Based on article 236 paragraph (4) indent (2), regarding article 79 paragraph (2) of the Energy Law (“Official Gazette of Republic of North Macedonia” No. 96/19), with accordance to article 19 of the Statute of AD Mepso Skopje, the Board of directors of the Electricity Transmission System Operator of Republic of North Macedonia joint stock company for electricity transmission and state-owned power system management, Skopje, and after prior approval by the Energy and Water Services Regulatory Commission of Republic of North Macedonia with Decree No. 02-2468/1 28th of June 2019, on 15th of August 2019 adopted:

**ELECTRICITY BALANCE MARKET RULES**

1. **GENERAL PROVISIONS**

**Subject matter**

**Article 1**

1. These rules for the Electricity Balance Market (here after: The Rules) govern:
2. The rights and obligations of the Balance Service Providers;
3. The procedures for the supply of balancing services;
4. The pricing methodology for the balance services, their balance calculation, invoicing and payment, which should be non-discriminatory, to reflect real costs incurred and their minimization,
5. The determination method for the activated amounts of balancing services which are settled between the balancing services providers,
6. The financial settlement, including contracts and financial guarantees required by the Service Providers concerning the settlement of balancing services,
7. The responsibilities of the Balancing Parties, including the conclusion of the Balancing Contracts,
8. The form, content and manner of managing a Balancing Service Providers Registry, and a Balancing Parties and Balancing Groups Registry,
9. The method for calculating the imbalance between the nominated and implemented transactions based on measurements done by the Electricity Transmission System Operator and the Power Distribution System Operator, and
10. The financial settlement with the Balancing Responsible Party.

**Definitions**

**Article 2**

1. The expressions used in these rules have their meaning set forth in the Energy Law.
2. Separate terms and expressions used in these Rules have the following meaning:
3. **Primary regulation (FCR - Frequency Containment Reserve)**, is the active power reserve available to contain system frequency, which is used for the regulation of the turbine speed that follows the frequency deviation from the nominal value due to the imbalance of generation and consumption in synchronized and interconnected systems.
4. **Frequency Restoration Reserve (FRR**), is a reserve of active power which includes aFRR and mFRR;
5. **Secondary regulation (aFRR)** called automatic Frequency Restoration Reserve and it means the active power reserve that can be activated by an automatic control device available to restore system frequency to the nominal frequency;
6. **Tertiary regulation (mFRR)** called manual Frequency Restoration Reserve and it means the active power reserve that can be activated by a manual control device available to restore system frequency to the nominal frequency;
7. **Active power reserve (RR)** it means the active power reserves available to restore or support the required level so FRR can be prepared for additional system imbalances, including generation reserves;
8. **Balance Group**: a group consisting of one or more electricity market participants, of which one member of the Balancing Group takes over full balance responsibility and represents a Balance Responsible Party;
9. **Balance Group Member**: is a Electricity Market Participant that has signed a balance group membership statement with one of the Balance Responsible Parties;
10. **Balancing Service Provider (BSP)**: means a Balancing Market Participant with reserve-providing units or reserve-providing groups that can provide balancing services for the needs of the TSO and has a valid Balancing Service Provider contract;
11. **Balance Responsible Party (BRP)**: is an Electricity Market Participant, or his elected representative, who assumes balance responsibility and submits daily physical schedules (nominations) for the Balance Group in accordance with their respective contractual obligations, and is responsible for the imbalances towards TSO.
12. **Balancing service provider agreement:** legal act regulating the management of balancing energy delivery and the financial imbalances settlement.
13. **Balance Responsibility Agreement:** a legal act that regulates the assumption of Balance Responsibility by BRP, the submission of BRP daily physical schedules in accordance with the daily physical schedules submission rules, as well as financial imbalance settlements and their financial security.
14. **Balance Groups formation agreement:** legal act regulating the formation of balancing groups and the changes in the balance group, as well as the rights and obligations between the members and the Electricity Market Operator.
15. **Imbalance (deviation)**: the difference between the realized and nominated daily physical schedules for each calculation interval.
16. **Final agenda**: document prepared by TSO for the overall electricity generation, internal and cross-border transactions through the power transmission system, based on daily physical schedules submitted by electricity market participants approved by the TSO.
17. **Compensation**: Calculated electricity which is a result of unwanted deviations made in a predefined period and for which the TSO is obliged to obtain / deliver from/to Electricity Transmission System Operators from the countries of continental Europe.
18. **Merit order list**: a list of balance capacity and / or balancing energy bids sorted by their offered prices, starting from the lowest price, which are then used to select the balancing capacity and / or balancing energy.
19. **Daily schedule:** document submitted to the Electricity Market Operator and TSO by the Balancing Party with a defined time schedule оf: generation, consumption and exchange of electricity, including cross-border day-to-day transactions, in accordance with the bilateral agreements between market participants,
20. **DSO:** means Distribution System Operator.
21. **EMO :** means Electricity Market Operator.
22. **PEPPT:** Preferential electricity producer with feed-in tariff.
23. **GOT:** Gate opening time. (set time for launching an auction)
24. **GCT:** Gate closure time. (set time for ending an auction)
25. **GOTV:** Gate opening time voluntary. (set time for launching an auction for voluntary bidding)
26. **GCTV:** Gate closure time voluntary. (set time for ending an auction for voluntary bidding)
27. **ISP:** Imbalance settlement period
28. **ERC:** Energy and Water Services Regulatory Commission
29. **RIGHTS AND OBLIGATIONS OF BALANCING SERVICE PROVIDERS**
	1. **Roles and responsibilities**

**The role of TSO in the Balance Energy Market**

**Article 3**

1. In order to ensure operational reliability, maintenance of frequency and voltage stability of the system, taking into account all planned blackouts and interruptions due to malfunctions, TSO procures balancing services from BSPs.
2. TSO organises:
3. signing a contract with Balance Service Providers,
4. procuring balancing services from Balancing Service Providers,
5. collecting bids for procurement of balancing capacity,
6. collecting bids for balancing energy,
7. making a merit order list for procurement of balancing capacity and balancing energy for aFRR and mFRR,
8. establishing and maintaining a Balancing Service Providers Registry ,
9. calculating activated and delivered balancing energy from the BSPs balance units.

**The role of Balancing Service Providers**

**Article 4**

1. The BSP may participate in the Balancing Energy Market after successfully completing the qualification process.
2. The BSP may submit an offer to TSO for standard or specific balancing capacity and / or balancing energy products for which they are qualified.
	1. **BSP qualification and registration procedure**

**Description of the system balancing process**

**Article 5**

1. The purpose of the balancing process is to maintain a balance in the system between generation and consumption (demand). Frequency deviation from the nominal frequency stems from the imbalance between generation and demand. In the balancing process, TSO can use the following three types of balancing capacity: FCR, aFRR and mFRR.
2. Management is performed with the following successive steps:
3. FCR launches in a time period measured in seconds as a joint response of all activated balance units which have the opportunity for FCR.
4. aFRR replaces FCR for a few minutes and is triggered by the TSO by activating the appropriate amount of aFRR secured by the BSP involved in the aFRR process.
5. mFRR partially addends and replaces the aFRR with redistribution of electricity generation and is manually operated by TSO in cases of failure of large generating units or in case of system failure that lasts for a longer time period.
6. In addition to the above three types of regulation FCR, aFFR, and mFRR, TSO may also implement an independent RR triggering process that makes the active power reserves available for recovery or support for the required level of

FRR available in the event of further system deviation, including the power generation reserves.

1. Тhe whole management process conducted by TSO is shown in Picture 1:



Picture 1: Management process conducted by TSO

1. TSO determines the quantities of operating reserves according to the methodology defined in the Transmission Grid Code (hereinafter Grid Code) in cooperation with ENTSO-E, and provides them in a public and transparent manner.

**Balancing Service Provider Registration Request**

**Article 6**

1. The BSP registration procedure begins with the request submission to TSO.
2. The BSP registration application that TSO publishes on its website contains:
3. Information on the contract for participation in the electricity market concluded with EMO (contract number)
4. Name, address, contact details and EIC code,
5. Names and data of all authorized persons representing the applicant during the implementation of the registration procedure in the Balance Energy Market,
6. А list of all balancing units that meet the criteria for providing a proper balancing service with which the applicant intends to participate in the Balancing Energy Market,
7. Application form for the balancing units.

**Application form for the balancing units**

**Article 7**

1. TSO prepares and publishes the Dynamic Parameters Submission Form of BSP’s balance units (DPSF) on its website, and it should contain at least the following:
2. Type of generation unit and brief description (model, constraints, etc.),
3. Rated power expressed in MW,
4. Permissible overload expressed in MW,
5. Minimum level of variable load expressed in MW,
6. Normal and critical speed of output power increasement expressed in MW/min,
7. Normal and critical reduction speed of output power expressed in MW/min,
8. Minimum time for shutdown from full load conditions, expressed in minutes,
9. The minimum time required for re-release from a cold and hot state expressed in minutes,
10. Available capacity for а primary reserve,
11. Available capacity for а maximum and minimum secondary reserve,
12. Available capacity for а tertiary reserve,
13. Availability for a startup in a powerless state (black-start).
14. For consumers in the role of a balanced unit, the ODP form shall in particular contain:
15. Peak power expressed in MW,
16. Points of connection,
17. Minimum level of variable load expressed in MW,
18. Maximum level of variable load expressed in MW,
19. Normal and critical speed of output power increasement expressed in MW/min,
20. Normal and critical reduction speed of output power expressed in MW/min,
21. The maximum level of load which can be interrupted expressed in MW,
22. The maximum duration of the interruption expressed in minutes.

**Acquiring the status of balancing service provider**

**Article 8**

1. The potential BSP submits the completed Balancing Service Provider Registration Agreement Application to the TSO, together with the information required for its potential balancing units.
2. Within 8 days of the Form submission, TSO confirms the submitted Application is completed.
3. If the TSO determines that the Application is incomplete, it notifies the potential BSP within 7 days of the Application submission and sets a time limit of 30 days for the Application to be completed.
4. If the applicant fails to further regulate the required documentation within the time limit set in paragraph (3) of this Article, the request shall be deemed withdrawn.
5. After the TSO confirms that the Application is complete, it conducts the necessary tests within 3 months of the Application submission and decides whether the potential BSP meets the qualification criteria.
6. If the applicant meets the qualification criteria, TSO signs a Balancing Service Provider contract in four copies and submits it to the applicant.
7. The applicant signs the contract referred to in paragraph 6 of this Article within 10 days after receiving the contract and submits two copies of the signed contract to TSO.
8. If the applicant fails to submit a signed contract within the time limit referred to in paragraph 6 of this Article, TSO considers the request is withdrawn.
9. Upon admission of the Balancing Agreement, TSO registers the electricity market participant in the Balancing Service Providers Registry as a participant in
10. the Balancing Energy Market, thereby acquiring the right to participate in the Balancing Energy Market as a Balancing Service Provider.
11. The guarantee should be irrevocable, unconditional and payable on the first written call.
12. TSO has the right to request re-testing of BSP balance units for FCR, aFRR or mFRR:
13. At least once every 5 years,
14. In the event of a change in the technical requirements or equipment availability requirements,
15. In case of upgrading the activation equipment of FCR, aFRR or mFRR,
16. In case it does not meet the technical requirements referred to in Article7.

**The Balance Service Providers Registry**

**Article 9**

The Balance Service Providers Registry is an electronic data registry in which the following data is being kept:

1. The name of the legal entity,
2. The Balancing Responsible Party, to which BSP belongs to,
3. BRP EIC code,
4. Registry entry date,
5. The type of reserve,
6. List of the participating units.

**Providing balance capacity and balance energy**

**Article 10**

1. The BSP acquires the right to participate in auctions, respectively has the right to submit bids for balance capacity and balance energy within the capacity of its balancing units by fulfilling the conditions defined in the aFRR and mFRR Procurement Rules.
2. TSO secures the Balancing Services in a transparent and non-discriminatory manner by performing public auctions for capacity and energy for aFRR and mFRR, whereby at least the following information shall be defined in advance:
3. Type of auction
4. Performing type of auction
5. Product characteristics
6. TSO organizes and conducts auction for Balance Capacity and Balance Energy and announces the results of the auction on а internet based platform (hereinafter referred to as Platform).

**Suspending a Balancing Market Participant as a Balancing Service Provider**

**Article 11**

1. For submitting inaccurate data or repeated irregularities in relation to already submitted data on dynamic parameters, the TSO has the right to suspend the Balancing Market Participant.
2. The decision on suspension shall contain the reasons for its adoption. The duration of the suspension cannot be longer than six months.
3. TSO shall be obliged to submit a warning before the suspension, stating the reasons for it before issuing a decision on suspending the balancing market participant.
4. The warning prior to the suspension shall contain a time period not shorter than 3 days and no longer than 30 days, in which the Balancing Market Participant shall be obliged to eliminate the reasons for which the warning from TSO was submitted.
5. If the market participant within the period referred to in paragraph 4 of this Article proves that it has eliminated the reasons for which the warning has been submitted, the TSO shall make a decision to withdraw the warning before a suspension, which then submits to the Balanced Energy Market Participant and publishes it on its website.
6. If, during the period specified in the notice prior to the suspension, the Balancing Market Participant does not eliminate the reasons for the submitted suspension, TSO makes the decision to suspend the Balancing Market Participant.
7. TSO publishes the decision for suspension, ie warning before suspension, on its website and submits it to the Balancing Market Participant. The decision is posted on TSO's website until the suspension is terminated or the pre-suspension warning is withdrawn.
8. Against the TSO's decision on suspension, the suspended Balancing Market Participant may file a complaint with ERC within 15 days of receipt of the Decision. The complaint does not delay the decision.
9. In case of losing the right to participate in the Electricity Market, the Balancing Service Provider ceases to participate in the Balancing Market.
	1. **Internet based platform (Platform)**

**Internet based platform**

**Article 12**

1. TSO procures aFRR and mFRR balancing capacity and energy via internet-based platform.
2. BSPs submits aFRR and mFRR balancing capacity and energy bids on a platform managed by TSO or a third party selected by TSO.
3. TSO determines electronic platform specifications, platform operating rules, communication protocols, and other technical features of the platform and publishes this information on its website.
4. TSO procures all aFRR and mFRR balance capacity and energy through the platform. In exceptional cases of technical problems, TSO collects bids by other means of communication, for example email, in accordance with the aFRR and mFRR Procurement Rules.
5. The TSO informs all registered BSPs in a timely manner of such exceptional situations together with the reasons, by email and by posting information on its website.
	1. **Balancing energy in the frequency maintenance process (FCR)**

**Obligation to procure FCR**

**Article 13**

1. The technical characteristics of the FCR and the operational requirements that must be met by the producers participating in the FCR, are defined in the Grid Rules.
2. As defined in the Grid Code all hydro and thermal generation units must be equipped with turbine regulator for automatic speed regulation and capable of securing power for primary regulation. The TSO can release or exempt the individual generation unit from its obligation of securing FCR in accordance with the generator technology and primary fuel type.
3. All hydro generation units, with installed capacity higher than 10 MW and all thermal generation units with installed capacity higher than 30 MW must take part in securing FCR. Other hydro and thermal units (for hydro units with installed capacity of less or equal to 10 MW and for thermal units with installed capacity of less or equal to 30 MW) are bound for automatic regulation activation if required by TSO.
4. In case when the TSO does not have access to enough FCR capacity, it informs the Energy Regulatory Commission.
	* 1. **Activation of Balancing Energy from FCR**

**Activation of FCR**

**Article 14**

1. The FCR is activated automatically by the production unit in accordance with the technical instructions specified in the Grid Code.
2. The BSP should provide the TSO with information on each of its FCR balance units whether FCR is on or off.

**Financial settlement of activated FCR balancing capacity and balancing energy**

**Article 15**

The balancing capacity and balancing energy from FCR units are not the subject of financial settlement between the BSP and the TSO.

* 1. **Frequency restoration process with automatic activation (aFRR)**

**Procurement of aFRR**

**Article 16**

1. The TSO procures the required quantity of aFRR from the BSP using the market base principles through implementation of auctions in accordance with these Rules.
2. The procurement of aFRR is divided into the procurement of aFRR balancing capacity and aFRR balancing energy.
3. The TSO preforms auctions for the aFRR balancing capacity in different timeframes.
4. The TSO preforms auctions for the aFRR balancing energy.
5. The BSP that participates at the auction for aFRR balancing capacity is obliged to enter the bids for the aFRR balancing energy within the offered aFRR balancing capacity.
6. The BSP enters separate bids for each direction of the aFRR balancing capacity and aFRR balancing energy.

**aFRR Procurement Rules**

**Article 17**

1. TSO will conduct auctions for the purchase of aFRR balance capacity and balance energy for the following year, until December 31 of the current year, in accordance with the aFRR Procurement Rules from the balancing units which should include at least the following:
2. Technical details of activation, duration and method of activation,
3. Standard auction products,
4. Dates and times of the auctions,
5. Bidding,
6. Time table for calculations and financial settlement,
7. Complaints,
8. Results announcement.
9. TSO adopts aFRR Procurement Rules for the following year and publishes them on its website by October 31st of the current year at the latest.
	* 1. **Standard products (capacity, energy)**

**Standard product definition of balancing capacity for aFRR**

**Article 18**

1. The available capacity for aFRR represents the difference between the generator’s operating point determined by the final daily physical schedule (base power of the balance unit) and the positive part of the scope of regulation.
2. The scope of regulation is the zone in which the AGC (Automatic Generation Control) operates automatically in both directions (up and down regulation).
3. The scope of balancing unit regulation is secured by setting the lower and upper limits by the operators in the Balance Service Provider’s power plants.
4. Standard product for the aFRR balancing capacity is a product with band values (the same value in all hours of the day) identical value in both directions.
5. The BSP may enter bids for one or more balancing units.

**Standard product definition of balancing energy from aFRR**

**Article 19**

1. The product for the balancing energy from aFRR is a hourly product, and they are different for each direction and period.
2. The Balancing Service Provider may not link bids on a technical or economic level which would link different balance units bids for different time periods which would be interdepend.
3. The activated balancing energy from aFRR is financially settled using the pay-as-bid method.
4. The BSP may enter unlimited number of bids for the required balance energy from aFRR.

**Data on the functioning of the aFRR**

**Article 20**

1. The detailed technical specifications for metering are defined in the MEPSO Grid Code.
2. For the balancing mechanism to function, the BSP provides dispatching data to TSO’s balance units through a communication link between the BSP’s SCADA system and TSO’s SCADA system.
3. The BSP shall submit to the TSO a schedule for dispatching balancing units to be involved in the balancing process of the power system using aFRR for D Day, on day D-1.
4. The BSP may change the balance dispatch schedule involved in the power system balancing process using aFRR for day D by submitting a new balance dispatch schedule at least one hour prior to the start of the change hour.
5. For financial settlement, TSO provides data on activation and realisation of activated balancing energy from aFRR and submits it to the BSPs.
	* 1. **Procurement of aFRR balance capacity**

**aFRR balance capacity auctions**

**Article 21**

1. TSO conducts annual auctions for each month separately, at least 30 days before the first delivery day of the monthly product.
2. The Product of balancing capacity is a monthly product with the same amount for all hours in the month.
3. If required, TSO may decide to introduce additional monthly or weekly auctions, for which it must announce the decision at least four months in advance.
4. The TSO may set different or additional time periods for carrying out the auctions.
5. The BSP may submit balance capacity bids that do not in total exceed the amount of the qualified aFRR balancing capacity of the balancing units at any time.

**Selection of bids for aFRR balance capacity**

**Article 22**

1. TSO selects the bids for aFRR balance capacity by the criterion of the cheapest bid.
2. TSO informs the BSPs about the auction results through the platform.
3. The participating BSPs may submit a complaint about the results in accordance with the aFRR Procurement Rules.
	* 1. **Bidding for aFRR balance energy**

**General requirements**

**Article 23**

The BSPs that are selected to provide aFRR balance capacity are obliged to bid for the balance energy price оn the platform for the agreed leased capacity.

**Time period for submitting aFRR balance energy bids**

**Article 24**

1. The chosen BSPs with an agreed leased capacity, submit the mandatory bids for the aFRR balancing energy to the auction platform in the time window between the GOT and the GTC.
2. The BSPs may submit aFRR balancing energy bids to the auction platform in the time window between the start of the bidding (hereinafter referred to as GCTV), and the time of completion of the bidding (hereinafter referred to as GCTV) determined by TSO.
3. The opportunity and manner of bidding for aFRR balancing energy are set out in the aFRR Procurement Rules.
4. In order for a bid to be valid, the BSP must submit bids for any defined imbalance settlement period.
	* 1. **Ordering and activation of aFRR balance energy bids**

**Merit order list**

**Article 25**

1. The bids in the merit order list are sorted by order, the bids with the lowest price first until the required amount of balance energy is procured to the amount of aFRR balance capacity purchased.
2. Acceptance of bids for aFRR balance energy shall be based on a merit order list with the following characteristics:
3. Up and down regulation balancing energy bids shall be separated in different merit order lists,
4. Depending on the requirement for standard balancing energy products, the TSO may create more common merit order lists.
5. In case of more than one bid with the same price, the first submitted bid shall be ordered .

**Activation of aFRR**

**Article 26**

1. The aFRR is activated automatically over TSO’s SCADA system which sends a signal to the BSP’s balancing units that are successfully engaged in the ACG, for the activation of the required balancing energy.
2. The TSO is obliged to activate aFRR balancing energy only from the generation units included in the balancing units dispatching schedule submitted by the BSP.
3. In the event of technical difficulties as a result of the inability to realize the activation of balance energy, the BSP sends a notification and a new dispatching balance units schedule with available balance units to the TSO, one hour before the activation of the balancing unit.
	* 1. **Calculation of activated aFRR balance energy**

**Calculation of the activated aFRR balance energy amount**

**Article 27**

1. The calculation of the activated aFRR balancing energy is done for each hour separately.
2. The calculation of the activated aFRR balancing energy is done using the following formula:

$$E\_{sb\_{i,t}}=\left(E\_{sbm\_{i,t}}-E\_{sbazna\_{i,t}}\right)$$

Where:

$E\_{sb\_{i,t}}$ - Activated energy from aFRR for balancing unit (i) for the time interval (t), (MWh)

$E\_{sbm\_{i,t}} $ - Electricity measured for the balancing unit (i) for the time interval (t), (MWh)

$E\_{sbazna\_{i,t}}$ - Base power of the balance unit (i) for the time interval (t), (MWh)

1. The total activated balance energy by using aFRR for the time interval (t) is calculated by the following formula:

$$ E\_{sr\_{t}}=\sum\_{i=0}^{i=n}E\_{sb\_{i,t}}$$

If $E\_{sr\_{t}}$ > 0, activated balancing energy by using aFRR for the time interval (t) is for up regulation;

If$ E\_{sr\_{t}}$ < 0,activated balancing energy by using aFRR for the time interval (t) is for down regulation.

n - number of balance units engaged in time interval regulation (t)

1. BSPs balance units are considered to be operating correctly in aFRR if they operated continuously for at least 45 minutes at the appropriate hour.
	* 1. **Financial settlement of aFRR**

**Financial settlement of procured balancing capacity**

**Article 28**

1. The TSO carries out the financial settlement of procured aFRR balancing capacity by BSP, based on prices data obtained from the aFRR capacity auctions.
2. The settlement period is one calendar month.
3. TSO sends a Financial Settlement Report on the procurement of aFRR within five business days from the first business day of the month following the month to which the calculation relates.
4. Based on the report referred to in paragraph 3 of this Article, the BSP shall send an invoice within eight business days of the report.
5. The due date is eight business days from the invoice date of issue.

**Financial settlement of activated balance energy**

**Article 29**

1. The TSO carries out the financial settlement of procured aFRR balancing energy, based on amount data of activated aFRR balance and prices data obtained from the aFRR energy auctions.
2. For the financial settlement of activated aFRR balance energy the prices provided by BSPs are used as they are listed in the merit order list, in the order from lowest to highest price.
3. The settlement period is one calendar month.
4. TSO sends a Financial Settlement Report on the procurement of aFRR within five business days from the first business day of the month following the month to which the calculation relates.
5. The BSP has the right to file a complaint about the report and must send it no later than two business days after the report was sent. TSO examines the complaint, prepares and sends the final settlement report no later than one business day after receiving the complaint and it becomes final for the financial settlement.
6. If the BSP is not satisfied with the final report, it can initiate an ERC procedure but this does not delay the obligation of paying the invoice.
7. TSO sends the activated balance energy invoice for regulation back to the BSP 12 business days after the end of the month in question.
8. The BSP sends the activated balance energy invoice for regulation back to the TSO 12 business days after the end of the month in question.
9. The invoice expiry date is eight business days from the invoice date of issue.

**Consequences of failure to comply with conditions**

**Article 30**

1. If the BSP fails to fully procure the purchased aFRR balance capacity, the unprocured capacity (the difference between the purchased and procured capacity) will not be paid.
2. The unprocured capacity in the time interval is the basis for calculating the cost of the unprocured aFRR balancing energy and is calculated with the following formula:

$$S\_{износ}=W\_{необезбеден капацитет}\*t\*P\_{износ за пенализација}$$

$$P\_{износ за пенализација}= 2\*SaFRR$$

Where:

S износ - amount that BSP pays to TSO

S aFRR - average price for balancing energy for that month

t – time interval

* 1. **Frequency restoration process with manual activation (mFRR)**

**General Principles**

**Article 31**

1. TSO procures the required amount of mFRR from the BSP using the market base principles through implementation of the auctions in accordance with these Rules.
2. The procurement of mFRR is divided into the procurement of mFRR balancing capacity and mFRR balancing energy.
3. The bids for mFRR balancing capacity or mFRR balancing energy can only be entered by the BSP that is qualified to offer mFRR balancing capacity or mFRR balancing energy.
4. The TSO conducts mFRR balancing capacity auctions in different timeframes.
5. The TSO conducts mFRR balancing energy auctions in different timeframes.
6. The BSP that participates at the mFRR balancing capacity auction is obliged to enter the bids for the mFRR balancing energy with the same amount of offered mFRR balancing capacity.
7. The BSP enters separate bids for each direction of mFRR balancing capacity and mFRR balancing energy.

**mFRR procurement rules**

**Article 32**

1. TSO will conduct mFRR balance capacity and balance energy auctions for the following year until December 31st of the current year, in accordance with the mFRR balance units Procurement Rules which should contain at least the following:
2. Standard products of the auctions,
3. The dates and time of the auctions,
4. Bid submission,
5. Technical details of activation, duration and method of activation,
6. The timetable of the calculation and financial settlement,
7. Complaints and publishing of the results.
8. TSO adopts mFRR Procurement Rules for the following year and publishes them on its website no later than October 31st in the current year.
	* 1. **Standard products (capacity, energy)**

**Standard product definition of mFRR balancing capacity**

**Article 33**

1. The standard product for the mFRR balancing capacity is a monthly product with band values (the same amount of power at all hours of the day) in each direction separately.
2. The BSP may enter bids for one or more balancing units.

**Standard product definition of mFRR balancing energy**

**Article 34**

1. The standard product for the mFRR balancing energy is an hourly product which is different for each direction and each period.
2. The BSP must not link bids at a technical or economic level that may link different bids from the balance units it manages for different interdependent time periods.
3. The activated balancing energy from mFRR is financially settled using the method pay-as-bid.
4. The BSP may enter unlimited number of bids for the required balancing energy for mFRR.
5. Minimum balance capacity is 5 MW for up regulation and / or down regulation.

**Simultaneous provision of other balancing services**

**Article 35**

1. The BSP cannot simultaneously procure aFRR and mFRR from the same balance unit.

**Required data for mFRR operation**

**Article 36**

1. The detailed technical specifications for measuring the activated balance energy are set out in the Grid Code.
2. Due to the functioning of the balancing mechanism, the BSP provides data for dispatching the TSO balance units through a communication link between the BSP's SCADA system and the TSO's SCADA system.
3. The BSP shall submit a dispatching balancing units schedule to the TSO which will be included in the power system balancing process using mFRR for D day, in the day D-1.
4. The BSP may change the dispatching schedule for the balancing units involved in the power system balancing process using mFRR for D day, by submitting a new dispatching schedule for the balancing units at least one hour before the start of the hour to which the change relates.
5. For financial settlement TSO provides data on activation and realisation of activated balancing energy from mFRR and submits it to BSPs.
	* 1. **Procurement of mFRR balance capacity**

**Auctions for balancing capacity for mFRR**

**Article 37**

1. TSO conducts monthly auctions for every month at least 15 calendar days before the first delivery day of the monthly product.
2. If needed the TSO may decide to introduce additional yearly or weekly auctions, for which it must publish the decision no later than 4 months in advance.
3. The TSO may define different or additional time periods for conducting the auctions.
4. The BSP may submit balance capacity bids that do not in total exceed the amount of the qualified mFRR balancing capacity of the balancing units at any time.

**Bid selection for mFRR balance capacity**

**Article 38**

1. TSO selects the bids for mFRR balance capacity by cheapest bid criterion.
2. TSO informs the BSPs about the auction results through the platform.
3. BSPs who participated in the auction may object to the results in accordance with the mFRR Procurement Rules.
	* 1. **Collection of bids for mFRR balance energy**

**General requirements**

**Article 39**

BSP's that are selected to provide mFRR balancing power are obliged to bid for balancing energy on the platform for the agreed leased capacity.

**Time period for submitting mFRR balance energy bids**

**Article 40**

1. The selected BSPs have an agreed leased capacity and they submit the bids for mFRR balance energy to the platform between the GOT and GCT determined by the TSO.
2. BSPs may submit mFRR balancing energy bids on the auction platform in the time period between the time the bidding starts (hereinafter referred to as GOTV), and the time the bidding ends (hereinafter referred to as GCTV) as determined by TSO.
3. The opportunity and manner of bidding for mFRR balancing energy is determined in the mFRR Procurement Rules.
4. In order for a bid to be valid, the BSP must submit bids for each defined period of imbalance settlement.
	* 1. **Sorting and activating mFRR balance energy bids**

**Merit order list**

**Article 41**

1. The bids in the merit order list are sorted by order, first the lowest bids, until the required amount of balancing energy in the amount of the purchased mFRR balance capacity has been obtained.
2. Acceptance of the balancing energy bids from mFRR will happen after the biddings with the following features are sorted in the merit order list:
3. Up and down balancing energy bids shall be separated in different merit order lists;
4. Depending on the requirement for balancing energy standard products, the TSO may create more merit order lists.
5. In case of more than one bid with the same price, the first submitted bid shall be taken into account.

**Activation of mFRR**

**Article 42**

1. The mFRR bids are activated manually by the TSO by submitting a request to the BSP with all the relevant data for their activation.
2. The shape of the balance energy standard product is defined with the following standard bid features also shown on Picture 2:
3. (a) Preparation period;
4. (b) Ramping period;
5. ( c ) Full activation time;
6. (d) Minimum and maximum amount;
7. (e) Deactivation period
8. (f) minimum and maximum duration of Delivery period;
9. (g) Validity period; and
10. (h) Activation mode



Picture 2: The process of management actions performed by the TSO

**Activation backup procedure**

**Article 43**

1. In exceptional cases defined in the mFRR Procurement Rules, TSO can activate bids for mFRR balancing energy by other means of communication, and the BSPs will follow TSO’s instructions.
	* 1. **Calculation of activated mFRR balancing energy**

**Calculation of activated mFRR balancing energy amount**

**Article 44**

1. The total balance energy is calculated based on the data amount of the activated balance energy, activation start time and activation end time.

Picture 3: The volume of activated mFRR balancing energy (blue colored rectangle)

1. If the activation of the balancing energy includes more than one ISP, the activation is divided into more ISPs. Each activation period has a certain balancing energy price that is defined by the BSP in its bid.
2. The amount of the activated mFRR balancing energy is calculated using the following formula:

$mFRR\_{a}=\frac{P\_{d}}{t\_{h}}$($t\_{e}-t\_{s}$)

Where:

mFRRa – activated balancing energy

Pd – TSO’s demand

th – 60min (hourly products)

ts – activation starting time

te – activation ending time

* + 1. **Financial settlement of mFRR**

**Financial settlement of procured mFRR balancing capacity**

**Article 45**

1. The TSO carries out the financial settlement of procured (reserved) mFRR balancing capacity based on the data of the real procured capacity and the prices of the mFRR capacity auctions.
2. The financial settlement period is one calendar month.
3. The TSO sends a settlement report for the financial settlement of mFRR procurement five (5) business days after the end of the calendar month.
4. Based on the report referred to in paragraph 3 of this Article, the TSO sends the invoice eight (8) business days after the end of the calendar month.
5. The due date is eight (8) business days from the date of issue of the invoice.

**Financial settlement of activated mFRR balancing energy**

**Article 46**

1. The TSO carries out the financial settlement only for the activated mFRR balancing energy based on the amount data of the calculated activated mFRR balancing energy and auction prices for the mFRR balancing energy.
2. For the financial settlement of the activated mFRR balancing energy the prices set by the BSPs are used as sorted in the merit order list, respectively from the lowest to the highest price.
3. The financial settlement period is one calendar month.
4. The TSO sends a report of the calculated activated mFRR balance energy for а financial settlement, seven (7) business days after the end of the month in question.
5. The BSP has the right to file a complaint about the report and has to send the complaint no later than two (2) business days after the TSO sends the settlement report. The TSO reviews the complaint, prepares and sends the final settlement report no later than one (1) business day after receiving the complaint, and it becomes final for financial settlement.
6. If the BSP is not satisfied with the final report, it can initiate an ERC procedure but this will not delay the payment of the invoice.
7. TSO sends the activated balance energy invoice to be regulated down to BSP, twelve (12) business days after the end of the referred calendar month.
8. BSP sends the activated balance energy invoice to be regulated back to BSP, twelve (12) business days after the end of the referred calendar month.
9. The settlement’s due date is eight (8) business days from the date of issue of the invoice.

**Consequences of failure to comply with the given conditions**

**Article 47**

1. If the BSP fails to fully procure the purchased mFRR balance capacity, the unprocured capacity (the difference between the purchased and procured capacity) will not be paid.
2. The unprocured capacity in the time interval is the basis for calculating the cost of the unprocured mFRR balancing energy which is calculated with the following formula:

$$S\_{износ}=W\_{необезбеден капацитет}\*t\*P\_{износ за пенализација}$$

$$P\_{износ за пенализација}= 2\*SmFRR $$

Where:

S износ – the amount that BSP pays TSO

SmFRR – the average price of the balancing energy for the referred month

t – time interval

* 1. **Balancing energy for replacement reserve (RR)**

**General provisions**

**Article 48**

1. The TSO has the right to conduct additional activities to free the aFRR and mFRR capacities for their reuse. For this purpose, TSO concludes bilateral agreements for purchasing/buying or selling of RR balanced energy.
2. The TSO uses a market-oriented method of procuring RR balance energy by public bidding or inviting all interested BSPs or Electricity Market Participants who have the opportunity to participate in the RR balance market.
3. TSO adopts the RR Procurement Rules and publishes them on its website.
4. **FINANCIAL GUARANTIES**
	1. **Procurement of aFRR and mFRR balancing capacity by public call**

**Bid Security**

**Article 49**

1. As part of the bid, the bidders are obliged to provide a Bid Security by 3% of the total in amount of the bid, excluding VAT, valid for not less than 14 days from the bid’s expiration day.
2. The Bid Security can be in a form of a Bank Security, issued by a reputable bank chosen by the bidder and accepted by TSO, or deposited funds.
3. Тhe Bid Security should be submitted together with the Bid in original form, or with a proof of deposited funds.
4. TSO will charge the Bid Security if the bidder:
5. withdraws its offer before the expiration date of the Bid
6. does not sign the procurement contract, or
7. does not provide Contract Execution Security.
8. The Bid Security shall be returned to the bidders who are not selected as the most favorable bidder after signing the contract and when they submit a contract execution guarantee.
9. The Bid Security shall be returned to the most favorable bidder upon signing the contract and submitting an Execution Security.

**Performance Security**

**Article 50**

1. After signing the contract for procurement of aFRR and mFRR balance capacity by the two contracting parties, within five (5) business days from the day of signing the contract, the bidder is obliged to submit to TSO a Performance Security. The bidder, whose bid is selected as the most favorable, shall provide a Performance Security in the amount of 10% of the highest monthly value of the contracted aFRR or mFRR balancing capacity valid up to ten (10) days after the end of the last month in which it has procured aFRR or mFRR capacity. The Performance Bid can be in the form of a Bank Security, issued by a reputable bank chosen by the bidder and accepted by TSO, or as deposited funds.
2. The Performance Security should be irrevocable, unconditional and payable on the first demand.
	1. **Procurement of balancing capacity and balancing energy on a web based platform**

**Procurement of aFRR balance capacity and balance energy**

**Article 51**

1. Any Balancing Service Provider added in the Balance Service Provider Registry, which participated in the annual auction, bidding for each month separately and whose bid for aFRR balancing capacity and balancing energy was selected as the most favorable, is obliged to issue a financial services performance guarantee no later than 5 (five) days after the end of the aFRR balance capacity auction at an amount of 10% of the value of the agreed аFRR balance capacity with a validity of seven (7) days after the end of the last month in which there is а Contract for procurement of aFRR balancing capacity.
2. The financial guarantee can be in а form of a bank guarantee, issued by a reputable bank chosen by the bidder and accepted by TSO, or as deposited funds.

**Procurement of mFRR balance capacity and balance energy**

**Article 52**

1. Any Balancing Service Provider added in the Balance Service Provider Registry, which participated in the monthly auction for mFRR balance capacity and balance energy procurement, and whose bid was selected as the most favorable, is obliged to issue a financial services performance guarantee no later than five (5) days after the end of the monthly mFRR balance capacity auction at an amount of 10% of the value of the agreed mFRR balance capacity with a validity of seven (7) days after the end of the current month.
2. The financial guarantee can be in а form of a bank guarantee, issued by a reputable bank chosen by the bidder and accepted by TSO, or as deposited funds.

**Compensation for unwanted deviations**

**Article 53**

1. TSO procures or delivers quantities of electric energy deriving from the compensation unwanted deviations process in a public and transparent manner.
2. TSO prepares the Rules for procurement and delivery of electric energy as a compensation for unwanted deviations and publishes them on its website.
3. Costs, ie revenues from the procurement or delivery of electric energy as a compensation for unwanted deviations are submitted to the ERC in setting the electricity transmission tariff procedure.
4. **TERMS AND CONDITIONS FOR BALANCING RESPONSIBLE PARTIES AND BALANCING GROUPS**
	1. **Obligations and responsibilities**

**TSO’s obligations**

**Article 54**

1. The TSO concludes an Agreement on balance responsibility with the entity that intends to become a market participant and a BRP, which also includes the provisions for financial settlement.
2. TSO, informs EMO of any changes to the BRP and Balance Groups Registry within three (3) business days.

**BRP and Balance Groups Registry**

**Article 55**

1. TSO establishes and maintains a BRP and Balance Groups Registry.
2. The BRP and Balance Groups Registry is an electronic data registry in which the following data is being kept:
3. BRP

2) BRP EIC code

3) Names of the balance group members

1. EIC codes of the balance group members
2. Registry entry date
3. Registry exit date
4. TSO publishes the Registry on its website.
5. TSO regularly updates the Registry with all data.
	* 1. **Procedure for registering Balancing Responsible Parties**

**BRP status application**

**Article 56**

1. Any electric energy supplier, as well as any consumer entitled to participate in the electricity market independently, may submit a written request for BRP status to TSO.
2. The applicant referred to in paragraph 1 of this Article shall submit, in original or a notarized copy of the original, the following documents:
3. Company register issued by the Central registry of the Republic of North Macedonia, not older than three months.
4. License for carrying out energy activities or a decision to enter the registry of foreign traders and electricity suppliers, unless the application is submitted by a consumer who has the right to independently participate in the electricity market.
5. TSO prepares the BRP Status Application and publishes it on its website after prior approval by ERC.
6. If the TSO determines that the application referred to in paragraph 1 of this Article is not complete, it shall notify the applicant within five (5) days of the application submission date and shall set a deadline of fifteen (15) days for the applicant to further regulate the required documentation in accordance with paragraph 2 of this Article.
7. If the applicant fails to further regulate the required documentation within the deadline determined in paragraph 2 of this Article, TSO shall issue a decision to reject the request.
8. The applicant may submit a complaint to the ERC within fifteen (15) days after receiving the receipt referred to in paragraph 3 of this Article.

**Balance Responsibility Agreement**

**Article 57**

1. If the TSO determines that the application referred to in paragraph 1 of Article 56 is completed within five (5) business days of the date of its submission, it shall notify the applicant that the requirements are met and shall submit a signed Balance Responsibility Agreement in four copies.
2. The applicant needs to sign the contract referred to in paragraph 1 of this Article within seven (7) days after receiving the contract, and submit two copies of it to TSO.
3. If the applicant fails to submit a signed contract within the time limit referred to in paragraph 2 of this Article, TSO considers that the request has been withdrawn.
4. Within seven (7) business days after signing the contract referred to in paragraph 2 of this Article, BRP shall submit the necessary financial guarantees to TSO.
5. TSO prepares the template of the Balance Responsibility Agreement and publishes it on its website.

**Entry in the BRP and Balance Group Registry**

**Article 58**

1. After meeting the requirements referred to in paragraph 4 of Article 57, TSO shall immediately enter the BRP into the BRP and Balance Groups Registry.
2. By registering in the BRP and Balance Groups Registry, BRP submits a market participation application in accordance with the Electricity Market Rules.
3. From the time of entry of BRP into the BRP and Balance Groups Registry until the notice by EMO to TSO that it has been entered in the Market Participants Registry, BRP’s status in the BRP and Balance Group Registry is considered inactive.
4. BRP is active, ie it can submit nominations, once it is registered in the Market Participant Registry.
5. BRP within three days, shall notify the TSO of any changes to the data published in the registry.
6. The TSO may at any time request the BRP to provide appropriate documents as proof that it meets the requirements for the BRP status, which must be submitted within eight (8) business days.

**The obligations of a BRP**

**Article 59**

BRP:

1. Submits a statement on balance group membership to EMO, signed by BRP and a market participant.
2. Provides appropriate financial guarantees and submits them to TSO;
3. Sends (nominates) physical schedules as following: trade plan (TPS), consumption plan (CPS) and generation plan (PPS) to EMO and TSO, for each balance group member individually;
4. Conducts financial imbalances settlement within the balance group;
5. Fulfills the obligations arising from the financial settlement of the balance group imbalance settlements; and
6. Submits data and documentation at TSO's request or at the request of the EMO based on these Rules.

**Temporary inactive BRP**

**Article 60**

1. If EMO suspends a BRP market participant, TSO appoints it as inactive in the BRP and Balance Groups Registry until the EMO decides that its suspension as a market participant has ended.
2. A BRP that is temporarily inactive in the BRP and Balance Groups Registry has no right to submit nominations for physical schedules.

**Termination of the Balance Responsibility Agreement by TSO**

**Article 61**

1. The Balance Responsibility Agreement is terminated:
2. upon expiry, revocation or suspension of the license,
3. with the termination of the electricity market participation contract,
4. with termination by TSO, if BRP:
* does not fulfill its obligations under the Balance Responsibility Agreement,
* used fake registration data to gain BRP status
* does not conclude an Annex to the Balance Responsibility Agreement, if such a thing is needed.
1. In accordance to paragraph 1 of this Article, TSO shall notify BRP and EMO of the termination of the Balance Responsibility Agreement by mail and email, indicating the date and time of the contract termination, which normally happens to be the last day of the current month, and it cannot be less than seven days.
2. On the day and hour specified in paragraph 2 of this Article, TSO removes BRP from the BRP and Balance Groups Registry.
3. The BRP may request termination of the Balance Responsibility Agreement if its obligations towards TSO are fulfilled.
4. In case of paragraph 4 of this Article, the BRP may propose the date and hour for the termination of the Balance Responsibility Agreement, which normally happens to be the last day of the current month and may not be less than seven (7) days, and shall notify the TSO thereof by mail and email.
5. In case of a termination of the Balance Responsibility Agreement referred to in paragraph 2 of this Article, BRP may specify the desired date for its removal from the BRP and Balance Groups Registry, and shall notify TSO at least five (5) business days prior to the said date for termination of the Registry participation by mail and email.
6. The financial guarantees submitted by BRP remain valid and / or are kept by TSO until the potential obligations arising from the financial imbalance settlement are settled, including the recalculation of the imbalances.
	1. **Balancing Responsible Parties**

**Balance Group**

**Article 62**

1. A market participant, who has contracted a Balance Responsibility Agreement, can conclude an Agreement to form a Balance Group with EMO.
2. Market Participants may join a Balance Group of their choice.
3. A Balance Group may consist of one or more Market Participants.
4. A Market Participant may be a member of only one Balance Group.
5. Preferential producers that are using a feed-in tariff in accordance with the Energy Law belong to the Balance Group with the EMO as a BRP.
6. A market participant conducting a regulated energy activity may not join a Balancing Group with free (unregulated) market participants or consumers with the exception of the Universal Supplier Balance Group.
7. Each balance group is represented by а BRP.
8. The Market Operator shall be obliged to prepare a template of the Agreement to form a Balance Group, and upon prior approval by the ERC, publishes it on its website.
9. Each member of the Balance Group exchanges data with the BRP.

**Member transfer between Balance Groups**

**Article 63**

1. A member of a Balance Group may initiate a procedure for changing the Balance Group by submitting a request for change of the Balance Group to the EMO in the following cases:
2. termination of the Balance Responsibility Agreement;
3. expiration of the Balance Group Membership Statement;
4. on the proposal of a member of the balance group;
5. In addition to the request referred to in paragraph 1, the market participant shall also submit:
6. in the case referred in paragraph 1, items 1 and 2, a copy of the Balance Responsibility Agreement concluded with TSO or a statement of balance responsibility taken by another market participant who has previously regulated the balance responsibility.
7. in the case referred to in paragraph 1, item 3, a joint statement signed by both withhdrawing and accessing Balance Responsible Parties.
8. EMO prepares the request form referred to in paragraph 1 and publishes it on its website.
9. Member transfers between the Balance Groups shall take place on the first day of the following calendar month or on the first day of the month specified in the request.

**Excluding a member of the balance group at the request of the BRP**

**Article 64**

1. The BRP may submit a request to EMO for the exclusion of a Balance Group Member if it does not comply with the mutual agreements.
2. In the request referred to in paragraph 1 of this Article, the BRP may propose the exclusion date of a Balance Group Member, which may not be shorter than 15 days from the date when the submission request was made.
3. The Market Operator shall immediately notify the EMO of the BRP’s request, and shall set a deadline of three business days from the day of the exclusion report, so the EMO can initiate a procedure to regulate its balance responsibility.
4. Within the deadline referred to in paragraph 3, the Market Participant shall submit to the EMO:
5. a copy of the request for the conclusion of a balance responsibility contract submitted by TSO, or
6. a report from another BRP that it will take over its balance responsibility.
7. If the Мarket Participant fails to submit the documents referred to in paragraph 4 of this Article to the EMO within the period specified in paragraph 4 of this Article, the EMO shall make a decision on suspension in accordance with the electricity market rules.
8. In the case referred to in paragraph 4, item 1, the EMO shall determine a date for the termination of the balance group membership, which may not be earlier than ten days after receiving a copy of the request for the conclusion of a balance responsibility contract.
9. In the case referred to in paragraph 4 item 2, the EMO shall set a date for the termination of the balance group membership which may not be earlier than seven (7) days after receiving a statement from another BRP that it will take over its balance responsibility.
10. Within five (5) days from the submission date of the request under paragraph 1 of this Article, the BRP has the right to withdraw the request if it submits a joint statement signed by the BRP and the Balance Group Member referred to in paragraph 1 of this Article.

**Termination of the Balance Group Contract**

**Article 65**

1. The Market Operator shall adopt a Decision to terminate the Balance Group Contract in case of:
2. Termination of the market participation contract and/or
3. Termination of the Balance Responsibility Agreement.
4. In a case when the Balance Group Contract for a Market Participant is terminated, the BRP shall notify the Balance Group Members and the TSO, 20 days prior to the expiry date of the Balance Group Contract.
5. The EMO shall notify TSO of any changes in the balance groups on the day of termination of the Balance Group Contract.
	1. **Data exchange and imbalance settlement**
		1. **Required data exchange**

**Providing BRP data by TSO and DSO**

**Article 66**

1. TSOs and DSOs provide BRP with free access to all measured data needed for the calculation of imbalance settlement.
2. For the needs of BRP, TSO and DSO provide measured data for every balance group member individually, as well as for each imbalance settlement period.

**Article 67**

1. The manner, form, content and deadlines of data and information provided or exchanged between TSO, EMO and / or DSO shall be regulated by the Submission and Exchange of Data and Information Protocol.
2. The protocol referred to in paragraph 1 of this Article shall in particular regulate:
3. Consumption and generation calculated data of each market participant.
4. All the necessary data for the preparation of the market plan and the final daily agenda.
5. Loss data in the transmission ie distribution grid
6. Calculated data from the electricity meters of the interconnection overhead transmission line with neighboring electricity transmission system operators.

**Calculated data for metered consumers and producers**

**Article 68**

1. The Electricity delivery / reception points equipped with electricity meters which registration interval is shorter than or equals the length of ISP are defined as metered consumers and metered producers.
2. The calculated data for the realized electricity quantities by metered consumers and producers in an individual ISP are determined on the basis of the measured values.
3. In case of missing or incorrect measurements for the delivery points on the distribution grid due to power failure, destruction, or inaccuracy of the metering data, the calculated data are prepared according to the Electricity Distribution Grid Code.

**Calculated data for non-metered consumers**

**Article 69**

1. Electricity delivery points with installed electricity meters whose reading interval is longer than the ISP are classified as measured points of non-metered consumers.
2. The realized electricity consumption of non-metered consumers for each ISP is calculated by using the standard load profiles of non-metered consumers, except for customers supplied with electricity from the Universal Supplier.
3. The standard load profiles are defined by the DSO. DSO calculates the allocated volumes for each consumer and ISP individually, and aggregates the allocated volumes per virtual metering points for the Balance Group Member excluding Universal Power Supply Consumers, where standard load profiles serve as a sample required only in the Universal Power Consumption Planning process.

**Universal supplier calculated data**

**Article 70**

1. Тhe realized (delivered) electricity to the customers supplied with electricity by the Universal Supplier for each ISP shall be calculated according to the following formula:

$$E\_{is\\_SoUS\\_total} = E\_{is\\_DSO\\_Vlez}-\sum\_{l=1}^{n}\left(E\_{is\\_Pot\\_SKO}+ E\_{is\\_Pot\\_LP}+ E\_{is\\_DSO\\_Zag}\right)$$

Where:

$E\_{is\\_DSO\\_Vlez}$ - total realized (delivered) power consumption at the distribution system input

$E\_{is\\_Pot\\_SKO} - $the total consumption of the qualified non-metered consumers in the distribution system

$E\_{is\\_Pot\\_LP}$ - the total consumption of all qualified metered consumers in the distribution system

$ E\_{is\\_DSO\\_Zag}$ *-* realized (delivered) electricity needed to cover grid distribution losses

1. The total realized (delivered) energy at the distribution system input referred to in paragraph (1) of this Article $E\_{is\\_DSO\\_Vlez}$ shall be calculated as:

$$E\_{is\\_DSO\\_Vlez}=\left(E\_{is\\_PMM\\_MEPSO}+ E\_{is\\_PMM\\_ELEM}+E\_{is\\_PMM\\_DPE}+ E\_{is\\_PMM\\_PPE}\right)$$

Where:

$Е\_{is\\_PMM\\_MEPSO\_{}}-$realized (delivered) energy at the distribution system input point through delivery/reception points with MEPSO

$Е\_{is\\_PMM\\_ELEM\_{}}$ - realized (delivered) energy at the distribution system input point through delivery/reception points with ELEM

$Е\_{is\\_PMM\\_DPE\_{}}- $realized (delivered) energy at the distribution system input through distribution power producers interconnections

$Е\_{is\\_PMM\\_PPE\_{}}-$realized (delivered) energy at the distribution system input through preferential power producers interconnections

1. The difference between the nominated electricity for the consumption needs of the Universal Supplier and the realized electricity consumption of the consumers supplied by the Universal Supplier in accordance with paragraph (1) of this Article shall be subject to the Universal Supplier's balance responsibility.

 **Loss calculated data in the transmission ie distribution grid**

**Article 71**

1. The electricity losses in the transmission grid are calculated for each settlement period as the difference of the power input at each reception point and the power output, each connection point between the transmission and distribution grid, each interconnection point between the power system of the Republic of North Macedonia and the power system of the neighboring country and each delivery point with consumers and producers.
2. The electricity losses in the distribution grid are calculated for each settlement period as the difference between the power input at each reception point and the power output at each delivery point of the distribution grid.
3. If the DSO on its grid connected producers or consumers with installed meters whose reading interval is longer than the ISP, the electricity losses in the distribution grid shall be calculated according to the following formula:

$E\_{is\\_DSO\\_Zag}$ =$ N\%\*E\_{is\\_DSO\\_Vlez}$

*N*% - a percentage which is set for each month by the TSO, based on the seasoned distribution losses and the trend of their decrease or increase over the last five years.

1. The difference between the nominated electric energy which covers the losses in the distribution grid (формула) by the DSO and the realized (supplied) electric energy needed to cover the grid distribution losses (формула) which is the product of the total electric energy that enters in the distribution grid in accordance with Article 69 paragraph 2 and the anticipated percentage losses in accordance with paragraph 2 of this Article shall be subject to the balance responsibility of the DSO $ E\_{IMB\\_DSO\\_Zag}$;

$$ E\_{IMB\\_DSO\\_Zag}= (E\_{pl\\_DSO\\_Zag}-E\_{is\_{DSO\_{Zag}}})$$

$ E\_{IMB\\_DSO\\_Zag}$ - Imbalance between planned (nominated) and realized (delivered) electric energy covering grid distribution losses.

* + 1. **Calculation of imbalance settlement process**

**Imbalance settlement**

**Article 72**

1. The EMO shall prepare calculation of the imbalances of the Balance Responsible Parties and a draft calculation on the imbalances cost in accordance with the electricity metering, the quantities of balancing services activated for each Balancing Service Provider, the settlement price and the final agenda obtained from TSO and DSO.
2. The imbalance settlement is done on a monthly basis and separately for each ISP.
3. The submitted quantities of calculated data are provided in integer values of kWh.

**First calculation of imbalance settlement**

**Article 73**

1. The EMО shall submit to the TSO BRP’s imbalance calculations and a draft calculation of the imbalances cost due to financial settlement within 60 days of the end of the month for which the calculation is made.
2. The imbalance settlement report contains the amounts of positive and negative imbalances of a Balance Group separately for each ISP.
3. The TSO sends each BRP an invoice with financial compensation for the imbalances made and the imbalance calculation for their Balance Group for the month in question within sixty days after the end of the month.

**Complaint about the imbalance settlement invoice**

**Article 74**

1. The BRPs have a right of complaint about the imbalance settlement invoice within five (5) business days upon receipt of the invoice sent by the TSO.
2. The complaint submitted by the BRP is declared valid only if the reasons for the complaint are clearly stated and explained.
3. Submitting a complaint to TSO does not delay payment of the issued invoice.
4. If the complaint referred to in paragraph 1 of this Article is approved, the TSO shall prepare a new corrected invoice which shall submit to the BRP within three (3) business days after the adoption of the complaint.

**Obligations of System Operators related to the imbalance settlement complaint**

**Article 75**

1. If the complaint to the invoice referred to in Article 74, paragraph 1 concerns the imbalance settlement, the TSO shall forward it to the EMO the following business day.
2. The EMО may submit a request for new data from TSO and / or DSO.
3. The TSO and DSO shall submit new data to the ЕМО within three (3) business days after receiving the request referred to in paragraph 2 of this Article.
4. The EMO shall, within three (3) business days of receiving the data referred to in paragraph 3 of this Article, prepare and submit to TSO a new imbalance settlement, on the basis of which TSO prepares a new revised invoice and submits it to the BRP within three (3) business days.

**Obligations of System Operators related to the imbalance settlement complaint**

**Article 76**

1. If the complaint referred to in Article 78 paragraph 1 or Article 79 paragraph 1 is not sustained by TSO within eight (8) business days of receiving the complaint, it shall make a decision to reject the complaint.
2. The BRP has the right to file a complaint with the ERC within seven (7) days of receiving the decision referred to in paragraph 1 of this Article.
3. The filing of the complaint under paragraph 2 of this Article shall not delay the payment of the issued invoice.
4. If the ERC makes a decision to adopt the BRP’s complaint referred to in paragraph 2 of this Article, it shall inform the TSO and the EMO.

**Final imbalance settlement**

**Article 77**

1. The EMO makes final imbalance settlement only for the BRP for which it has received corrected data from TSO and / or DSO 6 months from the month for which the settlement applies.
2. The EMO sends the final (recalculated) imbalance settlement to TSO with adjustments for all balancing groups, in order for TSO to conduct another financial settlement with BRP on the basis of the final recalculated imbalance settlement within five days of six months after the month to which the settlement applies.
3. The TSO, to each BRP for which the adjustments apply, sends a financial indebtedness or approval and a final imbalance settlement for their balance group for the month in question within 5 days after the submission of the corrected settlement by the EMO.
4. The financial indebtedness or approval referred to in paragraph 3 of this Article shall be prepared on the basis of the final imbalance settlement calculated as the difference between the amounts obtained from the first imbalance settlement and the amounts obtained from the recalculated imbalance settlement.

**Complaint to the recalculation of the imbalances settlement**

**Article 78**

1. BRPs have the right to file a complaint about the financial responsibility or approval referred to in Article 77 paragraph 3 of these Rules and the recalculation of the imbalance settlement within five (5) business days after receiving the financial responsibility or approval.
2. The submission and decision making process of the complaint referred to in Article 75 and Article 76 shall also apply to the complaint referred to in paragraph 1 of this Article.
	* 1. **Realized electricity exchange**

**Realized electricity exchange among/between balance group members**

**Article 79**

1. The realized electricity generation by a Balance Group Member for every ISP equals the sum of the realized quantities of generated electricity from all delivery points of generation capacities which belong to the Balance Group Member:

$$W\_{production}=\sum\_{i=1}^{n}W\_{i}$$

Where:

*Wproduction* – is the total realized electricity generation per Balance Group Member

*Wi* - realized electricity generation at the point of delivery for the generation site i;

*n* - is the number of delivery measurement points of generated electricity by the Balance Group Member.

1. The realized consumption of electricity by a Balance Group Member for each ISP equals the sum of the realized quantities of electricity consumption from all reception points that belong to the Balance Group Member:

$$W\_{consumption}=\sum\_{j=1}^{m}W\_{j}$$

*Wconsumption* - is the total realized electricity consumption by a Balance Group Member;

*Wj* - is the realized electricity consumption at the delivery point j;

*m* – is the number of electricity consumption measurement points which belong to the Balance Group Member.

1. The total realized electricity of a Balance Group Member for each ISP shall be calculated as the difference between the total realized electricity consumption and the total realized electricty generation for all measuring delivery points of the Balance Group Member.

$$W\_{allocated volume}=W\_{consumption}-W\_{production}$$

**Realized electricity exchange of a Balance Group**

**Article 80**

1. The total realized electricity exchange by а Balance Group for each ISP is calculated as the sum of the realized electricity exchange for all consumption and generation delivery points which belong to the Balance Group.

$$W\_{allocated volume of BG}=\sum\_{l=1}^{r}W\_{allocated volume}\_{l}$$

Where:

*Wallocated volume of BG* – is the total realized electricity of the Balance Group;

*Wallocated volume i* - is the total realized electricity of each member within the Balance Group;

*r* – number of Balance Group Members.

* + 1. **Methodology for calculation of imbalances**

**Calculation of balance group imbalances**

**Article 81**

1. EMO proposes a calculation of the imbalances for each Balance Group as the difference between the announced (nominated) electricty exchange and the total realized electricity exchange of that Balance Group, for each ISP.

$$W\_{imbalances}=W\_{final position}-W\_{allocated volume} +W\_{activated balancing volume}$$

Where:

*Wimbalances* - is the total imbalances amount for the Balance Group;

*Wfinal position* – is the announced electricity exchange for the Balance Group;

*Wallocated volume* - is the total realized electricity exchange of the Balance Group;

*Wactivated balancing volume* - is the total activated balance energy of BSPs included in the Balance Group, which may be positive or negative;

1. *Wimbalances* – could be positive or negative.
2. The positive imbalance of the Balance Group means that the total electricity consumed by the Balance Group is less than the nominated electricity of the Balance Group (lower consumption or higher generation than planned).
3. The negative imbalance of the Balance Group means that the total electricity consumed is greater than the nominated electricity of the Balance Group (higher consumption or lower generation than planned).
4. The announced electricity exchange of a Balance Group Member is the difference between the sum of purchase and import transactions on one side and the sales and export transactions on the other side that are delivered according to confirmed physical schedules for each ISP:

$$W\_{final position}=\left(∑W\_{buy}-∑W\_{sell}\right)+\left(∑W\_{import}-∑W\_{export}\right)$$

Where:

*Wfinal position* - is the total announced electricity exchange of a Balance Group Member;

*Wbuy* - the amount of electricity that each Balancing Group Member receives from other electricity market participants in the regulatory area in the accounting interval.

*Wsell* - the amount of electricity that each Balancing Group Member transfers to other electricity market participants in the regulatory area in the accounting interval.

*Wimport* - the amount of electricity that each Balancing Group Member imports during cross-border exchange at hour i;

*Wexport* - the amount of electricity that each Balancing Group Member exports during cross-border exchange at hour i;

1. the total announced electricity exchange of the Balance Group for each ISP is calculated as the transactions sum of all Balance Group Members

$$W\_{final position of BG}=\sum\_{i=1}^{n}W\_{finil position i}$$

**Forecasted imbalances**

**Article 82**

1. Forecasted imbalances are electricity amounts that the BRP failed to settle for him and the members of his Balance Group, upon completion of the intra-day process of preparing a daily physical schedule for D day.
2. Forecasted imbalances are calculated for all Balancing Groups with and without electricity generation or electricity consumption.
3. For each ISP, the forecasted imbalances are calculated as following:

$$W\_{forecasted imbalances}=W\_{final position}$$

Where:

*Wforecasted imbalances* - is the amount of forecasted imbalances of a Balance Group;

*Wfinal position* - nominated electricity exchange of the Balance Group;

* + 1. **Methodology for imbalance prices calculation**

**Imbalances settlement price**

**Article 83**

1. TSO calculates the settlement price of the *C*imbalances imbalances based on the activated balance energy prices and the amount of activated balance energy.

|  |  |
| --- | --- |
| **Amounts of activated balance energy for each ISP** | **Imbalance settlement prices*****Cimbalances*** |
| Amounts of activated positive balance energy that exceeds the amount of activated negative balancing energy*Wpos* + *Wneg* > 0 | *WAPpos* |
| Amount of activated negative balancing energy that exceeds the amount of activated positive balancing energy*Wpos* + *Wneg* < 0 | *WAPneg* |
| No activated balancing energy or *Wpos* + *Wneg* = 0 | *VAA* |

Where:

*WAPpos* – is the price of activated positive balance energy for each ISP;

*WAPneg* - is the price of activated negative balance energy for each ISP;

*VAA* – is the price for inactive balance energy for each ISP;

*Wpos* – is the volume of activated positive balancing energy;

*Wneg* – is the volume of activated negative balancing energy.

1. The imbalances settlement price can be positive, zero or negative, as definied in the following table:

|  |  |  |
| --- | --- | --- |
|  | Positive imbalances settlement price | Negative imbalances settlement price |
| BRP positive imbalance | Payment from TSO to BRP | Payment from BRP to TSO |
| BRP Negative imbalance | Payment from BRP to TSO | Payment from TSO to BRP |

1. The costs of each BRP are calculated by the TSO based on the imbalances settlement for every calculation month.
2. A single price mechanism is used for the price of the imbalances settlement, ie for the positive and negative imbalances the same price would be used, designated as *Cimbalances*.

**Price of activated balance energy**

**Article 84**

1. Тhe cost of activated positive balance energy is calculated for each ISP, according to the prices of aFRR, mFRR and RR using the following equation:

Where:

*WAPpos* – is the price of activated positive balance energy for each ISP;

*Price pos,type,i -* is the price of activated positive secondary and / or tertiary balance energy for each ISP;

*W pos,type,i* – is the amount of activated positive secondary and / or tertiary balance energy for each ISP;

*n* – balance unit;

*type* - secondary or tertiary balance energy.

1. Тhe cost of activated negative balance energy is calculated for each ISP, according to the prices of aFRR, mFRR and RR using the following equation:

)

Where:

*WAPneg* - is the price of activated negative balance energy for each ISP;

*Price neg,type,i* - is the price of activated negative secondary and / or tertiary balance energy for each ISP;

*type* - secondary or tertiary balance energy.

1. If there is a positive or negative BRP imbalance, and the amount of activated balancing energy is zero, (Wpos + Wneg = 0), the settlement price of the BRP’s imbalances is determined as follows:

|  |  |
| --- | --- |
|  | Determining the price of imbalance settlement |
| Positive BRP imbalance | TSO pays BRP, HUPX – 50% |
| Negative BRP imbalance | BRP pays TSO, HUPX + 50% |

1. After receiving all the data necessary to calculate the imbalances settlement prices, TSO publishes the calculated amount data of the imbalances settlement price Cimbalances for each ISP on its website, separately.

**Imbalance settlement**

**Article 85**

1. Imbalances settlement is a calculation process of the balance group imbalances for each ISP separately and performed once for a one-month calculation period based on:
2. Imbalances of Balance Groups;
3. Forecasted imbalances of Balance Groups;
4. Imbalances settlement prices.

**Imbalance settlement of Balance Groups**

**(Article 86)**

1. The financial imbalancessettlement for a ISP (t), of the Balance Group is calculated according to the following equation:

$$Z\_{t}=-C\_{imbalances}∙W\_{imbalances}$$

Where:

*Wimbalances* - are the imbalances quantities of a Balance Group in a ISP

*Zt –* is the amount of the financial settlement for the Balance Group in a ISP (t)

**Financial imbalance settlement of a Balance Group on a monthly basis**

**Article 87**

1. The total amount of financial imbalance settlement of a Balance Group in the monthly calculation period is calculated according to the following equation:

$$Z=\sum\_{t=1}^{u}Z\_{t}$$

Where:

*Z –* is the total amount of the financial imbalance settlement of a Balance Group in the monthly calculation period;

*Zt –* is the amount of the financial imbalance settlement of a Balance Group in a ISP *(t).*

*t – ISP*

*u –* is the number of ISP in the monthly calculation period

**The total amount of BRP’s forecasted imbalances**

**Article 88**

1. For the unbalanced daily physical schedule upon completion of the D day intra day process, the BRP is required to pay a fee to TSO.
2. The tolerance range for all Balancing Groups for unbalanced daily physical schedule (with and without measuring points of delivery) is equal to 0 MWh.
3. With an exception of paragraph 2 of this Article, traders, suppliers and electricity producers when purchasing electricity generated by preferential electricity producers with a feed-in tariff by EMO, shall be entitled to the forecasted difference between the sum of the receiving transactions, ie purchase of electricity and the sum of the delivery transactions, ie sale of electricity to be less than 1 MWh / h, for each trading interval in which such electricity is purchased.
4. The amount of forecasted imbalances for BRP and its Balance Group Members for forecasted positive imbalances for each settlement period is calculated using the equation:

$$Z\_{forecast,t}=2∙C\_{t}∙W\_{forecasted imbalances,t}$$

1. The value of forecasted imbalances for BRP and its Balance Group Members for forecasted negative imbalances for each settlement period is calculated using the equation:

$$Z\_{forecast,t}=-5∙C\_{t}∙W\_{forecasted imbalances,t}$$

Where:

*Zforecast,t -* is the fee to be paid for the forecasted imbalances of the Balance Group in the ISP;

*Wforecasted imbalances, t* - is the amount of forecasted imbalances of the Balance Group;

t – ISP;

Ct - the HUPX price at the same hour when the forecast imbalance occurred

* 1. **Financial imbalance settlement**

**4.4.1 Financial liabilities and guarantees**

**Settlement agent**

**Article 89**

1. The TSO carries out and implements the settlement of the financial claims and obligations of the financial settlement participants.

**Financial imbalances settlement**

**Article 90**

1. The financial imbalances settlement is carried out based on the calculated amounts in the imbalances calculation report in the monthly calculation period.
2. The regulations relating the financial imbalances settlement shall apply the final imbalances calculation.
3. Based on the imbalances calculation in the calculation period, TSO invoices the financial settlement participants, when the BRP pays for the imbalances in the selected monthly calculation period. Attached to the invoice is the report on the imbalances calculation for the selected monthly calculation period for each individual Balance Group. The invoice's due date is eight (8) business days from the date of issue.
4. Based on the imbalances calculation for the calculation period, BRPs issue an invoice to TSO, when the TSO pays for the imbalances in the selected monthly calculation period. Attached to the invoice is the report on the imbalances calculation for the selected monthly calculation period for each individual Balance Group. The invoice's due date is ten (10) business days from the date of issue.
5. The deadline for issuing the invoice is five (5) days after receiving the imbalances calculation.

**4.4.2 Financial risk management**

**Financial risk management**

**Article 91**

1. The TSO conducts the financial obligations arising from the financial imbalances settlement and the balancing of the power system in the amount of the submitted financial guarantees.
2. As the settlement agent, TSO assesses the operating risks of an individual participant in the financial settlement and imposes mandatory financial guarantees for financial settlement participants.
3. For the purpose of financial risk management, the recalculation of the imbalances settlement is considered as the final imbalance calculation.

**Financial guarantees**

**Article 92**

1. The financial settlement participant shall provide fixed and variable financial guarantees upon TSO’s request.
2. The financial settlement participant deposits and provides a Bid Security in the amount and form defined by TSO as a guarantee for the fulfillment of the participant's obligations arising from the settlements.
3. All Bid Securities or funds deposited by the participant in the financial settlement to TSO are TSO’s property and may not be used for any other purpose.
4. If the Balance Responsibility Agreement of the financial settlement participant ends, all Bid Securities are refunded when the participant settles all financial obligations to the settlement agent, including financial obligations from the recalculation of the imbalances settlement for the calendar months when the Balance Responsibility Agreement ceases to be valid.
5. The amount of the fixed Bid Security is 1.000.000 denars and may be submitted by the financial settlement participants in the form of a cash deposit or a bank guarantee.
6. No fixed Bid Security is provided for the Balance Group in which the BRP is а Market Operator.

**Variable Bid Security**

**Article 93**

1. The variable Bid Security, upon request of TSO, must be submitted by the financial settlement participant.
2. The variable Bid Security must be submitted in а form of a cash deposit or a bank guarantee, and it will be valid from the date of issuance until 31st of March the following year.
3. For the newly formed Balance Group, the amount of the Bid Security of the financial settlement participant for the first four months will be 1.500.000 denars.
4. If TSO, during the first few months, evaluates that the newly established Balance Group makes deviations that cannot be financially recoverable by the amount of Bid Securities already provided (fixed + variable) mentioned in the previous paragraph, then TSO has the right to request from BRP to addend the variable Bid Security for the estimated amount. The BRP is obliged to addend the variable Bid Security within eight(8) business days upon the request.
5. For an existing Balance Group, TSO determines the Bid Security amount of the participant in the financial settlement as double the amount of the average BRP invoiced amount for the imbalances made in the previous twelve (12) months.
6. If the financial settlement participant is included in the Balance Scheme less than twelve (12) months and more than four (4) months, the financial settlement participant’s Bid Security amount is twice as high as BRP’s average invoiced amount for the deviations made in the preceding months of its inclusion in the Balance Scheme.
7. If the Bid Securities already provided by the financial settlement participants are lower than the amount of the last issued imbalance settlement invoice, the BRP is obliged to submit a new one or to addend the existing variable Bid Security.
8. The amount of the new variable Bid Security is calculated as the difference between the amount of the invoice issued in the last month and the amount of the fixed Bid Security.
9. If the Bid Securities already submitted by the financial settlement participants are higher than the amount of the last issued imbalance settlements invoice, the submitted variable financial guarantee shall not be changed.
10. The financial settlement participant is obliged to submit a new variable Bid Security within eight (8) business days of the submitted request for the amount increasement of the variable bank guarantee by TSO.
11. Upon signing the Balance Responsibility Agreement, the financial settlement participant shall submit both the fixed and the variable Bid Security at the same time.
12. For the Balance Group of which the Universal Electricity Supplier is a member, no variable Bid Security shall be provided, except for the part of the Universal Electricity Supplier.
13. For the Balance Group in which BRP is a Market Operator, no variable Bid Security shall be provided.

**Bank guarantee**

**Article 94**

1. The beneficiary of the bank guarantee submitted by the financial settlement participant is the TSO. The bank guarantee shall be irrevocable and have mandatory "no cavil" or "first complying demand" clauses, or similar wording. The bank guarantee must contain an unconditional and irrevocable takeover by the bank to secure payment of the amount stipulated in the bank guarantee to the first claim beneficiary. The bank guarantee also contains a clause according to which a partial implementation is possible.
2. Before submitting the bank guarantee, the financial settlement participant shall notify the TSO about the bank and the purpose of the bank guarantee submission.
3. TSO reserves the right to accept or reject a bank guarantee from a particular bank. Acceptance or rejection of a bank guarantee is TSO's discretion.
4. The TSO can implement the bank guarantee if the participant in the financial settlement does not settle its obligations within the agreed deadline.
5. The financial settlement participant shall bear all costs incurred in the issuing and implementing process of the financial guarantee.
6. The financial settlement participant submits a new guarantee to TSO at least three (3) business days before the expiration of the currently valid bank guarantee and / or submits a cash deposit instead of a bank guarantee.

**Non-fulfilment of obligations**

**Article 95**

1. The following cases or circumstances are considered as a non-fulfilment of the financial obligations:
2. If a financial settlement participant fails to settle its financial obligations within the period specified in the Balance Responsibility Agreement; or
3. If a financial settlement participant fails to submit the corrected Bid Securities;
4. In the event when a financial settlement participant fails to settle its financial obligations under paragraph 1 item 1 to TSO, TSO shall use the submitted Bid Securities to settle its due payments.
5. In the event when TSO uses part or the full amount of the Bid Security to meet the financial obligations of the financial settlement participants, the participant is obliged to addend the bank deposit or provide an additional Bid Security with the amount specified by TSO within eight (8) business days from TSO’s first demand.
6. The financial settlement participant shall compensate the TSO for any costs incurred by the measures taken in case of non-fulfilment of the financial obligations.
7. TSO may contact third parties for cooperation regarding the non-fulfillment of the obligations.
8. **SUBMISSION OF DAILY PHYSICAL SCHEDULES**

**Article 96**

1. TSO in cooperation with the Market Operator determines the submission procedures, adjustment and verification of the submitted daily physical schedules, including any necessary clarifications, instructions and templates for the preparation and submission of daily physical schedules and publishes them on its website.
2. In the daily physical schedules that BRP submits to TSO and the Market Operator, the transactions from the bilateral agreements of all Balance Group Members should be shown separately for the electricity reception points, ie the sale of electricity and for the electricity that is taken over at the delivery points, ie the purchase of electricity.
3. In the daily physical schedules provided by the BRP, the sum of the reception transactions, ie sale of electricity, shall be equal to the sum of the delivery transactions, ie the purchase of electricity upon completion of the intra-day process of preparing a daily physical schedule for the D day.
4. In the event of failure to comply with paragraph (3), TSO shall calculate an appropriate compensation to the market participant in accordance with these Rules, with the exception of the market participants referred to in Article 88, paragraph 3 of these Rules.
5. Any submitted and harmonized daily physical schedule is considered based on a signed bilateral agreement.
6. TSO prepares the final daily physical schedule for the overall electricity generation, internal and cross-border transactions through the electronic system, based on daily physical schedules submitted by electricity market participants, approved by the Electricity Transmission System Operator.

**Article 97**

1. BRP shall submit to the TSO and the Electricity Market Operator the daily physical schedules for its Balance Group for each day of delivery, prepared in accordance with these Rules, day in advance (D-1) for D-Day in accordance with the Final Daily Schedule Preparation Procedure published on TSO’s website.
2. А BRP, which has electricity producers or consumers connected to the electricity distribution network in its Balance Group, also submits its daily physical schedules to the relevant DSO.
3. TSO checks the daily physical schedules in accordance with the undertaken international obligations for the delivery of daily physical schedules regarding the assigned cross-border transmission capacities, harmonization of all nominations and their balancing, and notifies the BRP in the event of acceptance or rejection of the schedules.
4. The Electricity Market Operator checks the accuracy of daily physical schedules in terms of electricity market share and notifies TSO only in case of formal deficiencies.

**Article 98**

1. The TSO may request an audit of the BRP’s daily physical schedules due to obvious errors or insufficient data.
2. BRPs are fully responsible for the errors in their daily physical schedule nominations and in the event where TSO has not requested an audit of the daily physical schedules.

**Article 99**

1. If the BRP receives information of rejected daily schedules, it shall submit new corrected daily physical schedules by the deadline set in the Procedure for preparing the final daily schedule.
2. If the submitted daily schedules are still not harmonized, TSO has the right to define new daily physical schedules.
3. If the reasons for the imbalance of the daily physical schedules are different nominations in the two Balancing Groups, for the new daily physical schedules of the groups:
4. it is considered that the mutual transaction of these two BRPs does not exist (reduced to zero) if one BRP nominated a transaction and the other did not nominate a transaction,
5. a lower value transaction is adopted if both BRPs nominate different mutual transactions in the same direction,
6. their mutual transaction is considered to be reduced to zero if both BRPs nominate equal transactions but in a different direction.
7. If the reasons for the imbalance of the daily schedules are different nominations in the same Balance Group, the new daily schedules adopt the transaction with the lower value.

**Article 100**

1. The final daily physical schedule is obligatory for market participants and the deviations from it are a subject to imbalances settlement, taking into account the change in the daily physical schedules throughout the day.

**Article 101**

1. TSO informs BRP of any technical limitations that could mean partial or complete non-realisation of certain daily physical schedules.

**Article 102**

1. BRPs have the right to submit a new daily physical schedule or make adjustments to a previously approved daily physical schedule due to incurred transactions in the bilateral contract market and / or in the organized electricity market.
2. The BRP shall submit to the TSO and EMO a corrected daily physical schedule due to a change in a bilateral contract and / or transactions in the organized electricity market no later than 60 minutes before the start of the hour to which the daily physical schedule applies.
3. Changes to the daily physical schedules referred to in Paragraph 1 of this Article shall apply to internal transactions.
4. Changes to cross-border transactions of daily physical schedules are carried out in accordance with the Rules which regulate the allocation of intra-day cross-border transmission capacities within the relevant interconnection, published on TSO’s website and previously approved by the ERC.

**Article 103**

1. The TSO, through its planning system, automatically notifies the BRP of approval or non-approval of the request for a change of the daily physical schedule in accordance with the Rules which regulate the allocation of intra-day cross-border transmission capacities on the relevant interconnection.
2. If the connection request is approved, the corrected daily physical schedule is considered final.
3. **TRANSITIONAL AND FINAL PROVISIONS**

**Transitional provisions**

**Article 104**

1. BSP that are qualified to provide FCR, aFRR and mFRR balancing capacity and balancing energy until the date of application of these Rules, shall be considered as BSPs for FCR, aFRR or mFRR and shall conclude a balancing contract with TSO and can participate in the providing balance energy process.
2. With the exception of Article 48 Paragraph 2 of these Rules, TSO concludes annual contracts with AD TEC Negotino – Negotino for the supplying/purchase of RR balance energy as of 31.12.2025. The cost of supplying/purchasing RR balance energy is determined by the Energy Regulatory Commission in its decision approving the regulated maximum income, average tariff rate and tariffs for computational elements for performing regulated energy transmission of electricity to TSO.
3. No later than 31st October 2019, TSO announces the adopted rules for the supply of aFRR in accordance with Articles 17 and 32, and implements them by 31st October 2019.
4. TSO, EMO and EDSO jointly prepare and sign the Protocol referred to in Article 67 of these Rules by 31st December 2019.
5. The electricity producer with the highest installed capacity in the Republic of North Macedonia has no obligation to submit the Bid Securities referred to in Articles 92 and 93 of these Rules as long as the obligation under Article 237 paragraph 4 of the Energy Law is in progress.
6. EMO transfers the BRP and Balance Groups Registry referred to in Article 41 of the Electricity Market Rules (“Official Gazette of Republic of North Macedonia” No.38/14, 42/14, 57/14, 194/14, 190/16, 80/17, 172/17, 197/17, 115,18, 241/18 I 65/19) to TSO by December 31st 2019.

**Final provision**

**Article 105**

These Rules shall enter into force on the day of their publication in the “Official Gazette of the Republic of North Macedonia” and shall apply from 1st January 2020.

No. 02-4468/12-1 President

August 15th 2019 of Management Board

 Skopje MSc Eva Shukleva

*Annex 1: Balanced Response Party (BRP) registration procedure and Balance Group Members as members of the Balance Scheme.*

A graphic representation of the BRP and Balance Group member registration process into the Balance Scheme.

Legal entity

potential BRP

EMO

TSO

BRP registration request

Мarket participant registration request

A copy of the Balance Group Membership Statement already submitted to

BRP and Balance Group Registry

Terms and conditions agreement of participation in

Balance responsibility agreement

An active participant in the balancing market and the electricity market

Balance group formation Agreement

Balance Group Membership statement

Balance group formation request

Market Participants Registry

Financial guarantees

*Annex 2: Pre-qualification process for becoming a Balanced Service Provider*

Pre-qualification process for becoming a Balanced Service Provider

|  |  |
| --- | --- |
| Potential Balance Service ProviderBSP formal application for pre-qualificationThe legal entity BSP concludes an agreement with TSOIncomplete applicationThe application is withdrawnThe legal entity is accepted as a BSPImplementation of amendmentsPrepared amendmentsThe legal entity is not accepted as a BSPAdditional information provided (within 4 weeks) | Transmission System OperatorSet-up and test of real time telemetry and login dataPassedNot passedRequest for amendmentsApplication completeCompliance evaluation with technical requirements (within 3 months)Application completeTSO requests additional informationIncomplete applicationEvaluation of the application if (within 8 weeks) |