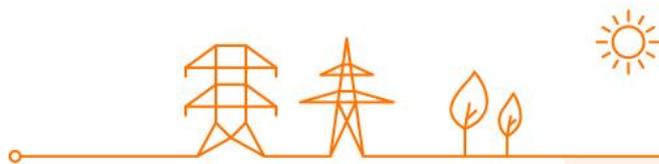


Nominal Reference Power calculation tool manual

This document aims to help the Capacity provider to use the NRP Calculation tool. This tool gives an indication of the Nominal reference Power of a Capacity Provider willing to participate to the Belgian CRM.



NRP calculation input data	3
Running the calculation	Error! Bookmark not defined.
Calculation based on injection data only	4
Calculation based on offtake data (or offtake and injection data if needed)	4

Disclaimer: The NRP calculation tool and its manual are information tools for the Capacity Provider. The results of this tool are not official. There may be discrepancies between the data calculated by the capacity provider using the NRP calculation tool and the NRP determined by Elia.

NRP calculation: selecting the metering data

To determine the Nominal Reference Power using historical data, we use the **quarter-hourly measurements** over a period as defined as follows in § 148 of the CRM functioning rules:

- **The period starts:**
 - With the first injection or offtake into the grid if the Delivery Point is connected to it since less than twelve months before the end of the period, as specified below; or
 - Twelve months before the end of the period, as specified below, if the Delivery Point is connected to the grid since more than twelve months before the end of this period.
- **The period ends:**
 - Five Working Days before the last day of the month before the submission date of the Prequalification File (or of its change).
For example: when the prequalification file is submitted 15/06/2024 and 1 year of data is available:
 - *The period starts: 24/05/2023 00:00:00*
 - *The period ends: 24/05/2024 00:00:00*

The historical data method can only be used if the period defined above contains **at least fourteen full calendar days of data**.

Section 5.4.1.1.1 of the CRM functioning rules describes two ways to calculate the Nominal Reference Power based on historical data:

- 1) Calculation based on injection data only
- 2) Calculation based on both injection and offtake data

The CRM candidate indicates if it is possible to calculate his NRP based on injection data only or not during the prequalification process.

NRP calculation: Entering the metering data

Once the correct metering data has been collected, it can be entered in the “Data” tab in the tool. This tab contains four columns where data can be entered:

	A	B	C	D	E	F	G	H
1	Date	Interval start time	Injection [kW]	Offtake [kW]	Clear input data			
2	25/05/2021	00:00:00	0,00	0				
3	25/05/2021	00:15:00	0,00	0				
4	25/05/2021	00:30:00	0,00	312,003				
5	25/05/2021	00:45:00	0,00	668,579				
6	25/05/2021	01:00:00	0,00	624,007				
7	25/05/2021	01:15:00	0,00	624,007				
8	25/05/2021	01:30:00	0,00	624,007				
9	25/05/2021	01:45:00	0,00	638,864				
10	25/05/2021	02:00:00	0,00	728,008				

- **Date:** The date of each measurement [dd/mm/yyyy] (mandatory).
- **Interval start time:** The starting time of each quarter-hourly measurement [hh:mm:ss] (mandatory).
- **Injection:** The quarter-hourly measurement for power injected into the grid in kW, all values in this column should be strictly positive.
- **Offtake:** The quarter-hourly measurement for power offtake from the grid in kW, all values in this column should be strictly positive.

At least one of the columns for injection or offtake should contain metering data. For example, when calculating the NRP based on injection data only, the column for offtake can be left empty. When calculating the NRP not based on injection data only, the injection column can be left empty (but does not have to be empty!)

Clicking on the “Clear input data” button will remove all data from the table

Running the Calculation

Calculation based on injection data only

When calculating the NRP based on injection data only, no fields in the NRP tab must be filled. The calculation can be started by clicking on the “Calculate NPR (Injection only)” button. The resulting Nominal Reference Power in MW will be shown in the yellow cell.

Nominal Reference Power Calculation

Existing Delivery Point

Input		
Unsheddable margin [MW]	0	
Calculation result		
Nominal Reference Power [MW]	9.67518927	

Calculate NPR (Offtake/Injection)

Calculate NPR (Injection Only)

Clear tool

Calculation based on offtake data (or offtake and injection data if needed)

To calculate the NRP based on offtake and injection data **some extra fields must be filled in**, in the tool:

- **Holidays:** Public holidays are excluded from the calculation. The dates of these holidays that fall within the data period must be inserted in the NRP-tab.
- **Excluded days:** A CRM candidate may also provide a list of non-representative days, notified in accordance with §§ 90 or 117 of the CRM functioning, that fall within the data period. These days are excluded in the calculation. Non-representative days can only be exceptional holidays, strike days or closing periods that have an impact on the injection/offtake profile of the Delivery Point. This has to be justified as such by the CRM Candidate. If the candidate provides non-representative days, they can be entered in the “Excluded days” column in the table on the NRP-tab.

Holidays	Excluded Days
01/01/2021	
18/04/2021	
01/05/2021	
26/05/2021	
06/06/2021	
21/07/2021	

- Unsheddable margin:** The Unsheddable Margin, in accordance with §§ 90 or 117 of the CRM functioning rules, is the minimal amount of net active power offtake that cannot be curtailed (inflexible or unsheddable power) at the Delivery Point concerned. This value is entered in MW in the orange cells. If the unsheddable margin is offtake that can't be curtailed it is a positive value. If it is a minimal power injection, the value is negative. This value is mandatory.

Once the fields discussed above are complete the calculation can be started by clicking on the **“Calculate NRP (Offtake/Injection)”** button. The result of the NRP calculation will be shown in the yellow cell. The result is returned in MW.

Nominal Reference Power Calculation

Existing Delivery Point

Input	
Unsheddable margin [MW]	0
Calculation result	
Nominal Reference Power [MW]	9.67518927

Calculate NRP (Offtake/Injection)

Calculate NRP (Injection Only)

Clear tool

Interpreting the results

If the input data is entered in the data tab, the calculation can be performed from the “NRP” tab. This tab contains a table with the following columns:

Date	Interval start time	Net Offtake Power [kW]	Day Number	Exclude Flag	Baseline	Difference
25/05/2021	00:00:00	0	0	3	0	
25/05/2021	00:15:00	0	0	3	0	
25/05/2021	00:30:00	312,003		3	0	
25/05/2021	00:45:00	668,579		3	0	
25/05/2021	01:00:00	624,007		3	0	
25/05/2021	01:15:00	624,007		3	0	
25/05/2021	01:30:00	624,007		3	0	
25/05/2021	01:45:00	638,864		3	0	
25/05/2021	02:00:00	728,008		3	0	
25/05/2021	02:15:00	683,436		3	0	
25/05/2021	02:30:00	683,436		3	0	
25/05/2021	02:45:00	683,436		3	0	
25/05/2021	03:00:00	698,294		3	0	

- **Date:** The date of each quarter-hourly measurement
- **Interval start time:** The start time of each quarter-hourly measurement
- **Net Offtake Power:** The net offtake power in kW that is calculated as follows:

$$\text{Net Offtake Power [kW]} = \text{Offtake [kW]} - \text{Injection [kW]}$$

- **Day Number:** The number of the day in the week (e.g., Monday = 1, Tuesday = 2, etc.)
- **Exclude Flag:** A column containing either a 0 or a 1, a 1 indicates that this measurement was ignored in the calculation for the NRP (for example because the measurement occurred during a public holiday). Certain days are only excluded when calculating the NRP not based on injection only.
- **Baseline:** The baseline value for this quarter hour. Only used when calculating the NRP not based on injection only.
- **Difference:** The difference between the baseline and the measurement. Only used when calculating the NRP not based on injection only.

These columns are used in the tool's calculation and are automatically filled when running, they can be cleared by clicking on the "clear tool" button.