

SEE/Serbia, Bosnia, Montenegro, Macedonia, Albania: Balancing framework, regional balancing integration in SEE

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Serbia is a part of SMM control block together with Montenegro and Macedonia. EMS as Transmission System Operator is obliged to provide System services for the control area.

Procurement of balancing capacity and balancing energy are based on the fact that, in Serbia, there is currently only one party with the role of Balancing Service Provider that can offer balancing services. BSP is Electric Power Utility of Serbia (EPS), which owns and controls all balancing entities and is obliged to offer them to the TSO.

FCR service (capacity and energy) is mandatory obligation for all dispatchable units and it is free of charge.

Reservation of balancing capacity intended for FRR and RR is not market-based. Quantity for each reserve is defined in the Ancillary Services Contract concluded between the TSO and BSP. Quantity is determined by the ENTSO-E recommendations and National Regulatory Agency determines the price for capacity per MW for each type of reserve. The Ancillary Services Contract is signed for one calendar year. This is the minimum quantity of reserve that BSP has to offer TSO in real time. Additionally, according to the Grid Rules, BSP is obliged to offer TSO all available capacities of balancing entities which are left after accepting daily schedules.

In case there are insufficient RR reserves, TSO has a possibility to activate emergency energy from neighboring TSOs, according to the contracts regulating the sales of emergency energy between TSOs or, if it exists, Ancillary Service Contract between the TSO and supplier.

Grid Rules and Ancillary Services Contract specify the technical characteristics of dispatchable units and a way of their activation. The Contract defines the balancing entities that can provide services for automatic FRR. Activation of FRR and RR is based on Central Dispatch, which means that TSO issues dispatch instructions directly to balancing entities.

Procurement of balancing energy is market-based. Procedure is defined in Market Code. According to Market Code, in order to participate in balancing mechanism, TSO and BSP are obliged to sign the corresponding Contract. Providers of automatic FRR, FRR and RR are generators and dispatchable loads (i.e. reversible hydro power plant or pumped storage when in pumping regime). BSP submits bids to the TSO until 16:00h at day ahead, for the relevant trading day. In case of bids modification, BSP may submit new bids until the gate closure, which is 60 minutes before the operational hour (while merit order of balancing entities can be changed 15 minutes before the operational hour). Time resolution is one hour

and the product is balancing energy presented in EUR/MWh.

Activated balancing energy for mFRR and RR is bought/sold using pay-as-bid system according to bids for each accounting interval. Activated balancing energy for automatic FRR is bought/sold using methodology stipulated in Market Code and is associated with bids and activated balancing energy for RR for each accounting interval.

Monitoring of activated balancing energy (automatic FRR, mFRR and RR) is performed in real time (by dispatcher) and ex-post by balancing administrator.

Activated balancing energy has a direct impact on calculation of the Imbalance Settlement Price. Imbalance Settlement Price for each accounting interval is determined as weighted price of activated bids from RR regulation, activated emergency energy from neighbouring TSOs and activated automatic FRR regulation. Single imbalance price is the method which is used in the process of settlement between the balancing groups.

Bosnia and Herzegovina is a part of SHB control block, which consists of three control areas: Slovenia, Croatia and Bosnia and Herzegovina. NOS Bosnia and Herzegovina as Independent System Operator (ISO) is obliged to provide System services for the entire control area.

As opposed to the other countries in the region, Bosnia and Herzegovina has three BSPs (three Electric Power Utilities -EPU). This is a good precondition for the opening and development of the national balancing markets and integration in regional market. These three BSPs which currently own all major production units in Bosnia and Herzegovina also represent the Balance Responsible Parties that supply all final consumers.

However, as in most countries in the region, procurement of balancing capacity FCR, FRR and RR services, and the corresponding activated energy is not market-based and it is a part of Ancillary Services.

The Grid Code determines the obligation of the Electric Power Utilities to indicate the technical capabilities of dispatchable units for providing ancillary services per month. Quantity is determined by the ENTSO-E recommendations and National Regulatory Agency together with regulatory agencies of two Entities, which determine regulated price for capacity and energy (for RR). Annually, based on information received from Electric Power Utilities, NOS BIH develops a list of dispatchable units for provision of balancing services. The list is confirmed by NRA.

FCR is mandatory for all generating units at their own expense, according to the technical requirements established in the Grid Code. Regarding automatic FRR only capacity is financially compensated. Participation of each EPU in the total cost for providing secondary reserve is equal to the percentage amount of a FRR reserve which each EPU should provide in order to fulfil the load of all consumers for which it is balance responsible in the total amount. Each EPU has a net amount to pay or receive on monthly basis. EPUs among themselves issue invoices in accordance with the NOS BIH settlements calculation. All net amounts of energy (positive or negative) provided for a FRR is included in the compensation

program of each EPU.

Regarding the FRR and RR, capacity and energy are financially compensated.

The participation of each EPU in the total cost of provision of capacity of Tertiary Reserve, is proportional to the percentage participation of each EPU in gross consumption of past year. Each generator whose generation unit is to provide Tertiary Reserve is compensated monthly according to the regulated capacity price. Each EPU has a net amount to pay or receive on monthly basis. EPUs among themselves issue invoices in accordance to the ISO calculation settlements.

In case of the Tertiary Reserve activation, NOS BIH determines the corresponding amounts of energy produced/consumed, according to the dispatching orders. The generator unit that provided the required energy is remunerated at the regulated price (3x the highest price of produced energy in a particular year). The EPU(s) that caused the activation of Tertiary reserve is/are charged on a monthly basis.

Balance responsibility is divided between three balance group consist of three Electric Power Utilities.

Unintentional Deviations for each EPU (BRP) are measured weekly for each Tariff Period. The Unintentional Deviations of each EPU (BRP) are compensated through a Compensation Program calculated by the NOS BIH for each one of the Tariff Periods. Additionally, at the end of each month the NOS BIH prepare a correction programme for each BRP. BRPs deviations are compensated in energy. Settlement period is one hour and billing period is one month. Instructions for internal issuance for EPUs are issued by NOS BIH on a monthly basis. Currently new Market code is being prepared which should provide a more opened balancing market.

Montenegro is a part of SMM control block together with Serbia and FYR Macedonia. CGES as a Transmission System Operator is obliged to provide System services for the entire control area. Due to the size of the system, there is a limited number of dispatchable units and only one participant which can provide balancing services as BSP (EPCG -power utility).

Therefore it is difficult to develop balancing market and increase competition. BSP owns and controls all balancing providing entities and is obliged to provide them to Transmission System Operator.

Balancing mechanism is administered by Market Operator COTEE, and operated by TSO CGES. Reservation of balancing capacity intended for FCR, FRR and RR is not market-based.

Quantity for each reserve, FCR service and FRR services (energy) are defined in the Ancillary Services Contract concluded between the TSO and BSP. Quantity is determined according to the ENTSO-E recommendations.

According to the contract, BSP is obliged to provide FCR, FRR and RR in real time. FCR is a mandatory obligation for all dispatchable units, and it is provided free of charge.

Due to limited number of balancing entities, BSP is not always able to fulfil its balancing obligations. In these cases the TSO procured emergency energy abroad, outside the control area.

The cost of procured Ancillary services inside control area are partly regulated and determined by National Regulatory Agency. Price for reservation of balancing capacity is defined by National Regulatory Agency, while BSP is free to set the price of balancing energy on day-ahead level. TSO is paying to BSP for the fulfilment of the obligations under the contract. The Ancillary Services Contract is signed for one calendar year.

Grid Code and Ancillary Services Contract specify the technical characteristics of dispatchable units and a way of their activation. Procedures for the provision of ancillary services are defined within "Methodology for establishing the prices and requirements for provision of ancillary and system services for transmission system balancing" document, adopted by the National Regulatory Agency.

Balance responsibility is divided between three balance groups: TSO (as BRP for system losses), Production/distribution/supply company (EPCG) and one market participant (aluminium factory "KAP").

BSP is paid for the aFRR capacity, not for energy, but in the periods when a FRR quality standards are fulfilled, according to the propositions of "Methodology" paper by NRA. Imbalance settlement price calculation is determined according to the methodology defined by the National Regulatory Agency and is based on costs of balancing energy activated from FRR and RR (no differences). The BRP that is in imbalance ("short") is obliged to pay for its imbalance.

FYR Macedonia is a part of SMM control block together with Serbia and Montenegro. MEPSO as Transmission System Operator is obliged to provide System services for the entire control area. Due to the size of the system, a limited number of dispatchable units and the one dominant participant which can provide balancing services, it is difficult to develop national balancing market and increase competition. BSP (ELEM) owns and controls most of balancing entities and has obligation according to the Energy law to provide Ancillary Services to Transmission System Operator.

Reservation of balancing capacity, FCR, FRR and RR services, and then corresponding activated energy is not market-based and it is part of Ancillary Services. Quantity for each reserve is determined according to the ENTSO-E recommendations and is defined in the Ancillary Services Contract concluded between TSO and BSP for a period of one year. Ancillary services costs are regulated and determined by National Regulatory Agency in form of lump sum. TSO is paying its obligations to BSP in twelve (12) equal tranches.

Grid Code and Ancillary Services Contract specify the technical characteristics of dispatchable units and a way of their activation. Imbalance settlement process is defined in a Market Code approved by the National Regulatory Agency, according to which all market participants are financially responsible for their imbalances, with the exemption of BSP, distribution, public supplier and preferential RES.

Imbalance settlement price is calculated based on the Hungarian day-ahead market price (HUPX), multiplied by correction factor defined by NRA. The BRP that is in negative imbalance ("short") is obliged to pay for the imbalance.

Albania operates at the same time as Control Area and a Control Block. OST as Albanian Transmission System Operator is obliged to provide System services for the entire control area.

Balancing mechanism and imbalance settlement practice is applied in line with the Market Rules, as amended in 2012.

Reservation of balancing capacity, FCR, FRR services and the corresponding activated energy is not market based and it is a part of Ancillary Services.

Quantity for balancing capacity is determined according to the ENTSO- E recommendations. Public Generation Company (KESH) is the only BSP in Albania, which provides services through Ancillary Service Agreement concluded with TSO. TSO is not entitled for emergency imports, which is a sole obligation of KESH. The structure of production in which a dominant role is played by the hydro units, provides a good basis for the provision of FRR and RR.

Generators, suppliers, eligible customers and DSO, except KESH, represent Balance Responsible Parties in Albanian Control Area. Balance responsible obligations are based on transmission fee contract. DSO is obliged to import electricity for covering its losses. DSO will pay for negative imbalance and positive imbalance will not be compensated.

Source: Energy Community