

End User Documentation

“1-minute publications” on Elia.be website

Version of 27th of August 2019

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I. INTRODUCTION

1. Context & purpose of the document

Since 2017, Elia publishes the instantaneous net regulation value, system imbalance and the product volumes on a 1' basis. As from August, 27th, 2019, this real-time communication is extended by the cumulative activated volumes per product category, the corresponding prices of the cumulative activated volumes and cumulative imbalance prices and its components on a one minute basis. The details of these publications are described in this document. For this one minute publications, only the previous hour is published.

2. Important remark

It is very important to note that the reference for Imbalance settlement of the BRPs remain the volumes and prices published in the "15-minute publications", for which a validation process occurs.

The "1-minute publications" aim at providing to the stakeholders additional information, and are based on non-validated data. The most recent available data are collected and displayed as quickly as technically possible. There is no validation process foreseen for this publication.

II. OVERVIEW OF THE 1-MINUTE PUBLICATIONS

1. Webpages

i) Activated Regulation Capacity – Volumes 1 Minute

On the "[Elia.be > Using Regulation Capacity](#)" page, you will find the publication of the cumulative activated volumes on a minute basis, which is based on the bids which have been activated up so far for the concerned imbalance settlement period.

ii) Activated Regulation Capacity – Prices 1 Minute

On the "[Elia.be > Using Regulation Capacity](#)" page, you will find the publication of the prices of the cumulative activated volumes on a minute basis, which is based on the bids which have been activated up so far for the concerned imbalance settlement period.

iii) Imbalance Price 1 Minute

On the "[Elia.be > Imbalance Prices](#)", you will find the publication of the cumulative imbalance prices and its components on a minute basis, which is based on the bids which have been activated up so far for the concerned imbalance settlement period.

2. Timing Principles

The following definitions are applied with respect to the timings:

- Calculation Time: Minute to which the respective activated volume or prices corresponds. E.g. Calculation time 00:010 contains activated aFRR volume from 00:00:01 until 00:010:00.
- Imbalance Qh: Imbalance settlement period to which the respective calculation time corresponds.

In order to take into account all relevant information in the published volumes, the volumes and prices related to a certain Calculation Time are refreshed up to 3 minutes after the end of the quarter hour to which the Calculation Time belongs. This allows to increase the level of accuracy of the published volumes. The most recent available data are collected and displayed as quickly as technically possible.

3. Quality Status

In order to provide information about the likeliness of the values published in the 1- minute publication, a Quality Status is added to the publication as of August, 27th, 2019. This Quality Status aims at indicating whether an error was logged by the systems at any stage of the calculation and publication status, and can have the following values:

- Non-Validated = No single error is registered during the global system calculation run, which is performed every minute.
- Data Issue = At least one error is registered during the global system calculation run, which is performed every minute.

Remark: please read the remark in section I. 2. carefully.

4. Data Download

The go-live of the data-download functionality is foreseen in the course of September 2019.

It will then be possible to download in a .xlsx or .csv file the one minute data related to a given month.. The data will be available, as of September, 1st, 2019.

5. B2B xml services

i) Activated Regulation Capacity – Volumes 1 Minute

On the following link, you can obtain the 1-minute cumulative volumes publication in an xml format:

<https://griddata.elia.be/eliabecontrols.prod/interface/oneminuteimbalance/ActivatedRegulationCapacityVolume>

ii) Activated Regulation Capacity – Prices 1 Minute

On the following link, you can obtain the 1-minute cumulative prices publication in an xml format:

<https://griddata.elia.be/eliabecontrols.prod/interface/oneminuteimbalance/ActivatedRegulationCapacityPrice>

iii) Imbalance Price 1 Minute

On the following link, you can obtain the 1-minute cumulative imbalance price publication in an xml format:

<https://griddata.elia.be/eliabecontrols.prod/interface/oneminuteimbalance/SystemImbalancePrice>

III. CONTENTS OF THE PUBLICATIONS

Important remark:

1. Using Regulation Capacity – Volumes 1 Minute and Prices 1 Minute

The Using Regulation Capacity page provides 1-minute data in two tables, one containing the cumulative volume information (in MW), and the other containing the price information (in €/MWh).

The table headers have the following look:

Volume:

Quarter	Minute	Quality status	NRV (MW)	Strategic Reserve	Upward regulation Volume							Downward regulation Volume				
				SR (MW)	GUV (MW)	IGCC+ (MW)	R2+ (MW)	Bids+ (MW)	R3 Std (MW)	R3 Flex (MW)	Inter-TSO Import (MW)	GDV (MW)	IGCC- (MW)	R2- (MW)	Bids- (MW)	Inter-TSO Export (MW)

Price:

Quarter	Minute	Quality status	NRV (MW)	Strategic Reserve	Incremental Prices							Decremental Prices				
				SR (€/MWh)	MIP (€/MWh)	IGCC+ (€/MWh)	R2+ (€/MWh)	Bids+ (€/MWh)	R3 Std (€/MWh)	R3 Flex (€/MWh)	Inter-TSO Import (€/MWh)	MDP (€/MWh)	IGCC- (€/MWh)	R2- (€/MWh)	Bids- (€/MWh)	Inter-TSO Export (€/MWh)

The published tables contain the following data:

Column	Description
Quarter	Start and end time of the corresponding quarter hour.
Minute	The minute at the end of which the calculation has been performed. Example: "11:49" means that all events which occurred between 11:45:00.00 (hh:mm:ss) until 11:49:59.99 have been taken into account to compute the values related to the quarter hour 11h45-12h00
Quality Status	Indication on the reliability of the data The possible values are the following: <ul style="list-style-type: none"> Non-Validated = No single error is registered during the global system calculation run, which is performed every minute. Data Issue = At least one error is registered during the global system calculation run, which is performed every minute.
NRV	Net Regulation Volume The net regulation volume is calculated using the difference between the sum of the volumes of all upward regulations and the sum of the volumes of all downward regulations requested by Elia. The values published at a given minute are computed taking into account the average of all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.

Column	Description
GDV	<p>Gross Downward Activated Volume</p> <p>Sum of all downward activated reserves. The values published at a given minute are computed taking into account the average of all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>
GUV	<p>Gross Upward Activated Volume</p> <p>Sum of all upward activated reserves. The values published at a given minute are computed taking into account the average of all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>
MIP	<p>Marginal Incremental Price</p> <p>The highest price paid by Elia for upward regulation during the quarter-hour in question.</p> <p>The values published at a given minute are computed taking into account all the upwards activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>
MDP	<p>Marginal Decremental Price</p> <p>The highest price paid by Elia for downward regulation during the quarter-hour in question.</p> <p>The values published at a given minute are computed taking into account all the downwards activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>
IGCC-	<p>International Grid Control Cooperation Downwards</p> <p>Exports to neighbouring Transmission system operators in case of positive imbalances. The values published at a given minute are computed taking into account all the data between the start of the quarter hour and the end of the considered minute.</p>
IGCC+	<p>International Grid Control Cooperation Upwards</p> <p>Exports to neighbouring Transmission system operators in case of positive imbalances. The values published at a given minute are computed taking into account all the data between the start of the quarter hour and the end of the considered minute.</p>
R2-	<p>Secondary Reserve Downwards (aFRR)</p> <p>The values published at a given minute are computed taking into account all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>
R2+	<p>Secondary Reserve Upwards (aFRR)</p> <p>The values published at a given minute are computed taking into account all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>
Bids-	<p>Non-contracted regulation reserves activated downwards (non-contracted mFRR)</p> <p>The values published at a given minute are computed taking into account all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>

Column	Description
Bids+	Non-contracted regulation reserves activated upwards (non-contracted mFRR) The values published at a given minute are computed taking into account all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.
R3 Std	Tertiary reserve Standard activated upwards (mFRR) The values published at a given minute are computed taking into account all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.
R3 Flex	Tertiary reserve Flex activated upwards (mFRR) The values published at a given minute are computed taking into account all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.
Inter-TSO Export	Inter-TSO (reserve sharing) reserve Flex activated downwards The values published at a given minute are computed taking into account all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.
Inter-TSO Import	Inter-TSO (reserve sharing) reserve Flex activated upwards The values published at a given minute are computed taking into account all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.
SR	Strategic Reserve price or volume when there is a volume ≥ 0 MW of Strategic Reserve activated in the system between the start of the quarter hour and the end of the considered minute.

2. Imbalance Price 1 Minute

The Imbalance Prices page provides 1-minute data in one table.

The table header has the following look:

Quarter	Minute	Quality status	NRV (MW)	SI (MW)	α (€/MWh)	MIP (€/MWh)	MDP (€/MWh)	SR (€/MWh)	SI < -I C (MW)	POS (€/MWh)
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The published table contains the following data:

Column	Description
Quarter	Start and end time of the corresponding quarter hour.
Minute	The minute at the end of which the calculation has been performed. Example: "11:49" means that all events which occurred between 11:45:00.00 (hh:mm:ss) until 11:49:59.99 have been taken into account to compute the estimation of the data related to the quarter hour 11h45-12h00

Column	Description
Quality Status	<p>Indication on the reliability of the data</p> <p>The possible values are the following:</p> <ul style="list-style-type: none"> - Non-validated (default): no error registered during the calculation and publication run. The published data are likely but have not been validated by an operator - Data issue: at least one error registered during the calculation and publication run. The published data are uncertain and must be reviewed by an operator <p>Important remark: the reference for the imbalance settlement are the 15-minute data</p>
NRV	<p>Net Regulation Volume</p> <p>The net regulation volume is calculated using the difference between the sum of the volumes of all upward regulations and the sum of the volumes of all downward regulations requested by Elia. The values published at a given minute are computed taking into account the average of all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>
SI	<p>System Imbalance</p> <p>The system imbalance is calculated for each quarter-hour using the difference between the Area Control Error (ACE) and the NRV.</p> <p>The values published at a given minute are computed taking into account the average of the NRV and ACE between the start of the quarter hour and the end of the considered minute.</p>
α	<p>Alpha</p> <p>Additional incentive applied on top of the regulation costs in cases of major system imbalances. The value of the alpha component is computed taking into account the measured SI of previous quarter hours (published on the 15-minute imbalance price table) and the estimated SI for current quarter hour (until the current minute; published in the present table)</p>
MIP	<p>Marginal Incremental Price</p> <p>The highest price paid by Elia for upward regulation during the quarter-hour in question.</p> <p>The values published at a given minute are computed taking into account all the upwards activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>
MDP	<p>Marginal Decremental Price</p> <p>The highest price paid by Elia for downward regulation during the quarter-hour in question.</p> <p>The values published at a given minute are computed taking into account all the downwards activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>
POS	<p>Tariff applicable for a positive imbalance.</p> <p>The values published at a given minute are computed taking into account all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>

Column	Description
NEG	<p>Tariff applicable for a negative imbalance.</p> <p>The values published at a given minute are computed taking into account all the activations requested by Elia between the start of the quarter hour and the end of the considered minute.</p>
SR	<p>Strategic Reserve price when there is a volume \geq 0MW of Strategic Reserve activated in the system between the start of the quarter hour and the end of the considered minute.</p>