelled or deleted, the offer number is not re-cycled. e.g. Bidder_x:

- creates an offer with offer number 1
- creates offer with offer number 2 does not save the offer (=cancelled)
- the next offer that will be created will have offer number
- When a new offer is created the status is 'Received' by default.
- When a new offer is saved, automatically a **reception time** is registered.

Click **Save** to introduce the offer. Whenever you save modifications, you will receive the Offer Report (pdf) via mail.

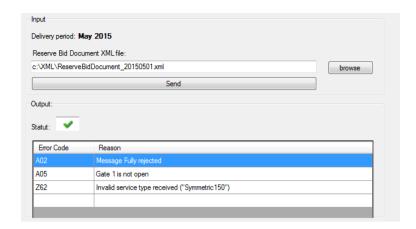
The offer has to be **saved** before the gate closing time in order to be retained.

4.1.3 B2B Offer import

STAR application provides the possibility to import the offers using a webservice-base B2B interface. By implementing this webservice, an external authorized IT system can directly inject the offers into STAR application using XML-based messages.

In case of technical problem, STAR GUI enables the user to import manually a B2B XML message. To **manually import a B2B XML message**, execute the following instructions:

• Click on the **"Send B2B" button** of the Overview screen. The B2B import screen will be displayed (see the following screenshot)



- Click on **Browse button** in order to select the XML file you want to transmit.
- Click on Send button to transmit the XML file.
- The output panel displays the **result of the import operation**. In case of errors the details of the errors are listed.
- In case of successful import, the **Bidding Obligation validation** is automatically executed (see Bidding Obligation Validation). Go back to the auction overview to visualize the offer you have imported and the result of the Bidding Obligation validation (see 4.2)
- For FCR/R2 an XML message can be uploaded for the 4 next delivery periods, for R3 an XML can be uploaded for the next delivery period only.

For more info contact ENMAN contracting via contracting_AS@elia.be

4.1.4 Modify an introduced offer

Perform the modifications in the auction overview and click on **Save**. Whenever you save modifications, you will receive the Offer report (pdf) via mail.

If the state of the gates allows a modification, the following fields can be edited: Volume & Prices, Tariff period, MNBCW, Volume Divisible.

In case the bidding rules were already validated (status *Checked* or *Rejected*), a modification might alter the outcome of this validation. To reflect this,

- For FCR/R2: the status of all offers with the same service type will return to status Received and the validation flag will become grey.
- For R3: the status of all offers with the delivery type will return to status *Received* and the validation flag will become grey.

4.1.5 Delete an introduced offer

Click on **Delete** in the action column of the offer you want to delete. Then click **OK** in response to the question 'Are you sure you want to delete the selected offer?'.

After this click on **Save**. Whenever you save modifications, you will receive the Offer report (pdf).

In case the bidding rules were already validated (status *Checked* or *Rejected*), a modification might alter the outcome of this validation. To reflect this,

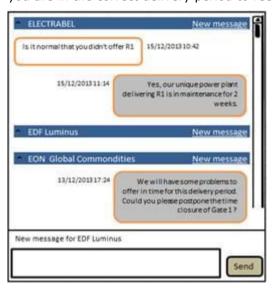
 For FCR/R2: the status of all offers with the same service type will return to status Received and the validation flag will become grey. For R3: the status of all offers with the same delivery type will return to status *Received* and the validation flag will become grey.



Throughout the auctioning process, you can communicate with Elia by using the chat box on the auction overview screen.

To send a message, click on **New Message**, type your message and click on **Send**. The chat box is automatically refreshed every minute; a manual refresh can be done at any point in time.

Note that chat messages are related to a specific delivery period, make sure you are in the correct delivery period to receive all messages.



4.2 Validate Bidding Obligation

Both FCR/R2 and R3 offers must comply with certain bidding obligations (cfr Auction rules).

To check if your offers comply with these rules, click **Validate Bidding Obligations** in the auction overview screen. The result of this validation process is reflected in the status of the offers (*Checked* or *Rejected*) and a validation flag. By hoovering with your mouse pointer on the results the validation flag, a popup screen appears giving you the detailed results of the validation for each of the 4 Bidding Obligations.

The offers which successfully passed the validation will receive the **status** *Checked*.

The offers which don't comply with the Bidding Obligation will receive the status Rejected.

Each time you performs a validation of your offer set, you will receive the Offer report (pdf).

4.3 Offer Status

Every offer follows a validation cycle. There are 5 possible validation statuses:

- Received: The offer is successfully received. As long as the gate is open, you can modify/cancel any offer with status Received.
- Checked: The bidding obligations were successfully validated. As long as the Gate is open, you can modify/deleted any offer with status Checked.
- Accepted: Elia has accepted the offer. As long as the gate is open, you can modify/delete any offer with status Accepted.
- Rejected: Elia has rejected the offer. As long as the gate is open, you can modify/delete any offer with status Rejected.

Elia will log the reason for rejection in the chatbox.

Retained: The auctioning process is finished and Elia retained the offer (the offer is part of the optimal offer selection). The offer may not be modified.



When an offer with status *Checked, Accepted or Rejected* is modified, the status automatically changes to *Received*.

4.4 Create an Offer Report

In the menu navigate to Reports.

Select a begin and end date to view all offers of delivery periods that have a start date between begin date and en date selected. The report is identical to the Auction Overview screen.

Offers report for delivery periods between 01-11-2014 and 30-11-2014



If the volume selected by the solver is less than the total volume that was offered), the volume is colored red and the retained volume is reported in this case. Retained offers are highlighted in green.