Pre-delivery Use Case 2:

Additional aggregated project



This document provides different fictive examples, so-called use cases, related to the Capacity Remuneration Mechanism being developed in Belgium. It has, as sole purpose, to explain the Functioning Rules and its annexes by means of examples.

Given that the CRM process consists of several steps, and for each of these steps, several layers of information and details are relevant, it is to be understood that this document focuses on most pertinent <u>pre-delivery aspects</u>.

By no means, the use cases replace the rules in the relevant Laws, Royal Decrees, and regulatory approved documents.

The choices in the examples are only made for illustrative purposes and do not imply any judgement. All the figures and numbers used for these use cases are purely fictive. These numbers nor the use cases presented should be interpreted as representing a concrete case or a concrete situation of the Belgian capacity market or an implied proposal for any CRM parameter.

The use cases developed in this document are based on the chapter *Pre-delivery Control* of the Functioning Rules as known at the moment of writing and shared with market parties on 28/08/2020. It also obviously follows the context set by the Electricity Law.

USE CASE STRUCTURE

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• 1. Terminology related to pre-delivery control & Financial Security

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1. Terminology related to pre-delivery control & Financial Security



Definitions from the Functioning Rules:

- Financial Security: The security provided to cover a CMU's obligations during one or more Validity Period(s) in the form of a bank guarantee, a parent company guarantee or a cash payment.
- Financial Security Volume: The volume (in MW) to be secured by a permissible type of Financial Security as determined pursuant to section 10.4.2 (of the Functioning Rules), associated to a CMU and at a moment t that is part of one (or more) Validity Period(s).
- **Missing Volume**: The volume of a CMU considered as non-available as a result of one of the pre-delivery controls.
- Pre-delivery Measured Power: The capacity measured during a pre-delivery control and associated to an Existing Delivery Point.
- **Pre-delivery Obligation** : The capacity for a CMU that a Capacity Provider is obliged to make available during a pre-delivery control.
- Required Level: The level (in EUR/MW) to be secured by a permissible type of Financial Security pursuant to section 10.4.1 (of the Functioning Rules) associated to a CMU and at a moment t that is part of one (or more) Validity Period(s).
- Secured Amount: The amount (in EUR) to be secured by a permissible type of Financial Security pursuant to section 10.4., associated to a CMU and at a moment t that is part of one (or more) Validity Period(s).
- Transaction: An agreement about the contractual rights and obligations resulting from the Service, closed in the form of a Capacity Contract between a Capacity Provider and the Contractual Counterparty, in the Primary Market or the Secondary Market at a Transaction Date, identified by a transaction identification number, for a Contracted Capacity and covering a Transaction Period.
- Transaction Validation Date: For a Transaction on the Primary Market, the date and time at which the results of the related Auction are published (after validation by the CREG). For a Transaction on the Secondary Market, the date and time at which it is validated by the Contractual Counterparty.
- Validity Period: The period of time for which a permissible type of Financial Security is to be provided by a (Prequalified) CRM Candidate or a Capacity Provider, as a condition to make a Transaction on the Primary Market or the Secondary Market.



• 2. Prequalified CRM Candidate and his related CMU(s)

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- AggregaTHOR became a Prequalified CRM Candidate
- His CMU has been duly prequalified on July 7, 2021
- This Prequalified CMU is composed of 10 capacities and their associated Delivery Points (referred to as DP hereafter) which are located on different geographical sites and have different owners
- 8 Delivery Points are **Existing Delivery Points** already connected to the grid
- 2 Delivery Points are new projects not developed yet and are therefore considered as Additional Delivery Points
- 9 Delivery Points are DSO-connected Delivery Points and 1 Delivery Point is a TSO-connected Delivery Points
- The whole CMU is prequalified as an Additional CMU

2. Prequalified CRM Candidate and his related CMU(s)





	Information related to the project			
Company	AggregaTHOR Location: Belgium			
Technology	DP1: Diesel generator / DP2: Diesel generator / DP3: Diesel generator / DP4: CHP / DP5: CHP / DP6 Solar / DP7: DSR/ DP8: DSR / DP9: Storage / DP10: DSR			
Status	DP1: Existing / DP2: Existing / DP3: Existing / DP4: Existing / DP5: Existing / DP6: Existing / DP7: Existing / DP8: Existing / DP9: Additional / DP10: Additional			
	CMU: Additional			
Connection	DP1: DSO-connected / DP2: DSO-connected / DP3: DSO- connected / DP4: DSO-connected / DP5: DSO-connected / DP6: DSO-connected / DP7: DSO-connected / DP8: TSO-connected / DP9: DSO-connected / DP10: DSO-connected			
Nominal Reference Power	DP1: 1 MW / DP2: 1 MW / DP3: 1 MW / DP4: 0.622 MW / DP5: 1,7 MW / DP6: 0,8 MW / DP7: 0,6 MW / DP8: 2 MW/ DP9: 1 MW / DP10: 2 MW			
	CMU: 11,72 MW			
Opt-Out Volume	CMU: 1,7 MW			
Reference Power	10,02 MW			
Derating Factor	0,3			
Eligible Volume	3,01 MW			
Energy Constrained CMU	Energy Constrained CMU			





- The CMU has not made a Transaction yet, so no Financial Security has been submitted so far
- The Secured Amount is calculated by multiplying the Required Level (EUR/MW) by the Financial Security Volume:
 - As it is an Additional CMU without major permitting requirements, the Required Level = EUR 15.000/MW (key milestone #3 is automatically met).
 - The evolution of the **Financial Security Volume** is presented in the table below:

	Financial Security Volume	Secured Amount
At Prequalification File submission	Provisory Eligible Volume = Declared NRP x DF = 11,72 MW x 0,3 = 3,5 MW	EUR 15,000/MW x 3,5 MW = EUR 52.500
After the Prequalification Process	Eligible Volume = [NRP – Opt-Out Volume] x DF = $(11,72 \text{ MW} - 1,7 \text{ MW}) \times 0,3$ = 3,01 MW	EUR 15,000/MW x 3,01 MW = EUR 45.150

- The Financial Security Volume is calculated **as the maximum Total Contracted Capacity in the forthcoming Delivery Periods**. As it is the CMU's first Transaction, maximum TCC is only determined by this Transaction

During the Prequalification Process, the maximum Total Contracted Capacity is calculated on the assumption that the full prequalified volume is selected in the Auction



As the Eligible Volume < provisory Eligible Volume, Elia/Contractual Counterparty will release the corresponding part of the Secured Amount: EUR/ MW 15.000 x (3,5 - 3,01 MW) = EUR 7.350



• 2. Prequalified CRM Candidate and his related CMU(s)

• 3. Results of the Auction

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• 5. Process to become an Existing CMU

• 6. Pre-delivery Control for Existing CMU





The Capacity Provider participated to the Y-4 Auction in October 2021.

The results of the Auction are detailed below:

Auction results								
Volumes of the selected Bids	3,01 MW							
Related Price	18€/kW/year							
Capacity contract duration	1 year							
Transaction Period	Delivery Period 2025-2026							
Remaining Eligible Volume for the Transaction Period	0 MW ¹							
Issuance date of the 1 st quarterly report	01/01/2022							

1: The entire Eligible Volume of the CMU has been selected



Impact on the Financial Security:

As the entire Eligible Volume of the CMU has been selected in the Auction, the Financial Security Volume and the Secured Amount remain unchanged.



• 2. Prequalified CRM Candidate and his related CMU(s)

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The process to be followed by ELIA when performing a pre-delivery control for an Additional CMU is represented in the following diagram:









- > In this Use Case, only one example of pre-delivery control is illustrated for the CMU
- The example of pre-delivery control takes place at time t_{control 1} (30/10/2023)
- The pre-delivery control illustrated in the use case consists of the analysis of the last quarterly report sent by the Capacity Provider to ELIA before t_{control 1} (30/10/2023)
- t_{TCC} illustrates an example of moment in time when ELIA can determine the maximum Total Contracted Capacity over the Delivery Period DP

4.1 Pre-delivery control for Additional CMU



The Derating Factor related to the CMU will evolve over time.

The following table gather this evolution between the Transaction Validation Date related to the CMU and the Delivery Period *DP*:

	Evolution in time of the Derating Factor
31/03/2021 - 30/03/2022	0,3 (4h)
31/03/2022 - 30/03/2023	0,2 (4h)
31/03/2023 - 30/03/2024	0,21 (4h)
31/03/2024 - 30/03/2025	0,21 (4h)
31/03/2025 - 30/03/2026	0,23 (4h)



Determination of the Predelivery Obligation

Quarterly report analysis

Missing volume analysis

Pre-delivery control results notification





> As the CMU is an Energy-Constrained CMU, the Pre-delivery Obligation is represented by the following formula:

 $[PreDelivery Obligation] = \frac{Total \ Contracted \ Capacity_{max}(CMU, DP)}{Derating \ Factor(CMU, t_{TCC})} - \sum_{i=1}^{n} \frac{[Contracted \ Capacity \ (CMU, Transaction_{i}, t_{control}, t_{TCC})]}{Derating \ Factor \ (CMU, Transaction_{i})}$

> The Pre-Delivery Obligation of the CMU is evaluated in the table below:

	Information related to the CMU
Total Contracted Capacity	3,01 MW
Derating Factor $(CMU, t_{TCC})^1$	0,3 (4h)
ΣContracted Capacity ²	0 MW
Pre-Delivery Obligation	$10,03\frac{3,01}{0,3} - 0 = 10,03 \ MW$

1: As there is only one Contracted Capacity related to the Additional CMU, it is the Derating Factor contractually associated to the Transaction in the Capacity Contract related to the CMU (see slide 15)

2: Σ Contracted Capacity is equal to zero because there is no Contracted Capacity associated to a Transaction related to the CMU and to a Transaction Period that overlaps the time t_{TCC} and $t_{control 1}$

4.3 Quarterly report analysis



Determination of the Predelivery Obligation

Quarterly report analysis

Missing volume analysis

Pre-delivery control results notification





By analyzing the quarterly report (the last one sent before t_{control1}), ELIA noticed that a **residual delay** has been **notified by the Capacity Provider**:

- > The delay is mainly due to a budget problem: The Capacity Provider will not be able to construct DP 9 & 10
- The delay is linked to Project Works and not to Infrastructure Works
- The delay will have a impact on the availability of the Contracted Capacity related to the CMU during the entire Delivery Period DP (> 1 month)
- > No solution to compensate the delay has been found by the Capacity Provider and detailed in a mitigation

Missing Volume > 1MW





Determination of the Predelivery Obligation

Quarterly report analysis

Missing volume analysis

Pre-delivery control results notification





- > The Capacity Provider identifies a Missing Volume of 1,26 *MW* for the entire Delivery Period *DP*
- > To justify it, the Capacity Provider provides an update of his (Declared) Nominal Reference Powers for this Delivery Period DP :

	DP 1	DP 2	DP 3	DP 4	DP 5	DP 6	DP 7	DP 8	DP 9	DP 10
Status of the Delivery Point	Existing	Additional	Additional							
(Declared) Nominal Determined by ELIA Reference Power at the time									Declared b Cand	y the CRM lidate
of the Prequalification Process	1 MW	1 MW	1 MW	0,622 MW	1,7 MW	0,8	0,6 MW	2 MW	1 MW	2 MW
Updated (Declared) Nominal Reference Power	NA	0 MW	0 MW							

> The Missing Volume is therefore equal to: [PreDelivery Obligation] $-\sum_{i=1}^{N} Updated$ (Declared) Nominal Reference Power(CMU, DP_i)

 \rightarrow Missing Volume = 10,03 - [1 + 1 + 1 + 0,67 + 1,7 + 0,8 + 0,6 + 2 + 0 + 0] = [10,03 - 8,77] = 1,26 MW

4. Pre-delivery control for Additional CMU *4.5 Pre-delivery control results notification*



%*Missing Volume* (in %) =
$$\frac{Missing Volume}{[PreDelivery Obligation]} = \frac{1,26}{10,03} = 12,56$$
 %

Financial penalty (in EUR) = $\beta \times \%$ Missing Volume \times Total Contracted Capacity_{max} (CMU, DP)_{CMU} = $15.000 \frac{EUR}{MW} \times 12,56\% \times 3,01MW = 5.670,84 EUR$

 $\beta = 15.000 \in /MW$ because Milestone #3 (as defined in annex A.14 of the *Functioning Rules*) is not relevant for the project

As the delay has been notified in phase 1, the Capacity Contract shall be adapted

The new Total Contracted Capacity is represented by the following when the CMU is an Energy Constrained CMU:



in the Capacity Contract related to the CMU (Cf. slide 15)

<u> </u>

In case the penalties remain unpaid, Elia/Contractual Counterparty will invoke the Financial Security for an amount of EUR 5.670,84



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- As DP 9 & 10 will not be used anymore by the Capacity Provider to meet the obligations related to his CMU, DP 9 & 10 must be deleted from the Prequalification File related to the CMU (via the CRM IT interface)
 - → The Capacity Provider decides to delete the Delivery Points on 03/05/2022
- From the moment the Capacity Provider no longer has Additional Delivery Points in his CMU, the CMU can start to be considered as an Existing CMU:
 - → The Capacity Provider can start to fill-in the needed information in the CRM IT interface to get a compliant file
- The following slides gather the information the Capacity Provider needs to provide to ELIA to get a compliant file for his Existing CMU
- ✓ The following slides do not include DP 9 & DP 10 as the Capacity Provider decided to delete them from his file
- ELIA considered for this Use Case that the Capacity Provider does not want to adapt the data related to the CMU and provided as part of the Prequalification Process (if wanted to, he could have done it)

5. Process to become an Existing CMU

5.2 Submission of the Delivery Point information



	Information related to Delivery Point							
	DP 1	DP 2	DP 3	DP 4	DP 5	DP 6	DP 7	DP 8
Type of Delivery Point	NA	NA	NA	NA	NA	NA	NA	NA
Delivery Point's name	NA	NA	NA	NA	NA	NA	NA	NA
Single line diagram	NA	NA	NA	NA	NA	NA	NA	NA
Technology	NA	NA	NA	NA	NA	NA	NA	NA
List of Delivery Points located on the same geographical site	NA	NA	NA	NA	NA	NA	NA	NA
Technical dependency with other Delivery Points	NA	NA	NA	NA	NA	NA	NA	NA
The Opt Out Volume repartition per Delivery Point	NA	NA	NA	NA	NA	NA	NA	NA
CDSO Declaration	NA	NA	NA	NA	NA	NA	NA	NA
EAN code of the Access Point	NA	NA	NA	NA	NA	NA	NA	NA
EAN code(s) of the Delivery Point	NA	NA	NA	NA	NA	NA	NA	NA

Information already provided during the Prequalification Process of the Additional CMU (as these Delivery Points was already existing Delivery Point at that time) **5. Process to become an Existing CMU**

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5.2 Submission of the Delivery Point information

	Information related to Delivery Point							
	DP 1	DP 2	DP 3	DP 4	DP 5	DP 6	DP 7	DP 8
Expected Nominal Reference Power	NA	NA	NA	NA	NA	NA	NA	NA
CO ₂ emission attestation	NA	NA	NA	NA	NA	NA	NA	NA
CO ₂ emission	NA	NA	NA	NA	NA	NA	NA	NA
Preferred Nominal Reference Power determination methodology	NA	NA	NA	NA	NA	NA	NA	NA
Prequalification test profile for method 3	NA	NA	NA	NA	NA	NA	NA	NA
Baseline adjustment	NA	NA	NA	NA	NA	NA	NA	NA
Unsheddable Margin	NA	NA	NA	NA	NA	NA	NA	NA
Net offtake/net injection	NA	NA	NA	NA	NA	NA	NA	NA
Grid User Declaration	NA	NA	NA	NA	NA	NA	NA	NA
Renouncing the operating aid	NA	NA	NA	NA	NA	NA	NA	NA

Information already provided during the Prequalification Process of the Additional CMU (as these Delivery Points was already existing Delivery Point at that time) 5. Process to become an Existing CMU

5.3 Submission of the CMU information



- The Financial Security is required starting from the Prequalification Process (not when you change from an Additional to an Existing CMU)
- However, at the moment the Additional CMU receives the status of Existing, the Required Level (in EUR/MW) is reduced to 10,000 EUR/MW

Information already provided during the Prequalification Process of the Additional CMU (as these Delivery Points was already existing Delivery Point at that time)

	Information related to CMU							
	DP 1	DP 2	DP 3	DP 4	DP 5	DP 6	DP 7	DP 8
Information linked to Financial Security	NA	NA	NA	NA	NA	NA	NA	NA
Opt-out Notification Volume	NA	NA	NA	NA	NA	NA	NA	NA
Project ID	NA	NA	NA	NA	NA	NA	NA	NA
Choice of a Derating Factor	NA	NA	NA	NA	NA	NA	NA	NA
Information for method 2 (for Nominal Reference Power determination)	NA	NA	NA	NA	NA	NA	NA	NA
Declared Day Ahead Price	/	/	/	/	/	/	/	/
NEMO	Nord Pool AS.	Nord Pool AS.	Nord Pool AS.	Nord Pool AS.	Nord Pool AS.	Nord Pool AS.	Nord Pool AS.	Nord Pool AS.





- As DP1, DP2, DP3, DP4, DP5, DP6, DP7 and DP8 were Existing Delivery Points at the time of Prequalification Process, ELIA does not calculate anything for these Existing Delivery Points at that moment of the process to change from an Additional CMU to an Existing CMU
- > The Nominal References Powers issued from the Prequalification Process:
 - \rightarrow Nominal Reference Power_{DP1} = 1, MW
 - \rightarrow Nominal Reference Power_{DP2} = 1 MW
 - \rightarrow Nominal Reference Power_{DP3} = 1 MW
 - \rightarrow Nominal Reference Power_{DP4} = 0,62 MW
 - \rightarrow Nominal Reference Power_{DP5} = 1,7 MW
 - \rightarrow Nominal Reference Power_{DP6} = 0,8 MW
 - \rightarrow Nominal Reference Power_{DP7} = 0,6 MW
 - \rightarrow Nominal Reference Power_{DP8} = 2 MW
- > The Nominal Reference Powers of the CMU is represented as follows:

$$[Nominal Reference Power]_{CMU} = \sum [Nominal Reference Power]_{Delivery Point}$$
$$= 1 + 1 + 1 + 0.62 + 1.7 + 0.8 + 0.6 + 2 = 8.77 MW$$





> As a reminder of Functioning Rules:

Reference Power = Nominal Reference Power - OptOut Volume

Eligible Volume = Reference Power × Last Published Derating Factor

Remaining Eligible Volume = Max(0; [*Eligible Volume* - *Total Contracted Capacity*])

- As DP 9 & 10 are not anymore part of the CMU, the repartition of the Opt-Out Volumes (at the level of the Delivery Point level and the CMU) shall change:
 - → The Capacity Provider decides to provide a new Opt-Out Notification (Change from 1,7 MW to 1,4 MW)
 - → The Capacity Provider provides a new repartition to ELIA:

	DP1	DP2	DP3	DP4	DP5	DP6	DP7	DP8
Opt-Out Volume repartition per Delivery Point	0%	0%	0%	25%	25%	50%	0%	0%





> The Reference Power is equal to:

Reference Power = Nominal Reference Power - OptOut Volume

The Eligible Volume is equal to:

Eligible Volume = Reference Power × Last Published Derating Factor

> The Remaining Eligible Volume is equal to:

Remaining Eligible Volume = Max(0; [*Eligible Volume* – *Total Contracted Capacity*])

- > The Capacity Provider decides to provide a new Opt-Out Notification (Change from 1,7 MW to 1,4 MW)
- > If the CMU is an Energy Constrained CMU, the Secondary Market (Remaining) Eligible Volume is equal to the following formula:

Secondary Market Eligible Volume = [Nominal Reference Power - OptOut Volume_{IN}] \times Last Published Derating Factor

Secondary Market Remaining Eligible Volume = $Max\left(0; \left[Nominal Reference Power - \frac{Total Contracted Capacity}{Derating Factor} - OptOut Volume_{IN}\right] \times Last Published Derating Factor\right)$

 $Derating Factor (CMU, t) = \frac{\sum_{i=1}^{n} [Contracted Capacity (CMU, Transaction_{i}, t) * Derating Factor (CMU, Transaction_{i})]}{Total Contracted Capacity_{max}(CMU, DP)}$

5.4 Volumes determination



	Results ot the volumes determination
Total Contracted Capacity	2,63 MW
Nominal Reference Power	8,77 MW
Reference Power	8,77 – 1,4 = 7,37 MW
Derating Factor ¹	0,2 (4h)
Eligible Volume ²	7,37 x 0,2 = 1,47 MW
Secondary Market Eligible Volume ²	(8,77 – 1,4) x 0,2 = 1,47 MW
Remaining Eligible Volume ²	Max (0 ; [1,47 – 2,63]) = 0 MW
Derating Factor (CMU, t)	(2,63*0,3)/2,63 = 0,3
Secondary Market Remaining Eligible Volume ²	Max (0 ; [8,77 – (2,63/0,3) –1,4] x 0,2) = 0 MW

1: The Derating Factor is the Derating factor considered as valid at the moment the Capacity Provider submits the information related to his CMU to get an Existing status (slide 17)

2: The volumes are available for any forthcoming Transaction and the related values will not be used for a pre-delivery control





	Results ot the volumes determination								
	DP1	DP2	DP3	DP4	DP5	DP6	DP7	DP8	
Nominal Reference Power of the CMU	8,77 MW								
Reference Power of the CMU	7,37 MW								
Opt-Out Volume of the CMU	1,4 MW								
Eligible Volume for a forthcoming Delivery Period other than the Delivery Period DP	1,47 MW								
Secondary Market Eligible Volume for a forthcoming Delivery Period other than the Delivery Period DP	1,47 MW								
Remaining Eligible Volume for the Delivery Period DP	0 MW								
Secondary Market Remaining Eligible Volume for he Delivery Period DP	0 MW								

Volume available if the Capacity Provider wants to make a new Transaction in the Primary Market or the Secondary Market





The timing applicable in this Use Case for the process is as follows:

15/05	5/05/2022 1		6/2022	16/06/2022		30/0		
The C Provide the infor the	apacity r submits mation for CMU	ELIA cor files as co notifies Capacity (ELIA did additional to the Pro	nsiders the ompliant and s it to the y Provider not request information Capacity vider)	The Vo determ sta	lumes ination rts	 No NRP is e because (in NRP of each was already of Prequalifie ELIA notifies Volumes def 	valuated by ELIA this use case), the Delivery Point known at the time cation Process the results of the ermination	

→ The CMU is considered as an Existing CMU from the results notification on 30/06/2022





At the moment the CMU becomes an Existing CMU (as of the results notification on 30/06/2022)

- → Required Level (in EUR/MW): decreases from EUR 15.000/MW to EUR 10.000/MW
- As a result of the identified delay (before the end of phase 1), the Total Contracted Capacity was reduced from 3,01 MW to 2,63 MW and the corresponding part of the Secured Amount was released
- After the CMU receives the "Existing" status, Elia/Contractual Counterparty will release the corresponding part of the Secured Amount :

2,63 MW * (EUR 15.000/MW – EUR 10.000/MW) = EUR 13.150



• 2. Prequalified CRM Candidate and his related CMU(s)

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The CMU of the Capacity Provider is now an Existing CMU \rightarrow The Capacity Provider can participate to an Auction or make a Transaction in the Secondary Market with this CMU

>The Capacity Provider does not want (yet) to become a Buyer of an Obligation or to participate to a new Auction



Delivery Period DP





- As a reminder of the chapter 7 of the *Functioning Rules*, the partial existing pre-delivery control for an Additional CMU having become an Existing CMU:
 - Is realized at CMU level (one CMU at a time)
 - Is related to one Delivery Period DP
 - Is performed once by ELIA at : t_{control 2} (01/11/2025)
- > The partial existing pre-delivery control follows the process below:

Determination of the Pre-delivery Obligation Determination of the DP's Pre-delivery Measured Power

Determination of the CMU's Pre-delivery Measured Power

Determination of the Missing Volume Pre-delivery control results notification







t_{control 2} illustrates the moment in time when ELIA realizes the partial existing pre-delivery control (01/11/2025)

t_{TCC} illustrates an example of moment in time when ELIA can determine the maximum Total Contracted Capacity over the Delivery Period *DP* (28/07/2026 is randomly chosen for this use case)



As the CMU is an Energy-Constrained CMU, the Pre-Delivery Obligation is determined as follows:

$$PreDelivery \ Obligation = 80\% \times \left(\frac{Total \ Contracted \ Capacity_{max}(CMU, DP)}{Derating \ Factor \ (CMU, t_{TCC})} - \sum_{i=1}^{n} \frac{[Contracted \ Capacity \ (CMU, Transaction_{i}, t_{control}, t_{TCC})]}{Derating \ Factor \ (CMU, Transaction \ i)}\right)$$

Where Derating Factor (CMU, t) is represented as follows:

$$Derating \ Factor \ (CMU, t) = \frac{\sum_{i=1}^{n} \ [Contracted \ Capacity \ (CMU, Transaction_i, t) * Derating \ Factor (CMU, Transaction_i)]}{Total \ Contracted \ Capacity_{max}(CMU, DP)}$$

Derating Factor (*CMU*, *t*) =
$$\frac{2,63 \times 0,3}{2,63} = 0,3$$

PreDelivery Obligation =
$$80\% \times \left(\frac{2,63}{0,3} - 0\right) = 7,01 \, MW$$

6. Process to become an Existing CMU 6.2 Determination of DP's Pre-delivery Measured Power

- The Delivery Point DP 7 is injecting into the Grid since more than 12 months
 - The method 1 is used over a period of 12 months
- The graph on the right illustrates the 15-minutes measurements over one of the time series of 36h over these 12 months

[PreDelivery Measured Power]_{DP 7}

```
= Max \left( PMP_{period 1}; PMP_{period 2}; ...; PMP_{period 365} \right)
```

= 0,58 MW

Period n: Metering data from 01/07 12:00 to 02/07 23:45

Determination of the DP's Pre-delivery Measured Power



 $[Pre - delivery Measured Power]_{period n} = 0,58 MW$





> As DP1, DP2, DP3, DP4, DP5, DP6 and DP8 are DSO-connected DP, ELIA does not calculate anything to determine the Pre-Delivery Measured Power of each Delivery Point

The Pre-Delivery Measured Power are directly evaluated by the concerned DSOs

> The concerned DSOs notified the following Pre-Delivery Measured Power for DP1, DP2, DP3, DP4, DP5, DP6 and DP8:

→ PreDelivery Measured Power_{DP1} = 1, MW
→ PreDelivery Measured Power_{DP2} = 0,96 MW
→ PreDelivery Measured Power_{DP3} = 1,02 MW
→ PreDelivery Measured Power_{DP4} = 0,71 MW
→ PreDelivery Measured Power_{DP5} = 1,71 MW
→ PreDelivery Measured Power_{DP6} = 0,80 MW
→ PreDelivery Measured Power_{DP8} = 1,92 MW



As a reminder of *Functioning Rules*, the Pre-delivery Measured Power of the CMU equals the sum of the Pre-delivery Measured Power of each Delivery Point part of the CMU:

 $[Pre - Delivery Measured Power]_{CMU} = \sum [Pre - Delivery Measured Power]_{Delivery Point}$ = 1 + 0.96 + 1.02 + 0.71 + 1.71 + 0.8 + 0.58 + 1.92 = 8.7 MW





 $Missing Volume = Max (0; [PreDelivery Obligation] - [PreDelivery Measured Power]_{CMU})$ = Max (0; 7.01 - 8.7) = 0MW

 \rightarrow No penalty will apply

 \rightarrow The Financial Security is not invoked and is released at the start of the Delivery Period DP





	The results of the pre-delivery control									
	DP1	DP2	DP3	DP4	DP5	DP6	DP7	DP8		
Pre-delivery Obligation of the CMU	7,01 MW									
Pre-delivery Measured Power _{Delivery Point}	1 MW	0,96 MW	1,02 MW	0,71 MW	1,71 MW	0,8 MW	9,58 MW	1,92 MW		
Pre-delivery Measured Power _{cmu}	8,7 MW									
Missing Volume	0 MW									
Financial penalties	/									

The Capacity Provider does not contest the results of the pre-delivery control → The results are deemed final