

New Balancing Market design

AWS

Importance of TCM for the energy market

On 14 June 2024, following a vacatio legis period, new Balancing Market rules entered into force in Poland: the Terms, Conditions and Methodologies of Electricity Balancing ["New TCM"] (in Polish: Warunki Dotyczące Bilansowania, WDB).

The new rules will significantly impact the operation of electricity market participants in Poland. This will create new business opportunities for electricity sector participants.

This applies not only to operators of the largest power plants, but also to operators of battery energy storage systems ["BESS"], wind and photovoltaic farms, and energy consumers who can control their electricity consumption.

We invite you to familiarise yourself with our summary of these important changes.

The TCM play a role in regulating the Balancing Market.

In the Balancing Market, the Transmission System Operator ["TSO"] is a party to all transactions to buy or sell energy, in order to balance the electricity supply and market demand.

Previously, this matter was regulated by the Transmission Network Code ["TNC"] (in Polish: Instrukcja Ruchu i Eksploatacji Sieci Przesyłowej, IRiESP).

Basic Information regarding the New TCM

In a decision dated 27 September 2023, the President of ERO (in Polish: Prezes Urzędu Regulacji Energetyki) partially approved a document entitled "Terms and Conditions of balancing based on: Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing, developed on 14 September 2023" ["New TCM"] (in Polish: Warunki dotyczące bilansowania. Na podstawie: Rozporządzenia Komisji (UE) 2017/2195 z dnia 23 listopada 2017 r., ustanawiającego wytyczne dotyczące bilansowania, opracowany w dniu 14 września 2023 r.).

Point 12 of the New TCM entitled "Valuation of the Operating Reserve" was approved by a decision dated 26 January 2024.

The President of the ERO decided that the new TCM will enter into force on 14 June 2024. Until that date, the existing TCM will remain in force.

By decisions of 16 May 2024 and 31 May 2024, the President of ERO amended the aforementioned decisions. The amendments mainly concern the introduction of the intraday auction (IDA) as part of market coupling, the introduction of interconnection capacity allocation on the Rzeszów-Chmielnicka interconnection, and the adjustment and clarification of the New TCM provisions.

New TCM in the nutshell

The most significant changes introduced by the New TCM are as follows:

A new structure of Balancing Market participants is created, including Balancing Responsible Parties ["BRP"] (in Polish: Podmioty Odpowiedzialne za Bilansowanie, POB) and Balancing Service Providers ["BSP"] (in Polish: Dostawcy Usług Bilansujących, DUB) Balancing Units are introduced as part of the Balancing Market, and associated changes are made to the tasks of Scheduling Units A new catalogue of balancing services is introduced, including Frequency Containment Reserve ["FCR"] and others Changes are made to the scope of commercial and technical data submissions, including the introduction of operational (work) program submissions Changes are made to planning the operations of the National Power System ["NPS"] (in Polish: Krajowy System Elektroenergetyczny, KSE)

New TCM in the nutshell

The most significant changes introduced by the New TCM are as follows:

New rules are introduced regarding participation in the European platform for exchanging balancing energy with replacement reserves and the European platform for compensating imbalances New market-based principles are introduced for acquiring balancing capacities New rules were introduced regarding valuation of the operating reserve (this part of the New TCM was approved by a decision dated 26 January 2024) New rules were introduced regarding the procedure for settling the operating reserve

Changes are made to the principles of valuing balancing energy and imbalances, including by fixing 15-minute settlement periods for balancing energy and imbalances

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Regulatory Environment for the New TCM

The functioning of the electricity Balancing Market is regulated at the European Union level by:

- Article 6 of Commission Regulation (EU) 2019/943 of 5 June 2019, on the internal market for electricity,
- Commission Regulation (EU) 2017/2195 of 23 November 2017, establishing a guideline on electricity balancing.

On 22 March 2023, the Regulation of the Minister of the Climate and the Environment on detailed conditions for operating power systems was adopted ["System Regulation"]. The provisions of the System Regulation regarding the electricity Balancing Market align this market with the assumptions defined in:

- the obligations of the Republic of Poland resulting from the decision of the European Commission SA.46100 (2017/N)
 – Poland – Planned Polish capacity mechanism,
- the Implementation Plan of the electricity market reform developed in accordance with Article 20 of Regulation 2019/943 ["Implementation Plan"], which incorporates the aforementioned European regulations.

The Implementation Plan foresees a two-stage reform of the Balancing Market, with:

- the first stage implemented on 1 January 2021,
- the second stage being implemented, among others, through the System Regulation and the New TCM.

New structure of the Balancing Market Participants

Balancing Market Participants ["BMP"] (in Polish: Uczestnik Rynku Bilansującego, URB) include:

Balancing Responsible Parties ["BRP"] (in Polish: Podmiot Odpowiedzialny za Bilansowanie Handlowe, POB) Balancing Service Providers ["BSP"] (in Polish: Dostawca Usług Bilansujących, DUB)

BRP and BSP simultaneously

The new structure of BMPs enables entities to participate in the Balancing Market as a BSP without being obliged to perform the function of a BRP.

Allowing entities to act exclusively as a BSP may encourage new entities (i.e. those previously uninterested in acting as a BRP) to actively participate on the Balancing Market.

The idea of separating BRP and BSP functions was suggested by entities interested in aggregating resources.

Balancing Responsible Party

A Balancing Responsible Party ["BRP"] (in Polish: Podmiot Odpowiedzialny za Bilansowanie Handlowe, POB) is:

- an entity that concluded a transmission service agreement with the TSO, pursuant to which it delivers electricity through the Balancing Market Area in order to ensure commercial balancing; it must settle imbalances in accordance with the New TCM;
- NEMO or its designated CCP NEMO, based on the MNA OA (agreement), pursuant to which it must settle imbalances in accordance with the New TCM.

In Poland, the BRP function is usually performed by electricity trading companies or outsourced by such companies to another entity.

Balancing Responsible Party

MNA OA is a bilateral agreement concluded between the TSO and NEMO, specifying detailed operational rules for the day-ahead market coupling or the intraday market coupling in the Polish market area in the format of multiple NEMOs, implementing the "Conditions for the allocation of cross-zonal transmission capacity and other necessary mechanisms enabling the operation of more than one NEMO in Poland", approved by the President of ERO decision dated 5 June 2017, as amended, or as modified by any later decision issued by the President of ERO in this regard.

NEMO means Nominated Electricity Market Operator; one such NEMO is the Towarowa Giełda Energii (Power Exchange).

CCP NEMO means the entity or entities tasked with entering into contracts with market participants, by novating contracts resulting from the matching process, and organising the transfer of net positions resulting from capacity allocation with other central counterparties or shipping agents, as designated by the NEMO in the MNA OA agreement.

Balancing Service Provider

A Balancing Service Provider ["BSP"] (in Polish: Dostawca Usług Bilansujących, DUB) is an entity that has entered into a transmission service agreement with the TSO, pursuant to which, using a resource or resources:

- which it owns, and in justified situations, a system user who possesses a legal title to the resource[s] other than ownership may act; or
- which it has been authorised by the owner[s] to use and dispose of insofar as this is necessary to provide balancing services.

It provides balancing services and is subject to settlement for balancing energy, balancing capacity and operating reserve, in accordance with the New TCM.

Changing object structure in the Balancing Market

The following objects are distinguished on the Balancing Market:

FRP – Physical Metering Registers (in Polish: fizyczny rejestr pomiarowy), representing the measurement of flowing electricity MB – Balancing Market Energy Delivery Points (in Polish: miejsce dostarczania energii elektrycznej rynku bilansującego)

JB – Balancing Units (in Polish: jednostka bilansująca) JG – Scheduling Units (in Polish: jednostka grafikowa)

Balancing Units

Formerly: passive Scheduling Units

A Balancing Unit is a set of Physical MB or Virtual MB (Balancing Market Energy Delivery Point) created to settle imbalances. Balancing Units belong to a BRP. Balancing Units participate passively in the Balancing Market, as they do not provide balancing services and do not actively participate in system balancing and congestion management. The following shall be carried out for Balancing Units:

- notifying the TSO of concluded energy sales agreements;
- participating in the settlement of the Balancing Market for imbalances.

Each NPS (in Polish: KSE) resource (i.e. any generation module, off-take facility, electricity storage including BESS) is represented by an MB in one Balancing Unit.

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Scheduling Units

Formerly: active Scheduling Unit

A Scheduling Unit is a set of Physical MB (Balancing Market Energy Delivery Point) designated for system users' resources, through which the BSP delivers balancing services. Scheduling Units are determined based on the principles in the New TCM, including the eligibility rules specified in Annex 2 thereof. The determination is made by an individual BSP in agreement with the TSO and the relevant DSO if Physical MB forming the Scheduling Unit represent deliveries of electricity in the distribution grid. The resource with which balancing services are provided is represented in a single Scheduling Unit.

Scheduling Units may consist of resources represented in the same or different Balancing Units.

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Scheduling Unit – active participation in Balancing Market

The Scheduling Unit participates actively in the Balancing Market, as it provides balancing services and actively participates in balancing NPS (KSE) resources. Unless otherwise specified in the New TCM, the following shall be carried out for the Scheduling Unit:

- notifying operational (work) programmes to the TSO;
- submitting offers to the TSO for the integrated scheduling process;
- participating in providing balancing services insofar as this is compatible with the nature of the Scheduling Unit and its eligibility to provide such services, including balancing generation with electricity demand in the Balancing Market area and adjusting to congestion in the system;
- providing up-to-date data on the availability maintenance and operating losses of the Scheduling Unit and on its regulation capabilities insofar as this is consistent with the type of Scheduling Unit and the Scheduling Unit's eligibility to provide balancing services;
- participating in the balancing and congestion management of the system;
- participating in the settlement of the Balancing Market in respect of balancing energy, balancing capacity and operational reserve.

Dispatching of the Scheduling Unit in the Balancing Market

Each Scheduling Unit is assigned a specific Activity Tag (in Polish: znacznik aktywności, ZAK) which determines the extent of the TSO's dispatching of the Scheduling Unit in the Balancing Market.

ZAK = 1

Scheduling Unit is subject to the instructions of the TSO in full scope of dispatching, including the change of load within the entire available power range, as a result of utilizing commercial and technical data reported for the Scheduling Unit.

ZAK = 2 and ZAK = 3

Scheduling Unit is subject to the orders of the TSO in a limited scope of dispatching, encompassing the change of load within the offered power availability range, as a result of utilising commercial and technical data reported for the Scheduling Unit.

Centrally Dispatched Generating Units (*in Polish: JWCD*) are obliged to actively participate in the Balancing Market.

They are obliged to be a resource represented in the Scheduling Unit.

Battery storage facilities on the Balancing Market

According to § 2(11) of the System Regulation, BESS are not Centrally Dispatched Generating Units (in Polish: JWCD). As such they are entitled, but not obliged, to participate in the Balancing Market.

Pursuant to § 20(4)(2) of the System Regulation, a Scheduling Unit created from:

- a generation unit other than a centrally dispatched generation unit or
- an electricity storage facility shall be subject to full or limited dispatching in accordance with the application of the BSP.

The Explanatory Memorandum of the draft System Regulation explains that, if a Scheduling Unit consists of a single generation module that is not a Centrally Dispatched Generation Unit (*in Polish: JWCD*) or a single storage unit (including BESS), the BSP may choose the scope of dispatch to which the Scheduling Unit is subject according to its business strategy and technological capabilities.

However, this does not apply to any pumpedstorage power plant connected to the coordinated 110 kV grid, which are classified as Centrally Dispatched Generation Units.

Any BESS may choose to actively participate in the Balancing Market through a Scheduling Unit with different Activity Tag values (ZAK = 1 and ZAK = 2).

Types of Scheduling Units suitable for BESS

Scheduling Units dedicated to aggregate (JG_A)

Any BESS, along with other resources, can also form part of an aggregate Scheduling Unit (JG_A) .

In this case, the limitations of the BESS arising from its capacity and state of charge must be entirely managed by the BSP. JG_A is a set of physical MB (Balancing Market delivery points) consisting of:

- Energy Generating Module, or
- BESS, or
- Controllable Consumption (in Polish: sterowany odbiór), or
- through which electricity deliveries from retail market participant's resources are represented.

The JG_A includes at least two resources of any type.

JG_A actively participates in the Balancing Market within a limited scope of dispatching.

Types of Scheduling Units suitable for BESS

Scheduling Units dedicated to electricity storage facility, including BESS (JG_M)

The New TCM envisages a Scheduling Unit of electricity storage facility, including BESS (JG_M), taking into account the storage limitations arising from its capacity and state of charge.

Scheduling Units of the BESS shall be subject to full or limited dispatching.

Both JG_{M1} and JG_{M2} consist of exactly one BESS.

BESS has the ancillary role in Scheduling Unit for wind and photovoltaic generation sources (JG_z) .

(Further information on the next slide.)

Types of Scheduling Units suitable for wind and photovoltaic generation sources (JG_Z)

JG_Z is a type of Scheduling Unit dedicated to an Energy Generating Module from wind farms or an Energy Generating Module from photovoltaic farms which may be supported by BESS. JG_z actively participates in the Balancing Market within:

- full scope of dispatching (JG_{Z1}),
- a limited scope of dispatching (JG_{Z2} or JG_{Z3}).

JG_{Z1} which have the status of a Centrally Dispatched Generating Unit (JWCD) are obliged to participate in the Balancing Market.

Types of Scheduling Units suitable for wind and photovoltaic generation sources (JG_Z)

JG_{Z1} or JG_{Z2} consist of exactly one Energy Generating Module from a wind farm, a photovoltaic farm, or an individual module of an energy park comprising a wind farm or a photovoltaic farm, which may be supported by BESS. JG_{Z3} consists of at least two resources including Energy Generating Module from wind farms, Energy Generating Module from photovoltaic farms, or Energy Generating Module consisting of individual modules of an energy park comprising a wind farm or a photovoltaic farm, which may be supported by BESS. **Energy Generating** Module from a wind farm, or a photovoltaic farm, or an individual module of an energy park comprising a wind farm or a photovoltaic farm, which may be supported by BESS, having the status of Centrally Dispatched Generating Unit (in Polish: JWCD) and not exempted according to §14(1) or §52(2) of the System Regulation, forms JG_{71} .

Energy Generating Module from wind farms or Energy Generating Module from photovoltaic farms can also become a part of an Aggregate Scheduling Unit (JG_A).

Balancing services according to the New TCM

Balancing services shall be provided by the BSP via Scheduling Units:

- in respect of which it has an up-to-date confirmation of their eligibility to provide balancing services,
- insofar as this is consistent with the parameters of the Scheduling Unit, as specified in its confirmation of eligibility to provide services and included in the transmission service agreement.

The New TCM defines balancing services in the same way as Article 2(3) of Regulation 2017/2195, namely:

- Balancing Energy →
- Balancing Capacity →
- both Balancing Energy and Balancing Capacity.

Balancing Energy – energy used by TSO to perform balancing and provided by a BSP. Each Scheduling Unit must have the capacity to supply Balancing Energy.

Balancing Capacity – a volume of reserve capacity that a BSP has agreed to maintain, and in respect of which the BSP has agreed to submit bids to the TSO for a corresponding volume of Balancing Energy for the duration of the contract.

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The New TCM's catalogue of balancing services regarding balancing capacity



The TSO acquires balancing capacities separately for up and down movements:

- Movement "up" an ability to draw energy from the system;
- Movement "down" an ability to supply energy to the system.

A BSP may participate in providing any balancing service via a Scheduling Unit which has a valid confirmation of compliance with the eligibility criteria, whether involving up or down movements.

Reductions in generation/offtake (forced change)

Forced change means the supply or receipt of balancing energy forced by the quality and reliability of NPS (*in Polish: KSE*) operation. The New TCM stipulates the prices for forced delivery ["CWD"] and the prices for forced off-take of electricity on the Balancing Market ["CWO"]:

The CWD and CWO for each JG_{W1}, JG_{W2}, JG_{Z1} and JG_{Z2} are determined for each balancing energy settlement period ["OREB"] (*in Polish: okres rozliczania energii bilansującej*) of the trading day.

The CWD and CWO for each JG_{M1} and JG_{M2} are determined for each OREB of the trading day separately for the direction of off-take and generation.

Reductions in generation/offtake (forced change)

The CWD and CWO for each of JG_{W1} , JG_{W2} , JG_{Z1} and JG_{Z2} are determined on the basis of the variable unit cost of electricity generation calculated according to the applicable formulas, which include:

- primary fuel cost,
- factor for converting the chemical energy of the fuel into net electricity,
- unit cost of CO₂ emission allowances,
- other variable generation costs, and
- amount of support (for RES installations),
 excluding the costs of commissioning JG_{W1}
 resulting from the prices.

The New TCM's provisions apply to reductions in generation/offtake for systemic reasons (forced changes) that are consistent with the transmission contract's terms regarding the non-guarantee of output or off-take.

The provisions do not apply to voluntary reductions done for balancing reasons, nor to any increased generation.

It is not justified to pay compensation for any reduction of a Scheduling Unit for systemic reasons, insofar as this complies with the transmission contract's terms regarding the non-guarantee of output.

Eligibility criteria of BSPs for balancing service

Annex 2 to the New TCM governs the eligibility criteria to be fulfilled by BSPs which provide balancing services.

The BSP eligibility-confirmation process is carried out by the TSO for the resource[s] to be formed by the TSO.

The entity representing the resource[s] submits the application if it plans to provide balancing services to the TSO using a resource[s] or is obliged to provide balancing services for a resource[s] with the status of a Centrally Dispatched Generating Unit (JWCD) and which falls outside the scope of the exemption in the System Regulation. Annex 2 sets out the steps of the eligibilityconfirmation process, the requirements for providing remote control and information exchange systems and how to verify the technical capability of a resource[s] required to form a Scheduling Unit through which the entity representing the resource, as BSP, will be able to provide balancing services with regard to:

- Balancing Energy;
- Balancing Capacity (depending on the technical capacity of the resource or resource group).

Eligibility for Balancing Capacity also requires eligibility in relation to Balancing Energy.

In the event of a change in the composition of the resource[s] constituting the Scheduling Unit, especially if the BSP loses the right to use and dispose of the resource[s] constituting the Scheduling Unit, the resource[s] constituting the Scheduling Unit shall become ineligible to provide balancing services.



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