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

18th of May 2022

Elering AS

AS "Augstsprieguma tīkls"

LITGRID AB

Contents

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 2020 January 1st to 2022 January 1 (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
Executive summary

2.1 Introduction

The TSOs (hereafter the Transmission System Operators) of Baltic countries have prepared a common Report.

Litgrid AB (hereafter Litgrid) is the Lithuanian TSO, AS Augstsprieguma tikls (hereafter AST) is the Latvian TSO and Elering AS (hereafter Elering) is the Estonian TSO. All three are part of a synchronous area with separate scheduling areas (EE, LV and LT), monitoring areas (EE, LV and LT) and bidding zones (EE, LV and LT). Pursuant to Article 2(4) of SO GL the Baltic TSOs are exempted from defining their LFC blocks. After they are fully synchronized with the Continental European synchronous area, they will start implement such agreements. Each controls a scheduling area and monitoring area covering the entire country.

Starting from January 1st, 2018, Litgrid, AST, and Elering (hereinafter commonly referred to as the Baltic TSOs) have operated common balance control with the aim of minimizing the Baltic ACE towards zero. To support this, the Baltic TSOs established a common balancing energy market, based on Baltic mFRR energy products, and harmonized imbalance settlement rules incl. common imbalance pricing methodology.

Each Baltic TSO employs self-dispatch model. For balancing purposes, only mFRR energy products are used.

The report on balancing could be found in all three TSO's website:

- Link to Litgrid's website is here.
- Link to AST's website is here.
- Link to Elering's website is here.

During the report period, there were a total of 2 active BSPs. Litgrid's standard terms and conditions for BSPs could be found here. During the report period, there were no more than 30 BRPs. Litgrid's standard terms and conditions for BRPs could be found here.

During the report period, there were a total of one active BSP. AST's standard terms and conditions for BSPs could be found here. During the report period, there were a total of thirteen BRPs. AST's standard terms and conditions for BRPs could be found here.

During the report period, there were a total of three BSPs, two of which offer the service based on DSR. Elering's standard terms and conditions for BSPs could be found here. During the report period, there were a total of nine BRPs. Elering's standard terms and conditions for BRPs could be found here.

2.2 Progress, timeline towards joining the European platforms and / or balancing capacity cooperations

European balancing platform for the activation of balancing energy	Accession timeline	Reasoning for derogation and status of the derogation (granted or not)
RR Platform	NAP	NAP
aFRR Platform	2024 Q4	NAP
mFRR Platform	2023 Q3	Derogation granted by Baltic NRA's in order to join MARI together with Nordic TSOs. Therefore, Baltics accession is dependent on the Nordics.
IN Platform	2024 Q4	NAP

Balancing capacity cooperations	Status	Accession timeline
Common Baltic balancing capacity market	Project ongoing. Relevant mandatory methodologies are being prepared by Baltic TSOs. Expected submission for NRAs approval during 2022.	2024 Q4

The following content can be included in the Section 2 on a voluntary basis:

Question:	Please select an option:
Q1: Did you carry out regulatory and IT developments for allowing Demand, RES and Storage to participate at European balancing platforms	Litgrid AB: yes. AST:yes Elering: no.

1.1. If response in Q1 is "no", why?	Litgrid AB: **-** AST:- Elering: since 05/2019, Elering allows demand, RES, and storage facilities to participate in the regional balancing market. Preparations in relation to joining the EU balancing platforms shall be carried out during 2022 and 2023.
1.2. If response in Q1 is "yes", what were the main results"?	Litgrid AB: during report period, starting 2021 January, standard terms and conditions went into force allowing Demand, RES and Storage to participate in local balancing markets. AST: In reference period started work to accommodate Demand response, aggregation in balancing market by developing IT exchange rules and system and terms and conditions. Expected to be finished in 2022.
Q2: Did you carry out regulatory and IT developments for adopting standard energy products (aFRR, mFRR, RR balancing energy products) in your system?	No
2.1. If response in Q2 is "no", why?	aFRR and RR products are not procured in Baltic region. Standard Baltic mFRR products were already introduced in 2018 January.
2.2. If response in Q2 is "yes", what were the main results?	-
Q3: Do you procure a standard product for balancing capacity?	Litgrid AB: yes. AST:no Elering: no.
Q4: What are the main characteristics?	Litgrid AB: Standard hourly mFRR capacity product is procured daily for the following day. AST: AST did not procure balancing capacity during this timeframe. Elering: Elering did not procure balancing capacity during this timeframe.
Q5: Did you assess the potential for exchange of balancing capacities or sharing of reserve?	No
5.1. If response in Q6 is "no", why?	Common Baltic capacity market is being developed and shall be introduced in 2024 Q4
5.2. If response in Q6 is "yes", what were the main results?	-
Q6: Are you already involved in a BCC as a member or as an observer?	No

2.3 Evolutions of the terms and conditions for BRPs and BSPs related to the EB regulation implementation during the last 2 calendar years and further evolutions foreseen for the Future

Evolution of the terms and conditions for BSP	
Content	Litgrid AB: during report period, starting 2021 January, standard terms and conditions went into force allowing Demand, RES and Storage to participate in local balancing markets. AST:NAP Elering: NAP
Evolution of the terms and conditions for BRP	
Content (see below)	Litgrid AB: standard terms and conditions for BRPs were updated to comply with the Imbalance settlement harmonization methodology which was approved by ACER on 15 July 2020. AST: standard terms and conditions (in a form of changes in "Network Code for Electricity") for BRPs were updated to comply with the Imbalance settlement harmonization methodology which was approved by ACER on 15 July 2020. Elering: standard terms and conditions for BRPs were updated to comply with the Imbalance settlement harmonization methodology which was approved by ACER on 15 July 2020.

Question:	**Please select an option:**
Q1. Was 15-min Imbalance Settlement Period (ISP) implemented by 1 January 2022?	**Derogation**
1.1. If response in Q1 is "derogation" or "exemption", until when was this derogation/exemption granted?	2024 December 31
Q2. Has your TSO made use of additional components pursuant ISH Methodology Art 9(6) as per 1 January 2022?	Yes
2.1. Scarcity component?	Not considered
2.2. Incentivizing component?	Not considered
2.3. Component related to financial neutrality of the TSO?	Implemented
Q3. Has your TSO made use of dual pricing as per 1 January 2022?	No
3.1. Condition (a)	Not considered

3.2. Condition (b)	Not considered
3.3. Condition (c)	Not considered
3.4. Condition (d)	Not considered
3.4. Condition (e)	Not considered

2.4 Summaries and main results of the analysis of Articles 60(2)(a-f):

Dimensioning and balancing capacity procurement in accordance with Articles 60(2)(b), 60(2)(c), 60(2)(e) and 60(2)(f)

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.

Currently, project is ongoing to introduce the common Baltic capacity market for the needs of Baltic LFC block. It is foreseen to go live in the 2024 Q4. Common procurement of balancing capacity shall allow Baltic TSOs to exchange the balancing capacity reserves within Baltic LFC block.

Litgrid AB case:

Standard upward mFRR balancing capacity product was implemented, procured with the first delivery date on 2022 January 1st. Dimensioning for this capacity takes into account the biggest dimensioning incident, forecasted availability in upward mFRR balancing energy market, emergency reduction of RES generation, overloads o Cross-border tie lines and the amounts of procured tertiary reserve.

AST case:

AST has not introduced or procured balancing capacity in Report period.

Elering case:

Elering has not introduced or procured balancing capacity in Report period.

Specific products in accordance with Articles 26(1) from (a) to (f) and 60(2)(a) and 60(2)(d)

Considering that standard nor specific balancing energy were not implemented during 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 energy products are not compatible with standard energy products as defined in EBGL articles 25 and 2(36).

Litgrid AB case:

Starting the operations of Belarussian Nuclear power plant operations in 2020 November 4th, Litgrid AB, in accordance with national legislations went into force majeure state for BRELL network agreement and is neither providing, neither have access to the mandatory 100 MW normative emergency reserve capacity.

Tertiary reserves are used to replace procured upward mFRR balancing reserves as they may potentially have limited activation duration. The tertiary 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. Dimensioning for tertiary reserves is calculated taking into account the procured standard mFRR balancing capacities and overall procured balancing energy reserves within Baltic TSOs. Litgrid AB calculates the volume of Emergency reserve and Replacement reserve capacity for every next calendar year.

AST case:

No specific product introduced in Report period.

Specifics Elering case:

No specific product introduced in Report period.

Article 3
Balancing products

Balancing energy 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.

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 implemented during 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:

3. Baltic standard manual Frequency Restoration Reserve (Baltic **mFRR**) product for balancing;
4. 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 Agreement on parallel operation of power systems between Russia, Belarus, Lithuania, Latvia and Estonia concluded on February 7, 2001 (hereinafter - 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).

Balancing capacity products

During the Report period the list of standard products for balancing capacity was defined by TSO in the implementation frameworks and approved by ACER on June 17, 2020, pursuant to Article 25 point 2 of EBGL.

Litgrid AB	Litgrid AB has implemented the standard balancing capacity reserves by updating the standard terms and conditions of balancing service agreement (BSP agreement). Updated terms and conditions are in force starting 2022 January 1st. Link to the standard terms and conditions for BSPs could be found here.
AS "Augstsprieguma tīkls"	AST has not introduced or procured balancing capacity in Report period.
Elering AS	Elering has not introduced or procured balancing capacity in Report period.

Article 4
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.

Currently, project is ongoing to introduce the common Baltic capacity market for the needs of Baltic LFC block. It is foreseen to go live in the 2024 Q4. Common procurement of balancing capacity shall allow Baltic TSOs to exchange the balancing capacity reserves within Baltic LFC block.

4.1 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**").

Daily 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. Tertiary reserves

Tertiary 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.

4.2 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 and the subsequent Agreement on the maintenance and use of the normative emergency power reserves in the BRELL ring (hereafter - NARM 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.

4.3 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 5
Optimal provision of reserve capacity

5.1 LITGRID CASE

Emergency reserve

Up to 2021 January 1st, 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, until 2021 January 1st 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 on November 30th, 2020, which includes daily market-based Balancing capacity procurement. These standard terms and conditions came into power on January 1st, 2021 and the first auction for balancing capacity were organized for the delivery day of 2021 January 1st.

Tertiary reserve

Optimal provision of RR during Report Period was ensured by performing yearly RR 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

2020			2021			2022		
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	225	475	700	173	527	700	181	519

5.2 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 and the subsequent NARM 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 01.03.20 – 28.02.2022. Agreement was made with single emergency reserve provider.

5.3 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 6
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.

In preparation for the common Baltic capacity market and aFRR reserves market, Elering launched a pilot project for the exchange of aFRR balancing capacity and energy in August 2021. In accordance with the pilot project, Elering forwards the aFRR capacity and energy bids collected from the Estonian BSP(s) to the Finnish TSO. The aFRR capacity incl. energy is not procured nor activated for the needs of the Estonian nor Baltic power system.

Article 7
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 8
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.