
Baltic TSOs' report on balancing in accordance with the
Article 60(1) of Commission Regulation (EU) 2017/2195 of
23 November 2017 establishing a guideline on electricity
balancing

18 December 2019

Elering AS

AS "Augstsprieguma tīkls"

LITGRID AB

Contents

Whereas	3
Article 1 Report matter and scope	4
Article 2 Balancing products.....	4
Article 3 Dimensioning of reserves.....	5
3.1 Litgrid case.....	5
3.2 AST case.....	6
3.3 Elering case.....	6
Article 4 Optimal provision of reserve capacity	7
3.1 Litgrid case.....	7
3.2 AST case.....	8
3.3 Elering case.....	8
Article 5 Exchange of balancing capacity and sharing of reserves.....	8
Article 6 Efficiency on activation optimization function	9
Article 7 Language	9

All Baltic Transmission System Operators, taking into account the following:

Whereas

- (1) This document is a common report on balancing developed by Elering AS, AS "Augstsprieguma tīkls", LITGRID AB (hereafter referred to as "Baltic TSOs") in accordance with Article 60(2) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter referred to as "EBGL"). This document is hereafter referred to as the "Report".
- (2) The Report takes into account the general principles and goals set in the EBGL as well as Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity (hereafter referred to as "Electricity Regulation") as well as Regulation (EC) No 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as "SOGL").
- (3) Articles 60(1), 60(2), and 60(3) of the EBGL define the deadline and several specific requirements to its content:
 1. *At least once every two years, each TSO shall publish a report on balancing covering the previous two calendar years, respecting the confidentiality of information in accordance with Article 11.*
 2. *The report on balancing shall:*
 - (a) *include information concerning the volumes of available, procured and used specific products, as well as justification of specific products subject to conditions pursuant to Article 26;*
 - (b) *provide the summary analysis of the dimensioning of reserve capacity including the justification and explanation for the calculated reserve capacity requirements;*
 - (c) *provide the summary analysis of the optimal provision of reserve capacity including the justification of the volume of balancing capacity;*
 - (d) *analyse the costs and benefits, and the possible inefficiencies and distortions of having specific products in terms of competition and market fragmentation, participation of demand response and renewable energy sources, integration of balancing markets and side-effects on other electricity markets;*
 - (e) *analyse the opportunities for the exchange of balancing capacity and sharing of reserves;*
 - (f) *provide an explanation and a justification for the procurement of balancing capacity without the exchange of balancing capacity or sharing of reserves;*
 - (g) *analyse the efficiency of the activation optimisation functions for the balancing energy from frequency restoration reserves and, if applicable, for the balancing energy from replacement reserves;*
 3. *The report on balancing shall either be in English or at least contain an executive summary in English.*

Publish the following report:

**Article 1
Report matter and scope**

(1) Report in accordance to EBGL 60(1) covers the following period: from 2017 December 18 to 2019 December 18 (hereinafter – “**Report Period**”).

(2) Report covers:

- a) Balancing capacity and energy products covering EBGL article 60(2) (a) and (d);
- b) Dimensioning and optimal provision of reserves covering EBGL article 60(2) (b) and (c);
- c) Exchange of balancing capacity and sharing of reserves covering EBGL article 60(2) (e) and (f);
- d) Efficiency of activation optimization function covering EBGL article 60(2) (g).

**Article 2
Balancing products**

According to EBGL Art 25 point 1 products for balancing energy shall be developed as part of proposals for the implementation frameworks for the European platforms pursuant to Articles 19, 20 and 21 of EBGL.

The list of standard products for balancing capacity shall be defined by TSO and submitted for approval until 18th of December 2018 pursuant to Article 25 point 2 of EBGL.

Following the approval of the implementation frameworks for the European platforms each TSO may develop proposal for defining and using specific products for balancing energy and capacity pursuant to Article 26 point 1 of EBGL.

Considering that standard balancing energy and capacity products were not defined for the Report Period no cost and benefit analysis and analysis on volumes, availability, procurement, usage and justification of usage of Specific products were made for the Report period.

During Report Period Baltic TSOs has been operating in common Baltic balancing market (**Baltic CoBA**). Baltic CoBA has two defined Balancing energy products:

1. Baltic standard manual Frequency Restoration Reserve (Baltic **mFRR**) product for balancing;
2. Specific Emergency manual Frequency Restoration Reserve (Baltic **ER mFRR**) products:
 - a. Normative Emergency Capacity Reserve (**NERC**);
 - b. Emergency Capacity Reserve (**ERC**).

NERC is introduced as a mandatory reserve capacity to cover Baltic TSOs obligations over BRELL agreement. ERC is introduced separately by each Baltic TSO to ensure the operational security of their respective power system. All Baltic balancing products are not compatible with standard products as defined in EBGL articles 25 and 2(36).

Article 3 Dimensioning of reserves

Pursuant to Article 2(4) of SO GL the Baltic TSOs are exempted from the provisions of SOGL that are related to dimensioning of FCR, FRR and RR. Baltic power systems operate in IPS/UPS synchronous area, therefore dimensioning principles for active power reserves are defined in mutual agreements within IPS/UPS synchronous area and national legislation.

Baltic TSOs according to agreements with TSOs and network owners of the common synchronous area (Belarus, Russia, Estonia, Latvia and Lithuania) (hereinafter – BRELL), are mutually responsible for maintaining of 100 MW of normative emergency reserve capacity.

Depending on national legislation each Baltic TSO separately applies national requirements for dimensioning of active power reserves.

3.1 Litgrid case

To ensure the frequency quality and maintain the operational security, following load-frequency control processes and control structures are used by Lithuanian TSO:

1. Frequency containment reserves is not applied while operating synchronously with IPS/UPS.
2. Frequency restoration reserves for balance control (hereafter – “**Balance Reserves**”).

Annual volume of Balance Reserves is obtained based on average of balance deviations, taking in account their distribution over months, weeks, days, the permitted amount of Balancing Reserves from interconnected systems and wind power plants generation deviations.

3. Emergency Frequency restoration reserves (hereafter - “**Emergency Reserves**”).

Emergency reserve must be fully activated within a period of time which is smaller than 15 minutes. The service provider is obligated to ensure that the active power output will be maintained for at least 12 hours.

Volume of Emergency Reserves is obtained based on largest contingency, considering possibly support of Emergency Reserves from neighboring TSO's. The largest contingency shall be:

- 3.1. Generation unit or HVDC line disconnection;
 - 3.2. Overloads of Cross-border tie lines;
 - 3.3. Emergency reduction of Wind-power plants generation.
4. Replacement reserves

Replacement Reserves are used to replace Emergency reserves as they have limited activation duration. The reserve must be fully activated within a period of time which is smaller than 12 hours. The service provider is obligated to ensure that the reserve will be accessible for at least 10 days.

Volume of Replacement Reserves is obtained based on:

- 4.1. Amount of emergency reserves;
- 4.2. Balance reserves within Baltic TSOs.

LITGRID calculates the volume of Emergency reserve and Replacement reserve capacity for every next calendar year.

3.2 AST case

For Report period AST did not procure reserve capacity in a sense as it is described in SOGL and in EBGL.

For Report period Latvian TSO was operating in a single synchronous zone with the Unified Power System of Russia (IPS/UPS), according to the mutual agreement between BRELL states (Belarus, Russia, Estonia, Latvia and Lithuania) frequency containment activities are provided by the Russian power system. Accordingly, frequency containment reserves and automatic frequency restoration reserves are not applied for Report period.

To fulfil BRELL agreement and maintain operation stability Emergency reserves of 100 MW is procured to ensure system security in emergency situations. All of the procured reserve capacities are classified as Normative Emergency Capacity Reserve (NERC). For Latvian TSO in Report period additional Frequency restoration reserves for balance control are not procured.

Dimensioning of procured capacity reserves (100 MW) is set by BRELL agreement.

Volume of Emergency Reserves is obtained based on largest contingency, considering possibly support of Emergency Reserves from neighboring TSO's. The largest contingency shall be:

1. Generation unit disconnection;
2. Overloads of Cross-border tie lines;

For Report period Replacement reserves are not applied by Latvian TSO.

For Report period AST did not procure reserve capacity in a sense as it is described in SOGL and in EBGL.

For Report period additional Replacement reserves are not applied by Latvian TSO.

3.3 Elering case

The reserve capacity requirement is calculated taking into account:

1. The contingency of the largest electrical element in the respective power system;
2. Reserves made available through the sharing of reserves.

In Estonia, the largest electrical element is Estlink-2, an HVDC interconnector between Estonia and Finland with a total flow capacity of 650 MW.

The sharing of reserves is conducted according to the BRELL cooperation agreement, concluded between the TSOs and network owners of the common synchronous area (Belarus, Russia, Estonia, Latvia and Lithuania), TSOs are mutually responsible for enabling the use of 100 MW of NERC to one another.

The Estonian TSO maintains a reserve capacity in the amount of 250 MW – 100 MW is classified as NERC and 150 as ERC. This reserve is obtained from the emergency reserve power plant owned and operated by the Estonian TSO.

Article 4 **Optimal provision of reserve capacity**

3.1 Litgrid case

Emergency reserve

Since in the Lithuania Power System there is only one electricity generation company whose facilities at Kruonis Hydro storage power plan meet the requirements for the Emergency reserve. Provision of the Emergency reserve is guaranteed by concluding an agreement with this company and price for provisions mFRR service is regulated by national regulatory authority.

During Report Period volume of Emergency reserve in Lithuanian PS was defined 400 MW, optimization of mFRR volume was achieved by taking into account possibility to use 300 MW Emergency reserve from neighboring TSO's based on existing NERC sharing agreement among BRELL TSO's.

Following the implementation of EBGL art. 18 standard terms and conditions for Balance service provider were approved by Lithuanian NRA in 2019, which includes market-based procurement method for Emergency reserve. First auction for Emergency reserve will be organized in 2020 September for the delivery year 2021.

Replacement reserve

Optimal provision of RR during Report Period was ensured by performing two types of the RR auctions. First type of RR auction was organized for the units, which are connected to 330 kV network and second type of RR auction was organized for the units, which are connected to 110 kV or 330 kV network. Due to the lack of competition in the first auction (only one participant took part), the price for this RR service was regulated by national regulation authority. In the second type of RR auction three of the four RR service providers with optimal price offers won the auction.

During Report Period volume of RR in Lithuanian Power System provided in the table 1, optimization of RR volume was achieved by taking into account statistical available volume of balancing market see table 1.

Table 1

2017			2018			2019		
Biggest loss of generation, MW	Volume available in balancing market, MW	Provision of RR	Biggest loss of generation, MW	Volume available in balancing market, MW	Provision of RR	Biggest loss of generation, MW	Volume available in balancing market, MW	Provision of RR
700	216	484	700	217	483	700	180	520

3.2 AST case

For Report period AST did not procure reserve capacity in a sense as it is described in SO GL and in EB GL.

Provision of emergency reserves (100 MW) is required by BRELL agreement. Optimal provision is ensured by open procurement of reserves. Procurement is done every 2 years to ensure that for a given period there is security of availability of such service and to have predictable cost of service as in Latvia TSO system there are limited resources that can fulfill needed requirements.

In Report period were conducted procurement of emergency reserves for period 01.03.18 – 29.02.2020., where AST received 2 offers from which one emergency reserve provider offer was not compatible with terms and condition of provisions. Agreement was made with single emergency reserve provider.

3.3 Elering case

The Estonian TSO does not procure any reserve capacity as all required reserve capacity in the amount of 250 MW is maintained in the emergency reserve power plant owned and operated by the Estonian TSO.

Article 5

Exchange of balancing capacity and sharing of reserves

Baltic TSOs operate a balancing energy market with a common merit order list for manual frequency restoration reserve. With respect to the dimensioning of reserve capacity, Baltic TSOs do not exchange balancing capacity as all required reserve capacity is maintained within each country. Exchange of balancing capacity may be established between two or more TSOs by setting common and harmonized rules and processes for the exchange and procurement of balancing capacity pursuant to Article 33 of EBLG.

The sharing of reserves is conducted by Baltic TSOs according to the BRELL cooperation agreement, concluded between the TSOs and network owners of the common synchronous area (Belarus, Russia,

Estonia, Latvia and Lithuania), TSOs are mutually responsible for enabling the use of 100 MW of NERC to one another.

All balancing capacity reserves that are procured or maintained by each Baltic TSO are shared between Baltic countries, if technically feasible.

Article 6 Efficiency on activation optimization function

Activation optimization function (hereinafter – “**AOF**”) in accordance to EBGL article 31 will be introduced together with European balancing platforms. During the Report period the European balancing platforms were not operational and therefore no efficiency analysis on AOF can be made by Baltic TSOs.

Article 7 Language

The reference language for this Report shall be English. For the avoidance of doubt, where Baltic TSOs need to translate this proposal into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 7 of the EBGL and any version in another language, the relevant TSOs shall, in accordance with national legislation, provide the relevant national regulatory authorities with an updated translation of the proposal.