



# Study on the extension of the secondary market for reserve

**Market Development** 

31/03/2017



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### **1** Introduction

### **1.1** Context of the present study

The present study is conducted upon request of the CREG in the context of the discretionary incentives for 2017 fixed by the CREG in her decision of the 30<sup>th</sup> of June 2016 [(B)160630-CDC-658E/38<sup>1</sup>] on "les objectifs à atteindre par ELIA en 2017 dans le cadre de l'incitant laissé à la discrétion de la CREG visé à l'article 27 de la Méthodologie Tarifaire" / "de doelstellingen die ELIA in 2017 moet behalen in het kader van de stimulans overgelaten aan het eigen inzicht van de CREG zoals bedoeld in artikel 27 van de Tariefmethodologie".

### **1.2** Scope and structure of the present study

The present study analyses the possible extension of the existing secondary market for reserves:

- In intraday no matter the circumstances (currently limited to the case of forced outage) for all reserves R1, R2 and R3 contracted from CIPU units.
- For all reserves R1, R2 and R3 contracted from Non CIPU units in both day-ahead and intraday no matter the circumstances. The resources in scope are the ones connected to the transmission and the distribution grids subject to agreement of the DSOs for the concerned flexibility.

The study starts by describing the existing secondary market for reserves in Belgium (section 2): its role, scope, usage and detailed processes. We also compare it with what has been implemented in neighbouring countries.

In section 3, we propose how the extension of the secondary market could be implemented by the 31<sup>st</sup> of December 2017: the principles and corresponding detailed processes are described.

In section 4, we assess the proposals of section 3 based on the feedback received from the stakeholders on the survey presented during the Workgroup Balancing of 10/02/2017. We also make the link with the requirement of the European Guideline on Electricity Balancing (version of 16/03/2017 see in Annex 1).

<sup>&</sup>lt;sup>1</sup> FR : <u>http://www.creg.be/sites/default/files/assets/Publications/Decisions/B658E-38FR.pdf</u>

NL : <u>http://www.creg.be/sites/default/files/assets/Publications/Decisions/B658E-38NL.pdf</u>



### 2 Existing secondary market for reserves

### 2.1 Role of the secondary market for reserves

In the <u>primary market</u> for reserves (R1, R2 and R3), Elia contracts reserve capacities from different BSPs (Balancing Service Providers) via auctions on a weekly (R1 and R2) or monthly basis (R3). This is done via the STAR (Short-Term Auctioning of Reserves) platform. Elia selects the offers that minimize the total reservation cost (in  $\in$ /MW/h) while matching its capacity needs as illustrated on Figure 1. The offers selected by Elia are translated into obligations for the BSPs, i.e. the BSPs must deliver the contracted volumes of the associated reserve products during the contractual period. In case of non-compliance with the contractual obligations, Elia is imposing a penalty to the BSP.



Figure 1 - Rx Primary Market

The <u>secondary market</u> allows the BSPs to bilaterally exchange reserve obligations between each other after the closure of the primary market. The SMART (Secondary MArket Reserve Trading) platform allows BSPs to nominate their exchanged reserve obligations as illustrated on Figure 2. This allows BSPs:

- To guarantee 100% availability of their reserve obligation even in case of technical issues in their portfolio.
- To economically re-optimize their portfolio after closure of the primary market.



Figure 2 - Rx Secondary Market



### 2.2 Current scope of the secondary market for reserves

In January 2013, the secondary market for reserves was created and implemented via the SMART platform. At that time, secondary market was closing in day-ahead and limited to R1 and R2 delivered by CIPU units. In January 2014, the secondary market was extended to R3 Production (delivered by CIPU units as well). Since January 2017, the secondary market has been extended to intraday for CIPU units but participation is limited to power units experiencing a forced outage while supplying reserve.

Table 1 below shows the current scope the secondary market for reserves. Note that R2 Non CIPU does not appear in the table as for the moment only CIPU units can participate to R2.

	R1		R2	R	3
	CIPU Non CIPU		CIPU	CIPU	Non CIPU
Up to DA	$\checkmark$	×	$\checkmark$	$\checkmark$	×
ID	In case of FO	×	In case of FO	In case of FO	×

Table 1- Current scope of the secondary market



### 2.3 Current usage of the secondary market for reserves

We summarize below the usage of the secondary market for reserves since its creation in 2013. Table 2 shows the total volumes of reserve obligation exchanged, i.e. "Sum of volumes [in MW \* h]" and the sum of the duration of the transfers, i.e. "Sum of duration [in h]"<sup>2</sup>. Table 3 shows the average volume of reserve obligation transfer per deal. Note that the secondary market for R3 was only implemented in January 2014.

We see a link between the volumes exchanged and the procurement cycle. R1 and R2 were fully sourced in monthly auction beginning 2015 then in weekly auction in the course of 2016. The volumes of R2 exchanged started decreasing in 2015 (but not the one of R1). The volume of R1 exchanged became null in 2016.

Looking at the volume and duration of the deals we see that the secondary market has played an important role so far. Nevertheless it is important to point out that even when not used the secondary market brings value to the market as it provides the market players with an insurance that can be used at all time.

	Sum of volumes [in MW*h]			Sum of duration [in h]			
	R1	R2	R3	R1	R2	R3	
2013	2.730	106.480	-	260	6.130	-	
2014	3.408	116.880	-	648	4.920	-	
2015	8.989	14.916	-	962	1.158	-	
2016	-	1.920	105.636	-	96	1.776	

Table 2 - Exchanges on the secondary market for reserves

	R1 [MW]	R2 [MW]	R3 [MW]
2013	11	17	-
2014	5	24	-
2015	9	13	-
2016	-	20	65

Table 3 – Average volume per deal

 $<sup>^2</sup>$  The sum of the duration of the different exchanges of reserves between two BSPs. Note a transfer of R2 symmetric of one hour counts as two hours (upward + downward components). The same remark applies for the volume of R2, i.e. a transfer of R2 symmetric of one 1 MWh counts as 2 MWh (upward + downward components).



### 2.4 Benchmark with neighbouring countries

Table 4 below summarizes the implementation of secondary markets for reserves in neighbouring countries. Note that in all four countries, the exchanges are performed bilaterally between the BSPs.

- In the Netherlands, transfers are allowed in both day-ahead and intraday but only for R1.
- Germany does not foresee commercial exchange of reserve but it is possible to transfer reserve obligation to another party in the context of a backup contract in case of outage.
- France offers a complete secondary market but it is important to note that a secondary market has been historically more necessary than in other countries as:
  - R1 / R2: there was no primary market for those two products until the 1<sup>st</sup> of January 2017. The obligations were calculated pro-rata based on the production of the generators. This means that the secondary market was actually acting as a kind of primary market. Since the 1<sup>st</sup> of January 2017, there is no pro-rata R1 obligation anymore, i.e. R1 is sourced via auctions. This is not the case for R2 for which there is still no primary market.
  - R3: auction occurs only on a yearly basis (but with a weekly volume granularity).

As a result, we can conclude that Belgium is already quite advanced compared to neighbouring countries. France is more advanced but this can be explained by the fact that the primary market was historically and is still much less developed.

	R1	R2	R3
BE	<ul><li>DA: CIPU only</li><li>ID: CIPU FO only</li></ul>	<ul><li>DA: CIPU only</li><li>ID: CIPU FO only</li></ul>	<ul><li>DA: CIPU only</li><li>ID: CIPU FO only</li></ul>
FR	• DA • ID	• DA • ID	• DA • ID
NL	• DA • ID	No	No
DE	No but backup contract	No but backup contract	No but backup contract

Table 4 - Secondary market for reserves in neighbouring countries



### 2.5 Current operational processes

There is currently one process applicable in day-ahead and another one in intraday. The main difference between the two processes resides in the fact that the first one takes place before all other day-ahead nominations (program and reserve nominations for CIPU units) making the process less complex. Exchanges of reserve in intraday imply more constraints as described below.

### 2.5.1 Day-ahead

### 2.5.1.1 Process



Figure 3 - Current operational process for Rx transfer in day-ahead

Both the initiating supplier (the one decreasing his obligation) and the counterpart supplier (the one increasing his obligation) nominate a "deal" on the SMART platform. The counterpart supplier is allowed to take over additional reserve obligations with CIPU units as long as he has a valid contract for this type of reserve. His new obligations may not exceed the capacity he has prequalified for the corresponding product.

Deals must be entered before 13:30. Both suppliers specify the delivery period, type of reserve (R1, R2 or R3), volume, counterparty and, if applicable, service type<sup>3</sup> and R3 type<sup>4</sup>. If both deals match each other, the transfer is approved and Elia takes into account the new reserve obligations of both suppliers.

Both suppliers then perform their day-ahead reserve and program nominations for CIPU units based on their new reserve obligations. A BSP can never submit a reserve program which exceeds the prequalified volume for the associated reserve.

### 2.5.1.2 Impact on reserve activation price

A transfer of reserve obligation in day-ahead has no impact on the reserve activation prices since activation prices (R2 and R3) are nominated after the transfer on the secondary market. Prices are nominated via the day-ahead reserve and program nominations.

Also the day-ahead R2 selection occurs after the day-ahead reserve and program nominations (and as a result also after the gate closure of the secondary market).

<sup>&</sup>lt;sup>3</sup> For R1: "Symmetric 100", "Symmetric 200" or "Downward". For R2: "Downard" or "Upward". For R3: not applicable.

<sup>&</sup>lt;sup>4</sup> "R3 Standard" or "R3 Flex"



### 2.5.2 Intraday



Figure 4 - Current operational process for Rx transfer in intraday

The initiating supplier (the one decreasing his obligation) is allowed to request a transfer of reserve from a CIPU unit delivering reserve if the unit is experiencing a forced outage. He enters a deal with the same information as in day-ahead plus the name of the power unit that is delivering the reserve and experiencing the forced outage.

The counterpart supplier (the one increasing his obligation) must accept the deal on the SMART platform. He must also specify the power unit taking over the obligation when accepting the transaction but only in case of transfer of R3. In case of transfer of R1 and R2, he does not specify any power unit as those reserves are activated portfolio-based in opposition to R3 which is activated unit-based. The counterpart supplier is allowed to take over additional reserve obligations with CIPU units as long as he has a valid contract for this type of reserve. His new obligations may not exceed the capacity he has prequalified for the corresponding product.

Once approved by the counterpart supplier, the transfer must be approved by Elia. Elia will check that the requested transfer does not endanger operational security of the grid. For example the transfer will not be approved in intraday if it generates a congestion issue. Note there is currently no reserve re-nomination as such for CIPU units in intraday. The transfer entered in SMART and approved by Elia acts a reserve re-nomination for R3. For R1 and R2, reserve is currently delivered portfolio based. This will evolve for R1 with the nomination per FCR providing group in the context of the new availability control entering into force in May 2017. Similar evolutions are expected for R2 in the future.



### 2.5.2.2 Impact on reserve activation prices

Elia performs the R2 selection in day-ahead by choosing the offers with the least expensive activation price nominated by the BSPs. BSPs are allowed to offer more (but not less) R2 capacity in day-ahead than contracted in the weekly auction. The units selected are activated pro-rata in real time as illustrated on Figure 5 and the weighted average price of the day-ahead selection is used in the calculation of the imbalance prices.

The transfer of reserve obligation in intraday occurs after the selection of R2 in dayahead. Running subsequent selections in intraday would require all R2 market participants to send new energy bids in intraday (volume and price) which is currently not foreseen. Accepting an activation price from the counterpart supplier without a new selection in intraday could exclude offers potentially cheaper which weren't selected in day-ahead. Also this new activation price could have a substantial impact on the imbalance price.

The counterpart supplier therefore inherits the activation price nominated by the initiating supplier in day-ahead. Note intraday re-nomination of R2 bids will be considered when R2 merit order will be implemented.



Figure 5 - R2 selection and impact on intraday process

In case of transfer of R3 obligation in intraday, the activation price used for the units taking over the obligation is the one nominated in day-ahead (or in intraday via an IDPCR – IntraDay Program Change Request) for that unit. This question is not applicable for R1 as there is no activation price for R1.



# **3** Possible extension of the secondary market for reserves by 31/12/2017

### 3.1 Assumptions

### 3.1.1 Considerations on R2 Non CIPU

R2 is currently not open to Non CIPU units. As a result, the extension of the secondary market for R2 to Non CIPU units is for the moment not applicable. Once R2 will be open to Non CIPU units, the feasibility of this extension will be investigated and analysed with the stakeholders. The extension will be implemented in function of the results of this analysis.

### 3.1.2 <u>Considerations on the different types of resources</u>

When describing the CIPU and Non CIPU units in the text below we make no distinction between the ones connected to the transmission and the ones connected to the distribution grids. From the perspective of the secondary market it makes no difference whether a resource is DSO or TSO-connected meaning that both types of resources will have access to the same functionalities of the secondary market.

On the other hand, the distinction between CIPU and non CIPU units is relevant as current nomination, activation and settlement processes differ. Note the merge of the CIPU and Non CIPU reserve contracts is foreseen on the R1 and R3 roadmaps as presented in Workgroup Balancing. The evolution of the CIPU contract will be discussed with the stakeholders in the course of 2017. An implementation plan will then be developed following those discussions.



### 3.1.3 Link with future nomination process for reserves via Non CIPU units

There is currently no nomination process for reserve from Non CIPU units (R1 and R3). This contrasts with the CIPU units which must send reserve nominations in day-ahead.

Reserve obligations awarded in the auctions of the primary market remain the same during the whole contractual period for Non CIPU units. This will not be the case with the extension of the secondary market to Non CIPU units; obligations will change as a consequence of reserve exchanges. Supplier of reserve with Non CIPU units should be able to re-nominate their obligation following reserve exchange via new nomination processes.

The implementation of nomination processes for reserves from Non CIPU units is a "no-regret" measure as it is also required for the R1 and R3 planned product evolutions already announced:

- **R1 evolutions**: nomination of R1 per FCR providing group (CIPU and Non CIPU) is introduced in the context of the availability control evolutions entering into force as of May 2017.
- R3 evolutions: the introduction of an activation price for R3 Non CIPU requires nominating R3 Non CIPU bids (volume and activation price). However at this moment it is still uncertain when the activation price will be introduced for R3 Non CIPU as it requires the implementation of the transfer of energy and the related processes for data exchanges for TSO and DSO-connected delivery points.

Even without activation price for R3 Non CIPU, we consider the nomination processes for Non CIPU units as a pre-condition for the extension of the secondary market to Non CIPU units. It allows the BSPs to nominate their new obligations following the transfers agreed on the secondary market. We therefore propose to implement in any case the nomination process for R3 Non CPU (on top of R1 non CIPU) for the 1<sup>st</sup> of January (if activation price would not be allowed for R3 yet, only the volume would be nominated by the BSPs). Note this process will be very similar to the one used for Bid Ladder. This will limit the impact on the BSPs.



### **3.2 Extension to Non CIPU units in day-ahead**

### 3.2.1 Proposed principles

In day-ahead, a BSP (the initiating supplier) can transfer part or all his reserve obligations (R1, R2 and R3) to another BSP (the counterpart supplier). The initiating supplier can decrease the reserve obligations he has contracted in the primary market with both CIPU and Non CIPU units. Also the counterpart supplier is allowed to take over additional reserve obligations with both CIPU and Non CIPU units as long as he has a valid contract for this type of reserve. His new obligations may not exceed the capacity he has prequalified for the corresponding product. All combinations of transfer (from CIPU to CIPU, from Non CIPU to Non CIPU, from CIPU to Non CIPU, and from Non CIPU to CIPU) are allowed. Also note the initiating and counterpart suppliers can be the same party (transfer of CIPU to Non CIPU obligation or vice versa within own portfolio).

### 3.2.2 Proposed operational process







Figure 7 - Proposed operational process in day-ahead, example 2





Figure 8 - Proposed operational process in day-ahead, example 3

The proposed process is illustrated with three examples on Figure 6, Figure 7 and Figure 8. Figure 6 shows the example of BSP A transferring 25 MW of reserve on CIPU units to BSP B. BSP B takes over the 25 MW with CIPU units (20 MW) and Non CIPU units (5 MW). Both BSPs enter their deals (BSP A decreasing his obligation and BSP B increasing his obligation) on the SMART platform in day-ahead no later than 13:30. Transfers are approved automatically if the deals entered by both BSPs match.

They then nominate their new reserve obligations based on the transfers executed:

- For CIPU units: via the usual day-ahead procedure for program and reserve nomination for CIPU units before 15:00. Also for R1, the BSP submits nomination per FCR providing group in the context of the new availability control entering into force in May 2017.
- For non CIPU units: via a nomination process for Non CIPU units (as mentioned in section 3.1.3). The exact gate closure time for this Non CIPU nomination process will be defined in the context of the R1 and R3 evolutions.

Note for both CIPU and non CIPU nomination processes, the BSP can never nominate a volume that exceeds the capacity he has prequalified for the corresponding product.

The initiating supplier can transfer his obligation to different party. Figure 7 shows the example of BSP A transferring 20 MW of reserve on CIPU units to BSP B and 5 MW of reserve on CIPU units to BSP C. BSP B takes over the 20 MW with CIPU units while BSP C takes over the 5 MW with Non CIPU units.

The initiating and counterpart suppliers can be the same party. This is illustrated by the example of Figure 8 which shows BSP A transferring 5 MW of reserve on CIPU units to non CIPU units within his own portfolio.



The main differences with the current process are the following:

- On top of the information currently provided (delivery period, type of reserve, volume, counterparty, service type<sup>5</sup> and R3 type<sup>6</sup> if applicable), both initiating and counterpart suppliers must specify the types of unit (CIPU or Non CIPU) when entering a deal. It is necessary to differentiate reserve obligations on CIPU from the ones on Non CIPU units as nomination, activation and settlement processes differ.
- Currently the initiating and counterpart suppliers enter only one deal each, the transfer is approved if both deals match. Then can now enter several deals (either based on CIPU or non CIPU units). The transfers are approved if the sums of the deals of the initiating and counterpart suppliers match. In the example of Figure 6 above, BSP A enters one deal (decreasing CIPU obligation) while BSP B enters two deals (increasing CIPU and Non CIPU obligations). Note without this improvement BSP A would have had to enter two deals in this example which would not have guaranteed the full confidentiality on how BSP B is taking the obligations over.
- BSP having modified their initial obligations on Non CIPU units must update their Non CIPU reserve nomination. In the example of Figure 6, BSP A and B sends CIPU reserve and program nominations taking into account the transfer. BSP B also has to send Non CIPU nominations reflecting his new obligations.

 <sup>&</sup>lt;sup>5</sup> For R1: "Symmetric 100", "Symmetric 200", "Downward" or "Upward". For R2: "Downard" or "Upward". For R3: not applicable.
 <sup>6</sup> "R3 Standard" or "R3 Flex"



### **3.3 Extension to Non CIPU units in intraday**

### 3.3.1 Proposed principles

The philosophy is the same as the one proposed for the day-ahead process. All combinations of transfer (from CIPU to CIPU, from Non CIPU to Non CIPU, from CIPU to Non CIPU, and from Non CIPU to CIPU) are all allowed. Also the initiating and counterpart supplier can be the same party (transfer within own portfolio).

### 3.3.2 Proposed operational process







Figure 10 - Proposed operational process in intraday, example 2





Figure 11 - Proposed operational process in intraday, example 3

The proposed process is illustrated with three examples on Figure 9, Figure 10 and Figure 11. Figure 9 shows the example of BSP A transferring 25 MW of reserve on Non CIPU units to BSP B. BSP B takes over the 25 MW with CIPU units (20 MW) and Non CIPU units (5 MW). A deal is entered by BSP A and must be approved by BSP B. When approving, BSP B also specifies how he takes over the obligation (split between CIPU / Non CIPU contract and per CIPU unit in case of R3 transfer).

Once approved by the counterpart supplier, the transfer must be approved by Elia. Elia will check that the requested transfer does not endanger operational security of the grid. The transfer will not be approved in intraday if it generates congestion issues.

Deals on the SMART platform must be approved no later than in H-1 before delivery.

Regarding the nomination of the reserve following the transfer:

- For CIPU units: reserve re-nomination as such does not exist for CIPU units in intraday. The transfer entered in SMART and approved by Elia acts a reserve re-nomination for R3. For R1 and R2, reserve is currently delivered portfolio based. This will evolve for R1 with the nomination per FCR providing group in the context of the new availability control entering into force in May 2017. In this context, R1 providers will have to re-nominate their obligation per FCR providing group. Similar evolutions are expected for R2 in the future.
- For non CIPU units: nomination of new reserve obligations is performed via a nomination process for Non CIPU units (as explained in section 3.1.3). The exact gate closure time for this Non CIPU nomination process will be defined in the context of the R1 and R3 evolutions.

Note for both CIPU and non CIPU, the BSP can never nominate a volume that exceeds the capacity he has prequalified for the corresponding product.



The initiating supplier can transfer his obligation to different party. Figure 10 shows the example of BSP A transferring 20 MW of reserve on CIPU units to BSP B and 5 MW of reserve on CIPU units to BSP C. BSP B takes over the 20 MW with CIPU units while BSP C takes over the 5 MW with Non CIPU units.

The initiating and counterpart suppliers can be the same party. This is illustrated by the example of Figure 11 which shows BSP A transferring 5 MW of reserve on CIPU units to non CIPU units within his own portfolio.

Note the current limitations on the activation price for R2 described in 2.5.2.2 will still be applicable. The main differences with the current intraday process are as follows:

- BSP specifies the type of contract (CIPU or Non CIPU)
- Counterpart supplier can take over obligations with multiple CIPU units and a combination of Non CIPU / CIPU resources.
- BSP having modified their initial R3 obligations on Non CIPU units must update their R3 Non CIPU reserve nomination.
- BSP having modified their initial R1 obligations on CIPU or Non CIPU units must update their R1 CIPU / Non CIPU reserve nomination per FCR providing group.

### **3.4 Extension to CIPU units in intraday no matter the circumstances**

### 3.4.1 Proposed principles

CIPU units delivering reserve would be allowed to transfer their reserve obligation to another party in intraday no matter the circumstances meaning if they are experiencing a forced outage or not.

### 3.4.2 <u>Proposed operational process</u>

The process applicable is described in previous section (3.3.2).



### 4 Assessment of the proposals

### 4.1 Different implementation scenarii

By combining or not the three market extension proposals described above in 3.2, 3.3 and 3.4 we obtain three different implementation scenarii summarized in Table 5. We assess these scenarii in the current section.

		R1		R2	R3		
		CIPU	Non CIPU	CIPU	CIPU	Non CIPU	
Up to	DA	$\checkmark$	×	$\checkmark$	$\checkmark$	×	
ID	)	In case of FO	×	In case of FO	In case of FO	×	As Is
Up to	DA	×	$\checkmark$	✓	✓	✓	Scenario A
ID	)	In case of FO	×	In case of FO	In case of FO	×	DA: Open to non CIPU units     ID: no change
Up to	DA	×	$\checkmark$	<ul> <li>✓</li> </ul>	$\checkmark$	$\checkmark$	Scenario B
ID	)	$\checkmark$	×	$\checkmark$	$\checkmark$	×	DA: Open to non CIPU units     ID: remove FO restriction
Up to	DA	×	<	×	×	$\checkmark$	Scenario C
ID	)	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	Full opening DA / ID

Table 5 - Implementation scenarii

### 4.2 Link with European Guideline on Electricity Balancing

The "Article 34 – Transfer of balancing capacity" (see Annex 1) lays down the guideline on how TSOs shall allow balancing service providers to transfer their obligations to provide balancing capacity. TSOs should be compliant with the guideline one year after its entry into force, meaning approximately in Q3 2018 as it is expected that the guideline would enter into force in Q3 2017.

In summary, Article 34 stipulates that:

- TSOs shall allow transfer of reserve obligation within the geographical area in which the procurement has taken place. As the geographical area for R1 procurement is not limited to Belgium but is regional, a regional secondary market should also be developed if procurement remains on a weekly basis. Indeed TSOs may request exemption if contracting period is strictly less than a week.
- The transfer of balancing capacity shall be allowed at least until one hour before the start of the delivery day. This is applicable for local (R1, R2 and R3) but also regional markets (R1).



In order to comply with the guideline in the local Belgian market, we should:

- Open the secondary market to Non CIPU units in day-ahead and also after the existing day-ahead closure time at least until one hour before the start of the delivery day.
- Allow transfer for CIPU units at least until one hour before the start of the delivery day without circumstantial limitation.

The market extension as analysed in this document (scenario C in 4.1) is compatible with the guideline and is going even further with respect to the closure time of the intraday secondary market (H-1 before delivery rather than H-1 before start of delivery day).

Also note TSOs are allowed to refuse a transfer of balancing capacity if it has the potential to endanger the operational security. TSOs must explain the reason for the rejection to the balancing service providers involved. As a result, our proposal (which is already in place) to refuse transfer in intraday if it generates congestion issue as mentioned in 3.3.2 is also compliant.



### 4.3 Stakeholder survey

During the Workgroup Balancing of 10/02/2017, the proposed extension and enhancements of the secondary market for reserves were presented to the stakeholders. The members of the Workgroup Balancing were requested to answer a survey (see list of questions in Annex 3) in order to assess the added value and the urgency of these new functionalities.

### 4.3.1 <u>Summary of the answers to the stakeholder survey</u>

We received answers from five respondents and summarize them below.

Question 1: Prioritization of market extension

a) How would you rate the implementation added value of the three scenarii for market opening (A, B and C) presented<sup>7</sup> taking into account that Elia will have to arbitrate this development with other ones? Choose one of the following values for each scenario: "1. Top Priority", "2. Important", "3. Nice to have", "4. Not needed".

Summary of the received answers

- All respondents agree that opening to Non CIPU at least in DA (scenario A), is important.
- However they diverge on the top priority.
  - Three respondents agree that the top priority is the full opening to CIPU units i.e. removing the force outage limitation in intraday (scenario B).
  - One respondent states that the top priority is to open the 2<sup>nd</sup> market to Non CIPU units up to the intraday.

<sup>&</sup>lt;sup>7</sup> See section 4.1.

<sup>-</sup> Scenario A → DA: open to Non CIPU / ID: no change

<sup>-</sup> Scenario B  $\rightarrow$  DA: open to Non CIPU / ID: cancel FO restriction

<sup>-</sup> Scenario C → Full opening DA / ID



b) Which potential other developments for the Ancillary Services market do you consider more important?

Summary of the received answers

- An improved merit order activation of the reserves is cited by most respondents with the following aspects mentioned:
  - Introduction of an activation price for Non CIPU units participating to R3.
  - Common merit order between free and R3 bids based on prices.
  - Merit order activation for R2 rather than pro-rata.
- Are also proposed:
  - The harmonization of the CIPU and Non CIPU contracts (incl. penalties).
  - Marginal pricing for ancillary services (pay-as-cleared).
  - Participation of DSO-connected delivery points to the Bid Ladder
  - The modulation of the penalties in function of the participation to the secondary market, i.e. lowering the penalties when trying to use the secondary market but there is no liquidity and increasing the penalties when not trying to increase the attractiveness of the secondary market.

<u>Question 2</u>: Prioritization of new functionalities for user friendliness improvement

a) How would you rate the functionalities for user friendliness improvement presented taking into account that Elia will have to arbitrate these developments with other ones? Choose one of the following values for each functionality: "1. Top Priority", "2. Important", "3. Nice to have", "4. Not needed".

Summary of the received answers

- Functionality 1 (transfer for multiple days at once) is considered as top priority for one respondent and as nice to have by the other three.
- Functionality 2 (update of rejected transfer) is considered by all respondents as a nice to have.
- Functionality 3 (Excel upload of MW profile) is considered as top priority by three respondents and as important by one respondent.
- Functionality 4 (ability to split volume between contracts and power units) is considered as a top priority by all respondents.



### b) Do you think of other functionalities that could be developed to add value?

### Summary of the received answers

The following elements are mentioned:

- Automated CIPU reserve nomination in intraday PROBID (or similar to day ahead nomination).
- Possibility to have cross border transfers of capacity obligations between BSP's.
- TSO-BSP settlement to from pay-as-bid to pay-as-cleared.
- Product harmonization between TSO's.
- Re-nomination of R2 activation price based on economic changes in intraday.
- On top of the proposed bilateral 2nd markets arrangements, a double sided auctions with the participation of Elia to contract ancillary services.

c) Which potential other developments for the Ancillary Services market do you consider as more important?

No answers

<u>Question 3</u>: Extension to Non CIPU units (suppliers of Rx with Non CIPU units)

a) Why is this needed? What is the added value? Is it necessary to extend the 2nd market to Non CIPU units to both DA and ID or DA would be sufficient?

Summary of the received answers

On the added value, the following elements are mentioned:

- Non selected capacity, or capacity which is not available for the complete contractual period of the primary market (and cannot be offered) can still be valued.
- Back up capacity available in the secondary market will allow offering volumes at better prices in the primary market.
- Creation of level playing field between CIPU and Non CIPU units.
- Integration CIPU / Non CIPU portfolios and their optimization are expected to lead to common benefits for all actors.
- Non CIPU availability is difficult to foresee in advance. The secondary market can help limit the risk of penalties.

Extension to both DA and ID or only ID:

• Four respondents state that day-ahead is a good start but one says that extension in intraday for Non CIPU is even more important than in day-ahead.

b) Would it impact your bids in the primary market in terms of volume offered and price? Would the impact be bigger if the extension is realized for the ID on top of the DA?



Summary of the received answers

- Respondents seem to agree that the proposed improvement would generate more volumes offers and hence more competition. One respondent mentioned that additional volumes offered could be slightly more expensive though as the availability of this additional flexibility could be less reliable.
- One respondent states that it could have a downward impact on his offers, the respondent estimate a potential impact of 10-15% on the offer price in the primary market.

c) Transferring obligation to another party: How often do you estimate you would be willing to transfer some of your reserve obligation to another party (assuming price is reasonable)? Does it apply for both R1 and R3 Non CIPU? In which circumstances? In DA? In ID?

Summary of the received answers

- Number of transaction is very difficult to estimate and linked to the liquidity of the market. One respondent points out that the number of transfers is not representative:
  - It is rather the volume and duration of the transfer (number of MWh) that should be used as reference.
  - Also the secondary market should be seen as a hedge / insurance available at all time. As a result it adds considerable value even if not used.
- All respondents are interested by R1 and R3 transactions in both DA and ID. One respondent emphasises that they will mainly use it ID.
- Transactions will occur in case of technical unavailability, market changes and synergies with other providers or with their own CIPU portfolio.

d) Taking over obligations from another party: How often do you estimate you would be willing to take over reserve obligation from another party (assuming price is reasonable)? Does it apply for both R1 and R3 Non CIPU? In which circumstances? In DA? In ID?

Summary of the received answers

• Answers from previous questions are also applicable for this one.



Question 4: Extension in ID outside of FO for CIPU units (suppliers of Rx with CIPU units)

a) Why is this needed? What is the added value?

Summary of the received answers

Actors who replied to this question agree that this extension is needed for economic optimization and explain that it would lead to benefits for all and for the global welfare. They mentioned portfolio optimization across contract (CIPU – Non CIPU) and within the CIPU contract for R3 which is unit-based.

b) Would it impact your bids in the primary market? In terms of volume offered and price?

Summary of the received answers

No direct impact on the price in the primary market is expected.

c) How often do you estimate you would be looking to transfer your reserve obligation (on CIPU units) outside the case of FO? In which circumstances?

Summary of the received answers

No numbers are given but the following circumstances are mentioned:

- Economic signals
- Return from maintenance of a unit

### Question 5: Other

a) What are the risks of the extension of the 2nd market? What could cause that you would not use the 2nd market?

Summary of the received answers

- Unnecessary complexity
- High administrative burden
- Lack of transparency

b) Any other suggestion from the stakeholders is welcome.

Summary of the received answers

Cross border secondary market would be welcome.



### 4.3.2 <u>Key takeaways from the survey</u>

The opening to Non CIPU at least in day-ahead is considered as "Important" by all respondents. Respondents diverge on the top priority, two top priorities are cited: the opening to Non CIPU in intraday and the removal of the limitation to the case of forced outage for CIPU in intraday. We conclude that scenario C as described in 4.1 (full opening in day-ahead / intraday) is the scenario that fully satisfies all stakeholders as it foresees the implementation of all their "Top Priority" requirements.

Stakeholders insisted on the added value of a fully open (to CIPU and Non CIPU units until the intraday) secondary market. Even if not always used it acts as an insurance continuously available for the BSP.

We would like to point out that stakeholders seem to value a lot the possibility to transfer obligations from CIPU units to Non CIPU units within their own portfolio. A BSP having sold a given volume of reserve with CIPU units in the primary market will be able to deliver (part of) this obligation with Non CIPU units thanks to the secondary market extension.

Regarding the other developments for the Ancillary Services market considered as important by the respondents, we note that the elements mentioned are already on our road map or being studied (at the exception of the double sided auctions):

- Elements on R1 and R3 (harmonization CIPU / non CIPU for R1 and R3, activation prices for R3, common merit order for R3) are foreseen in the roadmap presented to the WG balancing. This is also the case of the participation of the DSOconnected delivery points to the non-reserved tertiary control (Bid Ladder project).
- Regarding the R2 evolutions, Elia is currently performing a pilot project.
- Certain comments are related to the implementation of a regional cross-border secondary market. This topic should be discussed at a regional level. Note TSO involved in the regional R1 procurement have already submitted a questionnaire to the stakeholders.
- Marginal pricing for energy will be investigated by Elia and stakeholder will be consulted in the course of the year.

The organization of double sided auctions to procure ancillary services mentioned by one respondent is not on our roadmap. We believe this is not the role of Elia as Transmission System Operator to run such an organized market for reserves and act as an intermediary. These developments are to be undertaken by brokers, exchanges or the market parties themselves. The previous notwithstanding, the extended title transfer facility for bilateral 2nd markets as proposed by Elia can help fostering these developments (just as for instance Elia's nomination Hub is being used by Belpex for the title transfer of energy blocks cleared by Belpex). Shall any broker, exchange or market party be interested in setting up an organized 2nd market for ancillary services, Elia will be open to discuss, if necessary, any interfacing requirements.



### 4.4 Advantages and disadvantages of the market extension

We analyse the advantage and disadvantage of the complete market extension (scenario C in 4.1) as it is the scenario satisfying the requirements of the European Guideline on Electricity Balancing but also of the stakeholders following the survey we conducted.

### 4.4.1 <u>Advantages</u>

- The solution is fully compliant with the European Guideline on Electricity Balancing: need of a 2<sup>nd</sup> market up to 1 hour before start of delivery day (expected required implementation date in Q3 2018).
- It is expected to have a positive impact on the primary market as an extended and more liquid secondary market allows:
  - To limit the risk of penalty for the BSPs during the delivery period.
  - BSPs to perform an economical optimization of their portfolios during the delivery period. The economical optimization can occur between two BSPs transferring to each other reserve obligations but also within the own portfolio of a given BSP. Indeed it gives the ability to a BSP to optimize his CIPU / Non CIPU obligations currently separated in two contracts.
- It creates level playing field between CIPU and non CIPU as requested by the market.
- It increases the availability of the reserves. Even though difficult to quantify this has a positive impact on the security of the grid and on the volume of reserve to be sourced.
- 4.4.2 <u>Disadvantages</u>
  - Extension of secondary market to Non CIPU units in day-ahead would become irrelevant in case of move to daily sourcing.
  - The extensions of the secondary market will for sure generate added value for the BSPs. However it is unclear what will be the exact impact on the reservation price.



### **5** Conclusion and recommendations

Based on the present study, Elia proposes to extend the secondary market for reserves by the  $31^{st}$  of December 2017:

- In intraday no matter the circumstances (currently limited to the case of forced outage) for all reserves R1, R2 and R3 contracted from CIPU units.
- For all reserves R1, R2 and R3 contracted from Non CIPU units in both day-ahead and intraday no matter the circumstances.

This corresponds to a complete market extension (scenario C in 4.1). Such a market extension is compliant with the European Guideline on Electricity Balancing and adds clear value to the market. It has also limited disadvantages. It would allow Belgium to become one of the frontrunners in Europe regarding secondary market for reserves.

Based on the stakeholder survey we conclude that this scenario is in line with the expectations of the market. Also other market developments mentioned as important by market parties are on our roadmap or being studied.

The proposed extension of the secondary markets implies a nomination process for Non CIPU units which is yet foreseen for other market developments:

- R1: the nomination of R1 per FCR providing group introduced in the context of the availability control evolutions entering into force as of May 2017.
- R3: the introduction of an activation price for R3 Non CIPU requires the nomination of R3 Non CIPU bids (volume and activation price).
- Bid Ladder project: the nomination of decremental / incremental energy bids (volume and activation price).

Note the following future developments could allow for even more possibilities in the secondary market for reserves:

- Intraday re-nomination of R2 bids once R2 merit order has been implemented will allow changing activation price for R2 in intraday (current limitation described in 2.5.2.2).
- Opening the secondary market for R2 to Non CIPU will be implemented once the primary market of R2 will be opened to Non CIPU units. A decision shall be taken in function of the results of the R2 Non CIPU pilot project.
- Suppression of the differentiation between CIPU and Non CIPU units following the contractual merge of CIPU / Non CIPU will depend on the outcome and implementation of the new CIPU project as announced in WG Balancing early this year.
- Discussion on regional secondary market will take place at European level with TSOs involved in the regional R1 procurement.

Those elements are considered as important however we expect the potential intrinsic value of the secondary market for reserves will be almost fully achieved with the proposed extension for the 31<sup>st</sup> of December 2017.



# Annex 1 – Article 34 of the European Guideline on Electricity Balancing

(Version of 16.03.2017)

### "Article 34 Transfer of balancing capacity

- 1. Within the geographical area in which the procurement of balancing capacity has taken place, the TSOs shall allow balancing service providers to transfer their obligations to provide balancing capacity. The concerned TSO or TSOs may request an exemption where contracting periods for balancing capacity pursuant to Article 32(2)(b) are strictly less than one week.
- 2. The transfer of balancing capacity shall be allowed at least until one hour before the start of the delivery day.
- 3. The transfer of balancing capacity shall be allowed if the following conditions are met:
  - (a) the receiving balancing service provider has passed the qualification process for the balancing capacity for which the transfer is performed;
  - (b) the transfer of balancing capacity is not expected to endanger operational security;
  - (c) the transfer of balancing capacity does not exceed the operational limits set out in Chapters 1 and 2 of Part IV Title VIII of Commission Regulation (EU) 2017/000 [SO].
- 4. In case the transfer of balancing capacity requires the use of cross-zonal capacity, such transfer shall only be allowed in case:
  - (d) the cross-zonal capacity required to perform the transfer is already available from previous allocation processes pursuant to Chapter 2 of Title IV;
  - (e) the cross-zonal capacity is available pursuant to the methodology for calculating the probability of available cross-zonal capacity after intraday cross-zonal gate closure time in accordance with Article 33(6).
- 5. If a TSO does not allow the transfer of balancing capacity, the concerned TSO shall explain the reason for the rejection to the balancing service providers involved.



### Annex 2 – Slides of the Workgroup Balancing of 10/02/2017

### Rx Secondary Market Agenda

### 1. As Is - Recap

- 2. To Be Implementation possibilities
- 3. Stakeholder consultation

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### Recap As Is

Possibilities of transfer with the 2nd market

- · 01/01/2013: SMART platform was launched to allow transfer of CIPU obligations up to the day-ahead
- 01/01/2017: SMART platform was extended to allow transfer of CIPU obligations in intraday in case of forced outage



















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## Rx Secondary Market

- 1. As Is Recap
- 2. To Be Implementation possibilities
- 3. Stakeholder consultation





	R1		R1 R2 R3		3		
	CIPU	Non CIPU	CIPU	CIPU	Non CIPU		
Up to DA	✓	×	<ul> <li>Image: A second s</li></ul>	<ul> <li>Image: A second s</li></ul>	×		
ID	In case of FO	×	In case of H0	In case of FO	×	AsIs	
Up to DA	×	✓	✓	✓	<	Scenario A DA: Open to non CIPU units ID: no change	
ID	In case of FO	×	In case of FO	In case of FO	×		
Up to DA	✓	✓	<ul> <li>✓</li> </ul>	<ul><li>✓</li></ul>	✓	Scenario B	
ID	×	×	$\checkmark$	<ul> <li>Image: A set of the set of the</li></ul>	×	DA: Open to non CIPU units     ID: remove FO restriction	
Up to DA	✓	✓	×	<ul> <li>Image: A second s</li></ul>	✓	Scenario C	
ID	1	1	1	<ul> <li>Image: A second s</li></ul>	<ul> <li>Image: A second s</li></ul>	Full opening DA / ID	











### Rx Secondary Market Agenda

- 1. As Is Recap
- 2. To Be Implementation possibilities
- 3. Stakeholder consultation

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# Informal consultation - Questions Assessment of needs and added value The purpose of these questions is to assess the added value and the urgency of the "Possible To Be" knowing that this time / resources could be used to implement other improvement related to balancing / AS. Prioritization of market extension : Prioritization of market extension : How would you rate the Implementation added value of the three scenarii for market opening (A, B and C) described above taking into account that Elia will have to arbitrate this development with other ones? Choose one of the following values for each scenario: "1. Top Priority", "2. Important", "3. Nice to have", "4. Not needed". Which potential other developments for the Ancillary Services market do you consider as more important (apart from the Rx 2<sup>nd</sup> market extension )? Prioritization of new functionalities for user friendliness improvement taking into account that Elia will have to arbitrate this development with other ones? Choose one of the totioty", "2. important", "3. Nice to have", "4. Not needed". How would you rate the functionalities for user friendliness improvement taking into account that Elia will have to arbitrate this development with other ones? Choose one of the totioty", "2. important", "3. Nice to have", "4. Not needed". Do you think of other functionalities for user friendliness improvement taking into account that Elia will have to arbitrate this development with other ones? Choose one of the totionality. "1. Top Priority", "2. important", "3. Nice to have", "4. Not needed". Do you think of other functionalities that could be developed to add value? Which potential other developments for the Ancillary Services market do you consider as more important (apart from the Rx 2<sup>nd</sup> market extension )?



### Informal consultation - Questions Assessment of needs and added value 3. Extension in DA to non CIPU units (questions for BSPs supplying Rx with Non CIPU units) a) Why Is this needed? What is the added value? Is it necessary to extend the 2<sup>rd</sup> market to Non CIPU units to both DA and ID or DA would be sufficient? b) Would It Impact your bids in the primary market? In terms of volume offered and price? > Would the Impact be bigger if the extension is realized for the ID on top of the DA? c) Transferring obligation to another party: > How often do you estimate you would be willing to transfer some of your reserve obligation to another party (assuming price is reasonable)? > Does It apply for R1 and R3 Non CIPU? > In which circumstances? > In DA? In ID? d) Taking over obligations from another party: answer the same sub-questions as for c) above. 4. Extension in ID outside of FO for CIPU units (questions for BSPs supplying Rx with CIPU units) a) Why Is this needed? What is the added value? b) Would it impact your bids in the primary market? In terms of volume offered and price? c) How often do you estimate you would be looking to transfer your reserve obligation (on CIPU unit) outside the case of FO? In which circumstances? 5. Other: a) What are the risks of the extension of the 2rd market? What could cause that you would not use the 2rd market? b) Any other suggestion from the stakeholders are welcome 37

### Informal consultation - Questions Assessment of needs and added value

Thanks in advance for sending your answers and any other comments to Alexandre Pitsaer (<u>alexandre.pitsaer@elia.be</u>) by the 28<sup>th</sup> of February

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### Annex 3 – Stakeholders survey – List of questions

- 1. Prioritization of market extension:
  - a) How would you rate the implementation added value of the three scenarii for market opening (A, B and C) described above taking into account that Elia will have to arbitrate this development with other ones? Choose one of the following values for each scenario: "1. Top Priority", "2. Important", "3. Nice to have", "4. Not needed".
  - b) Which potential other developments for the Ancillary Services market do you consider as more important (apart from the Rx 2<sup>nd</sup> market extension)?
- 2. Prioritization of new functionalities for user friendliness improvement:
  - a) How would you rate the functionalities for user friendliness improvement taking into account that Elia will have to arbitrate this development with other ones? Choose one of the following values for each functionality: "1. Top Priority", "2. Important", "3. Nice to have", "4. Not needed".
  - b) Do you think of other functionalities that could be developed to add value?
  - c) Which potential other developments for the Ancillary Services market do you consider as more important (apart from the Rx 2<sup>nd</sup> market extension)?

3. <u>Extension in DA to non CIPU units</u> (questions for BSPs supplying Rx with Non CIPU units)

- a) Why is this needed? What is the added value?
  - Is it necessary to extend the 2<sup>nd</sup> market to Non CIPU units to both DA and ID or DA would be sufficient?
- *b)* Would it impact your bids in the primary market? In terms of volume offered and price?
  - Would the impact be bigger if the extension is realized for the ID on top of the DA?
- c) Transferring obligation to another party:
  - How often do you estimate you would be willing to transfer some of your reserve obligation to another party (assuming price is reasonable)?
  - > Does it apply for R1 and R3 Non CIPU?
  - > In which circumstances?
  - > In DA? In ID?
- d) Taking over *obligations from another party: answer the same sub-questions as for c) above.*

4. <u>Extension in ID outside of FO for CIPU units</u> (questions for BSPs supplying Rx with CIPU units)

- a) Why is this needed? What is the added value?
- b) Would it impact your bids in the primary market? In terms of volume offered and price?



- c) How often do you estimate you would be looking to transfer your reserve obligation (on CIPU unit) outside the case of FO? In which circumstances?
- 5. <u>Other</u>:
- a) What are the risks of the extension of the 2<sup>nd</sup> market? What could cause that you would not use the 2<sup>nd</sup> market?
- b) Any other suggestion from the stakeholders are welcome