



# BALANCING MARKET RULEBOOK

November July 20242025

Version 1718.0

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## SECTION I. GENERAL PROVISIONS

### CHAPTER 1. OBJECTIVE OF THE BALANCING MARKET RULEBOOK

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#### Article 1.1 Balancing market

1. The Balancing Market is governed by the applicable law, including the principles and provisions of Laws 4001/2011 and 4425/2016 and Regulation (EU) 2017/2195, as in force each time.
2. The Balancing Market consists of the Balancing Capacity Market, the Balancing Energy Market and the Imbalance Settlement. The Balancing Service Providers submit Balancing Energy Offers and Balancing Capacity Offers to the Balancing Market on behalf of the Balancing Service Entities they represent.
3. In the context of the Balancing Market, the HETS Operator executes the Integrated Scheduling Process (ISP) for the commitment (synchronization) or de-commitment (desynchronization) of Balancing Service Entities and for the commitment of Balancing Capacity as described in ~~SECTION IV. SECTION IV.~~ of this Rulebook.
4. The HETS Operator operates the Balancing Energy Market for the activation of Balancing Energy Offers for manual and automatic FRR and issues manual and automatic FRR Dispatch Instructions to Balancing Service Entities, as described in ~~SECTION V~~~~SECTION~~ ~~V~~ of this Rulebook.
5. The Balancing Market operates throughout the year, for each calendar day.

#### Article 1.2 Balancing Market Rulebook

1. The Balancing Market Rulebook is adopted in line with the provisions of Articles 17 and 18 of Law 4425/2016.
2. The aim of the Balancing Market Rulebook is to define the terms and conditions for the operation of the Balancing Market and in particular to:
  - a) designate the Participants in the Balancing Market and describe the relevant registration procedure.
  - b) set out detailed rules and conditions under which Participants may participate in the Balancing Market, including their rights and obligations, and determine the procedures that shall apply to the settlement of disputes between the Participants and the HETS Operator,
  - c) define the rights and obligations of the HETS Operator vis-à-vis the Participants in connection to their participation in the Balancing Market,
  - d) describe the interface between the Balancing Market, the Day-Ahead Market and the Intra-Day Market, including the exchange of information between the Energy Exchange and the HETS Operator,
  - e) set out detailed rules for the validation of Balancing Energy Offers and Balancing Capacity Offers by the HETS Operator,
  - f) describe the input data, the operation, and the results of the Integrated Scheduling Process,

- g) describe the interface between the Integrated Scheduling Process and the Energy Balancing Market,
  - h) describe the input data, the operation and the results of the Energy Balancing Market,
  - i) define the accounts kept by the HETS Operator for the purposes of the Balancing Market Settlement,
  - j) determine the penalties for the Participants in the event of non-compliance with the provisions of this Rulebook,
  - k) define the Balancing Market Settlement procedure,
  - l) define the procedure for exchanging information with other stakeholders,
  - m) specify the reporting and monitoring obligations of the HETS Operator in relation to the Balancing Market, and
  - n) define the procedures for the protection of commercially sensitive information.
3. Unless otherwise defined, all capitalized terms used in this Rulebook shall have the meaning specified in ~~Article 1.3~~[Article 1.3](#) of this Rulebook. Unless otherwise defined, all capitalized terms used in this Rulebook shall have the meaning specified here ~~ANNEX III~~[ANNEX III](#) in this Rulebook. Unless special reference is made, any reference to an Article, CHAPTER and ANNEX shall refer to the Articles, CHAPTERS and ANNEXES of this Rulebook.
  4. This Rulebook may be amended subsequent to a proposal from the HETS Operator, duly approved by the Regulatory Authority for Energy, Waste and Water (RAEWW), following public consultation conducted by the Authority, which shall be published in the Government Gazette in accordance with the provisions of Article 17 (2)(p) of Law 4425/2016. The amendment process may also be instigated at the initiative of the RAEWW. The new text of the Rulebook, as amended each time, shall be published in a consolidated version on the website of the HETS Operator. The body of the consolidated text shall indicate the amendments, the conditions of validity thereof and any other point that facilitates public information. This codification is informal and shall under no circumstances supersede texts approved by RAE and published in the Government Gazette as indicated above.
  5. Any amendment to this Rulebook shall automatically govern the applicable Balancing Service Contract concluded between the HETS Operator and the registered Balancing Service Provider, and the applicable Balance Responsible Party Contract concluded between the HETS Operator and the registered Balance Responsible Party, without the need for the registered Balancing Service Provider / the Balance Responsible Party to take any action and without prejudice to the right of the registered Balancing Service Provider or the registered Balance Responsible Party to request the termination of the Balancing Service Contract or the Balance Responsible Party Contract, as stipulated in ~~Article 4.4~~[Article 4.4](#) of this Rulebook.
  6. The Balancing Market Rulebook may be supplemented by methodologies, parameters and other special approvals as foreseen therein as may be decided by the Regulatory Authority for Energy, Waste and Water (RAEWW) subsequent to a proposal from the HETS Operator and duly published in the Government Gazette in accordance with Article 18(4) of Law 4425/2016.
  7. In view of the effective implementation of the provisions of the Balancing Market Regulation, the HETS Operator may issue Technical Decisions, which regulate details in technical issues with non-regulatory content. The Technical Decisions shall be issued following public consultation and shall be posted on the website of the HETS Operator.

The HETS Operator shall send drafts of the Technical Decisions to the RAEWW for submission for public consultation together with the approved Technical Decisions. In the event of any contradiction between the provisions of this Rulebook and the corresponding Technical Decisions, the provisions of this Rulebook shall prevail.

8. Technical Decisions shall be amended by decision of the HETS Operator either on its own initiative, or at the request of the RAEWW or third parties with a legitimate interest, pursuant to the procedure of the preceding paragraph.
9. The Participants shall be liable to the HETS Operator for the timely and full performance of their obligations under this Rulebook and for the completeness and accuracy of the information and data submitted to the HETS Operator. This liability includes any act or omission of their representative bodies, their servants, their agents and, in particular, of the persons they use for the performance of their obligations under this Rulebook.
10. The HETS Operator shall not be liable to the Participants for the performance of the actions set out in this Rulebook, unless it has acted with malice or gross negligence. The HETS Operator shall take appropriate measures to prevent operational problems in the systems it manages and shall strive to restore faults or malfunctions as quickly as possible.

### Article 1.3 Definitions

Apart from the definitions contained in the current legislation, and, in particular, in Law 4425/2016 and Law 4001/2011, in EU legislation, in the Day-Ahead & Intra-Day Markets Trading Rulebook, in the Clearing Rulebook for Balancing Market Positions and in the HETS Grid Code, the terms below, whether stated in the singular or plural, shall have the following meaning, for the purpose of implementation of this Rulebook.

1. Energy Balancing Market: It shall have the meaning of Article 5(l) of Law 4425/2016, i.e., the market where Participants offer electricity, which is used by the HETS Operator to maintain the System frequency within a predetermined range, as well as the balance between electricity generation and demand, while observing the electricity exchange programs with neighbouring countries.
2. Balancing Market: It shall have the meaning of Article 5(j) of Law 4425/2016, i.e., the Electricity Balancing Market, which includes the Balancing Capacity and Balancing Energy Markets and the Imbalance Settlement procedure.
3. Day-Ahead Market: It shall have the meaning of Article 5(g) of Law 4425/2016, i.e., the Electricity Market, in which electricity purchase and sale transactions are performed with the obligation of physical delivery on the day ahead (Delivery Day) and in which the transactions performed on Energy Financial Instruments with physical delivery are declared.
4. Balancing Capacity Market: It shall have the meaning of Article 5(k) of Law 4425/2016, i.e., the market in which capacity is offered to cover the System's reserve requirements, which (capacity) is retained by the Participants for a predetermined period of time.
5. Market Time Unit: It shall have the meaning of Article 2(19) of Regulation (EU) 543/2013. i.e. the period for which the market price is established or the shortest possible common time period for the two bidding zones, if their market time units are different.
6. Trading License: The license granted to carry out the activity of electricity trading.
7. Production License: The license granted to carry out the activity of electricity generation.
8. Supply License: The license granted to carry out the activity of electricity supply.

9. RES Aggregator Licence: The licence issued for the purpose of representing producers or consumers of electricity in accordance with Article 13 of Law 4001/2011.
10. Direct Clearing Member: The Clearing Member, as defined in the Clearing Rulebook for Balancing Market Positions, which participates in the clearing procedures of the Clearing House and is responsible for the fulfillment of obligations arising from the Positions it represents in accordance with the Clearing Rulebook for Positions on Balancing Market.
11. Upward Balancing Energy: The Balancing Energy that corresponds to more generated energy or less consumed energy in relation to the Market Schedule.
12. Balancing Capacity Offer Maximum Price: The upper limit on the pricing of Balancing Capacity Offers, which is imposed for technical reasons, in accordance with [Article 11.2](#)~~Article 11.2~~ of this Rulebook.
13. Balancing Energy Offer Maximum Price: The upper limit on the pricing of Balancing Energy Offers, which is imposed for technical reasons, in accordance with [Article 12.2](#)~~Article 12.2~~ of this Rulebook.
14. Safety Maximum Reservoir Level: The maximum level per reservoir, above which the owners of Dispatchable Hydro Generating Units connected to the Reservoir may submit mandatory hydro injection declarations for the above Units to avoid overflow.
15. Force Majeure: It shall have the meaning referred to in [Article 3.1](#)~~Article 3.1~~ of this Rulebook.
- [16.](#) Imbalance: It shall have the meaning of Article 2(8) of Regulation (EU) 2017/2195, i.e., the energy volume calculated for a Balance Responsible Party and representing the difference between the allocated volume attributed to that Balance Responsible Party and the final position (Market Schedule) of that Balance Responsible Party, including any imbalance adjustment applied to that Balance Responsible Party, within a given Imbalance Settlement Period.
- ~~16.~~[17.](#) System Imbalance: The Imbalance of the HETS, expressed in MW, as calculated in accordance with Article 19.5 for each Imbalance Settlement Period.
- ~~17.~~[18.](#) Demand Response: This has the meaning ascribed to it in Article 2 (3)(41) of Law 4001/2011, that is, the changes in electrical load by end customers compared to their regular or current consumption habits, based on market signals, including the response to fluctuating electricity prices or economic incentives, or the response following the acceptance of an offer by the end customer, either individually or through aggregated representation, with the aim of selling the reduction or increase in demand at a given price in organized markets, as determined in Article 2(4) of the implementing Regulation (EU) 1348/2014 of 17 December 2014 'on the reporting of data for the implementation of Article 8(2) and (6) of Regulation (EU) 1227/2011 of the European Parliament and of the Council on the integrity and transparency of the wholesale energy market' (L 363).
- ~~18.~~[19.](#) Initial Settlement: It shall have the meaning of Settlement specified in [Article 23.1](#)~~Article 23.1~~(2) of this Rulebook.
- ~~19.~~[20.](#) Auto-producer: This has the meaning attributed to it under Article 2(3)(e) of Law 4001/2011, i.e., the producer that generates electricity mainly for its own use and injects any surplus energy into the Transmission System or the Distribution Network.
- ~~20.~~[21.](#) Self-Supplied customer: It shall have the meaning of Article 2(3)(o) of Law 4001/2011, that is, the market participant that chooses to purchase energy directly from the Energy Markets for their own exclusive use.

- 21.22. Automatic Generation Control (AGC): The automatic load-frequency control procedure, which aims to reduce the frequency restoration control error to zero in accordance with the provisions of Regulation (EU) 2017/1485.
- 22.23. RES Producer Certificate: The certificate provided for in Law 4685/2020.
- 23.24. Soak Trajectory: This is the generation profile of the unit during the soaking phase, between the synchronization state and minimum generation state of each Dispatchable Generation Unit, which is determined in steps according to the Integrated Scheduling Process (ISP) Technical Decision. A different soak trajectory is determined for each start-up state (cold, warm, hot). It is expressed in MW.
- 24.25. General Clearing Member: The Clearing Member, as defined in the Clearing Rulebook for Balancing Market Positions, which participates in the settlement procedures of the Clearing House and is responsible for the fulfillment of obligations arising from the Balancing Market Positions of contracted Participants or the HETS Operator in accordance with the above Rulebook.
- 25.26. Declared Characteristics: The characteristics defined as a combination of the following technical and operational elements of the Balancing Service Entity and constitute the actual technical capacity of the Balancing Service Entity for a specific Dispatch Period and Dispatch Day: (a) Registered Characteristics, (b) Techno-Economic Declaration, (c) Non-Availability Declaration (total or partial), and (d) Major Outage Declaration.
- 26.27. Major Outage Declarations: The declarations submitted by the Balancing Service Providers pursuant to ~~Article 10.7~~ [Article 10.7](#) of this Rulebook.
- 27.28. Non-Availability Declarations: The declarations submitted by Balancing Service Providers pursuant to ~~Article 10.6~~ [Article 10.6](#) of this Rulebook for each Dispatch Day during which the Available Capacity for a Balancing Service Entity is reduced.
- 28.29. Techno-Economic Declarations: The declarations submitted by Balancing Service Providers for each Dispatch Day pursuant to ~~Article 10.3~~ [Article 10.3](#) of this Rulebook regarding the Techno-economic data of the Balancing Service Entities they represent.
- 29.30. Integrated Scheduling Process (ISP): It shall have the meaning of Article 2(19) of Regulation (EU) 2017/2195, i.e., an iterative process that uses at least integrated scheduling process bids that contain commercial data, complex technical data of individual power generating facilities or demand facilities and explicitly includes the start-up characteristics, the latest control area adequacy analysis and the operational security limits as an input to the process.
- 30.31. Inter-Zonal Corridor: A virtual link between two Bidding Zones, which is used to model the flow between the Bidding Zones.
- 31.32. Available Capacity: The capacity of the Balancing Service Entity as per ~~Article 10.2~~ [Article 10.2](#) of this Rulebook.
- 32.33. Automatic Frequency Restoration Reserve (aFRR) Cross-Border Clearing Price: This is the clearing price sent by the European aFRR Platform, as set out in the Decision of the Agency for the Cooperation of Energy Regulators (ACER) on the 'Methodology for pricing Balancing Energy and Cross-Zonal Capacity used for the exchange of Balancing Energy or operating the imbalance netting process' and adopted pursuant to Article 30 of Regulation (EU) 2017/2195.
- 33.34. RES and Guarantees of Origin Operator (DAPEEP): The public limited company provided for in Article 118 of Law 4001/2011.

- 34.35. Settlement or Cash Settlement: The process implemented by the Clearing House for the fulfillment of cash obligations and the collection of the corresponding claims from the Clearing of Positions in accordance with this Rulebook and the terms of the Clearing Rulebook for Balancing Market Positions.
- 35.36. Distribution Network Operator: It shall have the meaning of Article 2(3)(j) of Law 4001/2011, that is, any natural or legal person who is responsible for k) the operation, maintenance, and provision of access to customers and producers connected to it, as well as the development, if necessary, of the distribution network in a given area and its interconnections with other distribution networks and transmission systems, and l) the long-term capacity of the network to meet reasonable demand for electricity distribution services. Where reference is made to Distribution System Operator, it means the Distribution Network Operator and vice versa.
- 36.37. Hellenic Electricity Distribution Network Operator (HEDNO): The public limited company provided for in Article 123 of Law 4001/2011.
- 37.38. HETS Operator: The public limited company provided for in Article 97 of Law 4001/2011.
- 38.39. Corrective Settlement: It shall have the meaning of Settlement specified in [Article 23.1](#) ~~Article 23.1~~(3) of this Rulebook.
- 39.40. aFRR Correction Signal: An energy signal in MW sent from the European aFRR Platform to the HETS Operator concerning necessary adjustments to the local aFRR requirement in accordance with the Platform's results.
- 40.41. Test Dispatch Instruction: The instruction for activation of a Manual FRR issued by the HETS Operator to the Balancing Service Entities, whenever necessary and without prior notice, by which the Maximum Available Capacity and the ability of the Entities to provide full reserves in accordance with their Registered Characteristics can be certified
- 41.42. Testing operation: The status of a Balancing Service Entity, which is registered with the HETS Operator Registry, during tests or operational controls.
- 42.43. Commissioning operation: The status of a pre-registered Balancing Service Entity in the course of the tests or operational controls that are conducted for its connection to the HETS, as set out in the connection contract and the relevant provisions of the HETS Grid Code, so that it can be registered with the HETS Operator Registry.
- 43.44. Demand Facility: It shall have the meaning of Article 2(1) of Regulation (EU) 2016/1388, that is, a facility which consumes electricity and is connected at one or more connection points to the transmission or distribution system. A distribution system and/or auxiliary supplies of a power generating facilities do not constitute a demand facility.
- 44.45. Offtake Facility: The Demand Facilities and auxiliary supplies of power generating modules.
- 45.46. Imbalance Settlement: It shall have the meaning of Article 2(9) of Regulation (EU) 2017/2195, i.e., a financial settlement mechanism for charging or paying Balance Responsible Parties for their Imbalances
- 46.47. Clearing of Positions: The processes of notification of Positions by the HETS Operator to the Clearing House and their finalization by the Clearing House, calculation of net cash obligations and claims arising from the Positions, valuation of collateral, calculation and coverage of Margin requirements, as well as the announcement of Clearing results to Clearing Members, management of the Clearing Capital, management of cases of defaulting Clearing Members and any other similar issue in relation to credit risk management as set out in the Clearing Rulebook for Balancing Market Positions.

- 47.48. Balancing Market Settlement: The transparent calculation of the quantities of Balancing Energy and Balancing Capacity and the relevant Imbalances, and the calculation of the monetary value of the debits and credits to Participants, as detailed in [Article 18.2](#) of this Rulebook.
- 48.49. Clearing Member: An undertaking, as defined in the Clearing Rulebook for Balancing Market Positions, which participates in the Clearing House System for the clearing of the Positions it represents and is responsible to the Clearing House for the fulfilment of cash obligations arising from the relevant Positions in accordance with the provisions of Law 4425/2016 and the provisions specified in the above Rulebook.
- 49.50. Load Representative: Balance Responsible Parties representing Entities that offtake energy from the HETS or the electricity Distribution network, other than Demand Response Aggregators.
- 50.51. Trader: The natural or legal person who engages in the commercial trade of electrical energy, in accordance with Law 4001/2011.
- 51.52. Minimum Available Capacity: The capacity defined in [Article 10.2](#) of this Rulebook.
- 52.53. Safety Minimum Reservoir Level: The minimum level per reservoir, above which the Dispatchable Hydro Generating Units Providers connected to the Reservoir may submit declarations of maximum daily energy injection constraint for the above Units.
- 53.54. Minimum up time: The minimum time of operation, as set out in the Registered Characteristics of the Balancing Service Entity, between a start-up and the next shut-down.
- 54.55. Minimum down time: The minimum lost operating time between a shut-down and the next start-up, in accordance with the Registered Characteristics of the Balancing Services Entity.
- 55.56. Balancing Energy: The energy provided by a Balancing Service Provider and used by the HETS Operator to make a balance, i.e., to cover the generation/demand imbalances. It is divided into upward and downward Balancing Energy.
- 56.57. Priority Price-Taking (Sell/Buy) Orders: Buy/sell orders with price acceptance and execution priority, which are One-Step Hourly Hybrid Orders (buy/sell) submitted at a price equivalent to the (maximum/minimum) acceptable price in the Day-Ahead Market, that is, at the Upper/Lower Buy Order Price, respectively.
58. Dispatch Instruction: The instruction issued by the HETS Operator, determining active power generation, active power increase or decrease, synchronization or desynchronization, provision of reserves and other Ancillary Services and, in general, the mode of operation of Balancing Service Entities.
- 57.59. [Injection Curtailment Instructions: Injection Curtailment Instructions to RES and High-Efficiency CHP Stations or groups of such Stations shall mean the instructions issued by the HETS and the Grid Operator for a specific period of time \(per instruction\), in order to limit the active power injected by RES and High-Efficiency CHP Units or groups of such Units, for reasons related to the reliability or operational security of the HETS and the Grid. An Injection Curtailment Instruction shall also include the disconnection of installations or equipment of RES and High-Efficiency CHP Units, for reasons related to the reliability or operational security of the HETS and the Hellenic Electricity Distribution Network \(HEDN\).](#)
- 58.60. Ancillary Service: This has the meaning of Article 2(3)(case 17) of Law 4001/2011, that is, all services necessary for the management of a transmission system or a distribution

network, including balancing services and non-frequency-related ancillary services, excluding congestion management.

~~59.61.~~ European aFRR Platform: The European Platform for the International Coordination of Automated Frequency Restoration and Stable System Operation (PICASSO), as provided for in Article 21 of Regulation (EU) 2017/2195.

~~60.62.~~ European Imbalance Netting Platform: The European platform facilitating the imbalances clearing procedure provided for in Article 22 of Regulation (EU) 2017/2195 (Imbalance Netting Platform – IN Platform).

~~61.63.~~ Frequency Restoration Reserve (FRR): It shall have the meaning of Article 3(7) of Regulation (EU) 2017/1485, that is, the active power reserves available to restore system frequency to the nominal frequency and, for a synchronous area consisting of more than one load frequency control area, to restore power balance to the scheduled value. A distinction is made between FRR with automatic activation and FRR with manual activation (aFRR and mFRR).

~~62.64.~~ Frequency Containment Reserve (FCR): It shall have the meaning of Article 3(6) of Regulation (EU) 2017/1485, that is, the active power reserves available to contain system frequency after the occurrence of an imbalance.

~~63.65.~~ Bidding Zone: Bidding zone is defined under Article 2(3) of Regulation (EU) 543/2013, i.e., the largest geographical area within which market participants are able to exchange energy without capacity allocation. Bidding Zones are approved by decision of the RAEWW, subsequent to a proposal from the Transmission System Operator and a relevant study as provided for in the HETS Grid Code.

~~64.66.~~ Physical Delivery Day: This has the meaning ascribed to it under Article 5(case f) of Law 4425/2016, i.e. it is the day on which the quantities of energy traded on the Electricity Markets are delivered.

~~65.67.~~ Dispatch Day: It has the meaning specified in ~~Article 8.2~~Article 8.2 of this Rulebook, that is, the day to which the ISP refers, which coincides with the Physical Delivery Day of the Day-Ahead Market and the Intra-Day Market. Dispatch Day D shall start at 01: 00 EET of calendar day D and shall end at 01:00 EET of calendar day D +1.

~~66.68.~~ Termination Date: The date referred to in ~~Article 4.4~~Article 4.4(3) of this Rulebook.

~~67.69.~~ Positions: The monetary claims and corresponding obligations of the Participants and the HETS Operator arising in relation to the Balancing Market, excluding non-Compliance Charges, as calculated by the HETS Operator in accordance with ~~Article 18.2~~Article 18.2 of this Rulebook and entered into the Clearing House system on the basis of the relevant notifications to the HETS Operator, under the terms of the Clearing Rulebook for Balancing Market Positions.

~~68.70.~~ Balancing Capacity: A volume of reserve capacity that a Balancing Service Provider has agreed to hold in each Dispatch Period and in respect to which the Balancing Service Provider has agreed to submit bids to the HETS Operator for a corresponding volume of Balancing Energy for the duration of the contract.

~~69.71.~~ Downward Balancing Energy: The Balancing Energy that corresponds to less generated energy or more consumed energy in relation to the Market Schedule.

~~70.72.~~ Clearing Rulebook for Balancing Market Positions: The Rulebook issued by the Clearing House and approved by the Regulatory Authority for Energy, Waste and Water (RAEWW) in accordance with Article 13(2) of Law 4425/2016.

- 71.73. Consumer: This has the meaning ascribed by Article 2 (1)(16) of Law 4001/2011, i.e. 1) a natural or legal person who purchases natural gas or electricity or thermal energy exclusively for their own use and 2) a natural or legal person who purchases electricity for the purpose of providing charging services for electric vehicles (EV).
- 72.74. Dispatchable Generating Units: The power generating units with a valid production license, which are located on the mainland or on the interconnected islands, have made and activated a connection to HETS, have submitted an operating license and have an installed capacity over 5 MW, for which the HETS Operator may issue Dispatch Instructions, provided they are not RES Units, Emergency Reserve Units, and only during the period for which an Ancillary Service Contract or a Supplementary System Energy Contract is not in force or is not implemented, in accordance with the HETS Grid Code.
- 73.75. Dispatchable Generating Units with Alternative Fuel: Dispatchable Generating Units having the obligation or the ability to operate both with primary and alternative fuels.
- 74.76. Dispatchable HECHP Units: Partial cogeneration units with an installed capacity of over 35 MWe which, by decision of the Regulatory Authority for Waste, Energy, and Water, have been designated as Dispatchable High Efficiency CHP Units.
- 75.77. Multi-Shaft Combined Cycle Dispatchable Generating Units: Combined Cycle Dispatchable Generating Units in which gas turbines and steam turbines are located on different axes and are connected to distinct generators.
- 76.78. Emergency Situation: The Situation described in the HETS Grid Code.
- 77.79. Registered Characteristics: The technical and operational characteristics of Balancing Service Entities that remain stable every Dispatch Day, unless modified by the Balancing Service Providers. They are submitted as provided for in the HETS Grid Code.
- 78.80. Balancing Energy Offer Minimum Price: The lower limit on the pricing of Balancing Energy Offers, which is imposed for technical reasons, in accordance with [Article 12.2](#) of this Rulebook.
- 79.81. Balancing Capacity Offer Minimum Price: The lower limit on the pricing of Balancing Capacity Offers, which is imposed for technical reasons, in accordance with [Article 11.2](#) of this Rulebook.
- 80.82. Central Counter Party: It shall have the meaning specified in Article 2(42) of Regulation (EU) 2015/1222, i.e., the entity or entities with the task of entering into contracts with market participants, by novation of the contracts resulting from the matching process, and of organising the transfer of net positions resulting from capacity allocation with other central counter parties or shipping agents.
- 81.83. HETS Grid Code: The Code specified in Article 96 of Law 4001/2011.
- 82.84. Maximum Available Capacity: The capacity defined in [Article 10.2](#) of this Rulebook.
- 83.85. Maximum Available Capacity in AGC mode: The Maximum Available Capacity of the Entity while operating under AGC. It is expressed in MW. The Maximum Available Capacity in AGC mode is lower or equal to the Maximum Available Capacity.
- 84.86. Maximum Net Capacity: The maximum level of capacity that a Balancing Service Entity can maintain for any period of time provided that it operates under ISO conditions, it is not constrained by any equipment, technical or other limitations pertaining to the institutional or financial framework governing the Entity's operation, and that the internal service, as well as any other auxiliary load have been taken into consideration.

- ~~85.87.~~ Maximum Net Capacity in AGC mode: The Maximum Net Capacity of the Entity while operating under Automatic Generation Control (AGC). It is expressed in MW. The Maximum Net Capacity in AGC mode cannot exceed the Maximum Net Capacity.
- ~~86.88.~~ Maximum contribution to FCR: The technical capacity of a Balancing Service Entity to offer Frequency Containment Reserve, as derived from the test results and specified in the Registered Characteristics. It is defined separately for upward and downward Frequency Containment Reserve. It is expressed in MW.
- ~~87.89.~~ Maximum contribution in aFRR: The technical capacity of a Balancing Service Entity to offer automatic Frequency Restoration Reserve, as derived from the test results and specified in the Registered Characteristics. It is defined separately for upward and downward automatic Frequency Restoration Reserve. It is expressed in MW.
- ~~88.90.~~ Maximum contribution in mFRR: The technical capacity of a Balancing Service Entity to offer manual Frequency Restoration Reserve, as derived from the test results and specified in the Registered Characteristics. It is defined separately for upward and downward manual Frequency Restoration Reserve. It is expressed in MW.
- ~~89.91.~~ Maximum number of Activations per Dispatch Day: The maximum number of Activations of a Dispatchable Load Portfolio for Balancing Energy and Capacity on a Dispatch Day.
- ~~90.92.~~ Maximum up time: The maximum number of consecutive Dispatch Periods during which a Dispatchable Load Portfolio can provide Energy and/or upward/downward Balancing Capacity.
- ~~91.93.~~ HETS Operator Registry: The Registry provided for in ~~Article 4.1~~[Article 4.1](#) of this Rulebook.
- ~~92.94.~~ Balancing Market Generating Units Registry: The Registry provided for in ~~Article 5.2~~[Article 5.2](#) of this Rulebook.
- ~~93.95.~~ Balancing Service Providers Registry: The Registry provided for in ~~Article 4.2~~[Article 4.2](#) of this Rulebook.
- ~~94.96.~~ Balance Responsible Parties Registry: The Registry provided for in ~~Article 4.2~~[Article 4.2](#) of this Rulebook.
- ~~95.97.~~ Dispatchable RES Units Portfolio Registry: The Registry provided for in ~~Article 5.3~~[Article 5.3](#) of this Rulebook.
- ~~96.98.~~ Dispatchable Load Portfolio Registry: The Registry provided for in ~~Article 5.4~~[Article 5.4](#) of this Rulebook.
- ~~97.99.~~ RES Unit: A unit generating electricity from Renewable Energy Sources (RES) as defined by Law 3468/2006.
- ~~98.100.~~ Controlled RES Production Units: Non-Intermittent RES and CHP units, within the meaning of Law 4414/2016, i.e. power units that use biomass or biogas, plants that use geothermal potential, solar thermal plants and CHP plants.
- ~~99.101.~~ Intermittent RES Generation Units: Intermittent RES units, within the meaning of Law 4414/2016, i.e. RES power units that are not of controlled production, in particular wind, photovoltaic and small hydroelectric power plants.
- ~~100.102.~~ RES Units with Market Participation Obligation: The RES Units for which a Contract for Differential State Aid Support has been concluded in accordance with the provisions of Law 4414/2016, as well as the RES Units covered by Article 3(19) and Article 12A of Law 4414/2016.

- ~~101.~~103. RES Units without Market Participation Obligation: RES Units for which a Feed-in Tariff Agreement has been concluded in accordance with the provisions of Law 4414/2016, as well as the RES Units for which a Power Purchase Agreement has been concluded in accordance with the provisions of Article 12 of Law 3468/2006 or a similar electricity purchase and sale agreement prior to the entry into force of Law 3468/2006.
- ~~102.~~104. Balance Responsible Entities: The entities represented by Balance Responsible Parties in accordance with ~~Article 5.1~~Article 5.1 of this Rulebook.
- ~~103.~~105. Balancing Service Entities: The units or portfolios that are in a position to provide Balancing Services to the HETS Operator which are represented by the Balancing Service Providers in accordance with ~~Article 5.1~~Article 5.1 of this Rulebook.
- ~~104.~~106. Final Settlement: It shall have the meaning of Settlement as laid down in ~~Article 23.1~~Article 23.1 (4) to (6) of this Rulebook.
- ~~105.~~107. Producer: The holder of a Production License or a relevant exemption from the obligation to obtain a Production License.
- ~~106.~~108. Parallel Connection: The connection of at least one generation or consumption facility with the HETS on the one hand and a Direct Line on the other.
- ~~107.~~109. Balancing Service Provider – BSP: This shall have the meaning ascribed to it under Article 2(6) of Regulation (EU) 2017/2195, that is, a market Participant with units or portfolios able to provide Balancing Services to the HETS Operator.
- ~~108.~~110. Imbalance Settlement Period: This has the meaning of Article 2(4) of Regulation (EU) 2019/943, that is, the unit of time used to calculate the Imbalance of the Balance Responsible Parties.
- ~~109.~~111. Dispatch Period: It shall have the meaning specified in ~~Article 8.2~~Article 8.2 of this Rulebook, that is, a period of time that lasts for half an hour. The first Dispatch Period of Dispatch Day D is 01:00 – 01:30 EET.
- ~~110.~~112. Electricity Supply Volume via Direct Line: The volume of electricity supplied to a Demand Installation with a Parallel Connection via Direct Line, to the extent that such energy is generated by generating units connected to the Direct Line, as calculated in accordance with ~~Article 18.4~~Article 18.4.
- ~~111.~~113. Shipping Agent: This has the meaning specified in Article 2(43) of Regulation (EU) 2015/1222, that is, the entity or entities tasked with transferring net positions between different central counterparties.
- ~~112.~~114. Market Schedule: The net energy schedule (net position) resulting from all transactions of the entity on the wholesale market (i.e. transactions on the Energy Financial Market, the Day-Ahead Market or the Intra-Day Market) as defined in the Day-Ahead Market & Intra-Day Market Trading Rulebook.
- ~~113.~~115. ISP Schedule: The indicative generation/ consumption schedule for each Balancing Service Entity and for each Dispatch Period of the Dispatch Day as it derives from the ISP solution system.
- ~~114.~~116. Supplier: The natural or legal person who engages in the commercial trade of electrical energy, in accordance with Law 4001/2011.
- ~~115.~~117. Default Supplier: The electricity Supplier as defined in Article 58 of Law 4001/2011.
- ~~116.~~118. Supplier of Last Resort: The electricity Supplier as defined in Article 57 of Law 4001/2011.

- ~~117.119.~~ Adjusted Dispatch Instruction: The Dispatch Instruction modified in such a way as to take into account the availability of the Balancing Service Entity as laid down in the “Activated Balancing Energy Calculation Methodology”.
- ~~118.120.~~ Balancing Energy Deficit Premium: A price determined by decision of the Regulatory Authority for Waste, Energy, and Water, which increases the Upward Balancing Energy Price (mFRR) in cases where, during an Imbalance Settlement Period, energy was injected from Contracted Generating Units, Supplementary Energy from Emergency Imports, or Load Shedding was performed.
- ~~119.121.~~ Balancing Energy Offer: A Balancing Energy Offer corresponds to the intention to provide upward or downward Balancing Energy in relation to the Market Schedule of the respective Balancing Service Entity. Balancing Energy Offers are described in [Article 12.1](#)~~Article 12.1~~ of this Rulebook.
- ~~120.122.~~ Balancing Capacity Offer: A Balancing Capacity Offer corresponds to the intention to provide reserves for Reserve Capacity products. Balancing Capacity Offers are described in [Article 11.1](#)~~Article 11.1~~ of this Rulebook.
- ~~121.123.~~ Regulatory Authority for Energy, Waste and Water (RAEWW): The independent authority which was established with Law 2773/1999 and is the national regulatory authority for issues of Electricity and Gas, Water services, and Municipal Waste management, as defined in Directives (EU) 2019/944 and 2009/73/EC.
- ~~122.124.~~ Ramp Up Rate: The rate of increase of the active power of a Balancing Service Entity, expressed in MW/min, when the Entity is committed and not in the start up or shut down phase.
- ~~123.125.~~ Ramp Down Rate: The rate of decrease of the active power of a Balancing Service Entity, expressed in MW/min, when the Entity is committed and not in the start up or shut down phase.
- ~~124.126.~~ Ramp Up Rate in AGC mode: The rate of increase of the active power of a Balancing Service Entity, expressed in MW/min, when operating under AGC.
- ~~125.127.~~ Ramp Down Rate in AGC mode: The rate of decrease of the active power of a Balancing Service Entity, expressed in MW/min, when operating under AGC.
- ~~126.128.~~ Balance Responsible Party (BRP): It shall have the meaning specified in Article 2(7) of Regulation (EU) 2017/2195, i.e., a Market Participant or its chosen representative responsible for its imbalances.
- ~~127.129.~~ Balancing Service Contract: The contract concluded with the HETS Operator upon registration of the Participants in the Balancing Service Providers Registry, in accordance with [Article 4.2](#)~~Article 4.2~~ of this Rulebook.
- ~~128.130.~~ Balance Responsible Party Contract: The contract concluded with the HETS Operator upon registration of the Participants in the Balancing Service Providers Registry, in accordance with [Article 4.2](#)~~Article 4.2~~ of this Rulebook.
- ~~129.131.~~ HETS Operator Transactions Contract: The contract between the HETS Operator and the Participants registered with the HETS Operator Registry, which is concluded as provided for in the HETS Grid Code.
- ~~130.132.~~ Contracted Generating Units: The Dispatchable Generating Units that have concluded Supplementary System Energy Contracts or Ancillary Services Contracts with the HETS Operator in accordance with the HETS Code.
- ~~131.133.~~ Participant: The participant in the Balancing Market, either as a Balancing Service Provider or as a Balance Responsible Party.

- ~~132~~.~~134~~. Supplementary Settlements: The Corrective Settlement or the Final Settlements.
- ~~133~~.~~135~~. Participant subject to Deletion: The Participant who has submitted a declaration terminating the Balancing Service Provision Contract/Balance Responsible Party Contract, for the period from the day after the last active participation date until the termination takes effect, the termination of their Contract and final deletion from the HETS Operator Registry, in accordance with the provisions of ~~Article 4.4~~[Article 4.4](#) this Rulebook.
- ~~134~~.~~136~~. Supplementary Energy from Emergency Imports: It shall have the meaning of the HETS Grid Code, i.e. the active power quantity which the System Operator is responsible for providing to the System in order to cover the needs in Supplementary System Energy.
- ~~135~~.~~137~~. Balancing Market System: A system that performs all the processes and all the necessary calculations and records all the data and the results of the Balancing Market in terms of ISP, Balancing Energy Market and Balancing Market Settlement. The Balancing Market System is described in ~~Article 2.2~~[Article 2.2](#) of this Rulebook.
- ~~136~~.~~138~~. Emergency Plan: It means a plan that is drawn up in accordance with Article 73 of Law 4001/2011.
- ~~137~~.~~139~~. Technical Decisions: The technical decisions provided for in Article 18 of Law 4425/2016 and Annex I of this Rulebook.
- ~~138~~.~~140~~. Technically Minimum Generation: The minimum level of capacity that a Balancing Service Entity can maintain for any period of time, provided that it operates under ISO conditions, it is not constrained by any equipment, technical or other limitations pertaining to the institutional or financial framework governing the Entity's operation, and provided that the internal service and any other auxiliary load have been taken into consideration.
- ~~139~~.~~141~~. Technically Minimum Generation under Automatic Generation Control (AGC). The Technically Minimum Generation of an Entity when it is operating under Automatic Generation Control (AGC). It is expressed in MW. Technically Minimum Generation under Automatic Generation Control (AGC) may be higher or equal to Technically Minimum Generation.
- ~~140~~.~~142~~. mFRR Upward Balancing Energy Price: The price calculated in accordance with ~~Article 19.2~~[Article 19.2](#) of this Rulebook, whereby the Balancing Service Providers that provide upward Balancing Energy for mFRR are remunerated.
- ~~141~~.~~143~~. Imbalance Price: The price calculated in accordance with ~~Article 19.6~~[Article 19.6](#) of this Rulebook based on which the Balance Responsible Parties are debited or credited for their respective Imbalances.
- ~~142~~.~~144~~. mFRR Downward Balancing Energy Price: The price according to ~~Article 19.2~~[Article 19.2](#) whereby Balancing Service Providers providing downward mFRR Balancing Energy are compensated.
- ~~143~~.~~145~~. Standardized Product: The harmonized balancing energy product determined by all of the Transmission System Operators (TSOs) for the purpose of exchanging balancing services as part of their participation in the European Platforms, in accordance with Article 25 of Regulation (EU) 2017/2195 (Electricity Balancing Regulation).
- ~~144~~.~~146~~. Balancing Services: They must be interpreted according to the meaning of Article 2(3) of Regulation (EU) 2017/2195, i.e., Balancing Energy or Balancing Capacity, or both.

- ~~145.147.~~ Clearing House: It shall have the meaning of case (ist) of Article 5 of Law 4425/2016.
- ~~146.148.~~ RES Aggregator: It has the meaning of the Cumulative Representation Body of Power Plants from Renewable Energy and Power Plants of Part 22 of Article 2 of the Law. 4414/2016.
- ~~147.149.~~ Last Resort RES Aggregator: It shall have the meaning of Article 2(case 23) of Law 4414/2016.
- ~~148.150.~~ Demand Response Aggregator: This has the meaning attributed to in Article 5(case 15) of Law 4425/2016 and in particular refers to the holder of a respective licence to carry out the activity of aggregated representation in relation to the Demand Response Service.
- ~~149.151.~~ Dispatchable Load Portfolio Baseline: The load which corresponds to the electricity that would have been consumed by the Dispatchable Load Portfolio if it hadn't received a Dispatch Instruction to activate a Balancing Energy Offer.
- ~~150.152.~~ Baseline of Portfolio of Intermittent Dispatchable RES Production Units: The production calculated by the HETS Operator, which corresponds to the electricity that would have been produced by the Portfolio of the Intermittent Dispatchable RES Units if it had not received a Dispatch Instruction to activate a Balancing Energy Offer.
- ~~151.153.~~ Physical Transmission Right: The right ascribed to the holder for physical delivery of a specific quantity of electricity within a specified time unit between two bidding zones and in a specific direction.
- ~~152.154.~~ Dispatchable Load Portfolio: A load portfolio that includes one or more Demand Facilities which are connected to a specific Bidding Zone and which, based on their technical capacity, offer Balancing Services to the HETS Operator. A Dispatchable Load Portfolio is represented by a Demand Response Facility or, in the case of one or more Demand Facilities owned by the Consumer themselves, by a Consumer. Each Dispatchable Pumped-Storage Hydro Generating Unit is treated as a separate Dispatchable Load Portfolio.
- ~~153.155.~~ Load Portfolio: The load portfolio, which includes one or more Offtake Facilities connected to a specific Bidding Zone. Each Load Portfolio shall be represented by one Supplier or one Consumer.
- ~~154.156.~~ RES Units Portfolio without Market Participation Obligation: The RES Units Portfolio for which either a Feed-in Tariff Agreement has been concluded in accordance with the provisions of Law 4414/2016, or a Power Purchase Agreement has been concluded in accordance with the provisions of Article 12 of Law 3468/2006 or a similar electricity purchase and sale agreement prior to the entry into force of Law 3468/2006 which (Units) are connected to a specific Bidding Zone. RES Units Portfolios without Market Participation Obligation shall be represented by DAPEEP. DAPEEP has balancing responsibility for the RES Units Portfolios without Market Participation Obligation.
- ~~155.157.~~ Dispatchable RES Units Portfolio: The RES Units portfolio that includes one or more RES Units with Market Participation Obligation which are connected to a specific Bidding Zone and which, based on their technical capacity, offer Balancing Services to the HETS Operator. A Dispatchable RES Units Portfolio shall be represented by one RES Producer or by one RES Aggregator.
- ~~156.158.~~ Non-Dispatchable RES Units Portfolio: The RES Units portfolio that includes one or more RES units with Market Participation Obligation connected to a particular Bidding Zone and which do not offer Balancing Services to the HETS Operator. Each Non-

Dispatchable RES Units Portfolio shall be represented by one RES Producer or by one RES Aggregator.

~~157.159.~~ Non-Compliance Charges: The charges provided for in ~~CHAPTER 22~~ ~~CHAPTER 22~~ of this Rulebook.

~~158.160.~~ Energy Exchange: A public limited company that manages one or more Energy Markets and/or Energy Financial Markets.

~~159.161.~~ Direct Line User: The customer or the holder of a Production License, Electricity Producer Certificate, Special Project Certificate, or Certificate for Exempted Stations, whose facilities are already connected or will be connected to a Direct Line.

## CHAPTER 2. BALANCING MARKET SYSTEM

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### Article 2.1 Balancing Market System Description

1. The Balancing Market System shall perform all the procedures and all the necessary calculations, and shall record all the data and the results of the Balancing Market in connection to the ISP, the Balancing Energy Market and the Balancing Market Settlement. The Balancing Market System shall include the following subsystems:
  - a) the HETS Operator Registry,
  - b) the Physical Transmission Rights Declaration Submission System of the HETS Operator,
  - c) the Balancing Market Bidding Submission System,
  - d) the Dispatch Information Administration System, including: the Load Forecasting / RES Injection Forecasting / Reserve Requirements Forecasting Mechanism, the interface with the Energy Exchange for acquisition of the Market Schedules of all Entities, the Integrated Schedule Process solution mechanism and the Balancing Energy Market solution mechanism, the mechanism that produces the Dispatch Instructions in real time and the interface with the Supervisory Control and Data Acquisition System (SCADA).
  - e) the Balancing Market Settlement System, which carries out all clearing calculations and processes, as well as acting as the interface with the Clearing House;
  - f) the Participant Communication System and the databases required for the operation of all of the above; and
  - g) the systems and databases required for the participation of the HETS Operator in the European Platforms as per Regulation (EU) 2017/2195.
2. The HETS Operator shall operate and maintain the Balancing Market System. The Balancing Market System must be fully compatible with the functions provided for in this Rulebook.
3. The HETS Operator shall take the appropriate measures to prevent any operational issues in the Balancing Market System and shall try to restore any failure or malfunction, as soon as possible. The HETS Operator shall not be liable to the Participants for any loss they may incur due to any unforeseen failure or malfunction in the Balancing Market System, even temporary ones, or due to any loss of data from the Balancing Market System, or due to any malicious use of the Balancing Market System or the data therein by third parties.
4. The Balancing Market System supports the commonly accepted principles of good business practices, it is based on modern, appropriate and reliable information and communication technologies and complies with strict standards of uninterrupted operation, increased reliability and integrity of information.
5. The Balancing Market System databases are protected by an appropriate security system that does not allow access to classified information to unauthorized persons. The System itself provides protection against deletion of information from the databases.

### Article 2.2 Access to the Balancing Market System

1. The HETS Operator shall provide the specified access to the Balancing Market System if the following conditions are met:

- a) the registered Balancing Service Provider/registered Balance Responsible Party has fulfilled the authentication requirements. These requirements may include, inter alia, the obligation to provide an electronic certificate for signature, encryption or other authentication technology purposes, and
  - b) the representative(s) of the Registered Balancing Service Provider/registered Balance Responsible Party, for whom the user account (s) is (are) created in the Balancing Market System, has (have) succeeded in the suitability test conducted by the HETS Operator on the proper use of the Balancing Market System.
2. The HETS Operator shall confirm the creation of the User Account (s) or send a rejection note to the registered Balancing Service Provider/Balance Responsible Party, no later than five (5) business days from the completion of the suitability test by the Balancing Market representative(s) of the registered Balancing Service Provider/Balance Responsible Party. The confirmation or rejection shall be sent by any means to the designated representative of the registered Balancing Service Provider / Balance Responsible Party.
  3. If the conditions referred to in paragraph 1 of this Article are not met, the HETS Operator shall notify the registered Balancing Service Provider / Balance Responsible Party of the rejection and shall not grant access to the Balancing Market System.

### **Article 2.3 Balancing Market System Certification**

1. The HETS Operator shall ensure that the Balancing Market System is certified by an independent inspection firm, which shall certify compatibility with the functions and procedures included in this Rulebook and shall conduct either:
  - a) a full inspection, or
  - b) A partial inspection of the changes and their impact on the remainder of the Balancing Market System.

Such certification shall take place every time the Balancing Market System is significantly modified. The HETS operator shall publish the inspection certificate on its website.

2. Every time the HETS Operator shall determine whether a full inspection or partial inspection is needed time at its discretion.

### **Article 2.4 Communication between the HETS Operator and the Participants**

1. Communication between the HETS Operator and the Participants, which includes all notifications or submissions provided for in this Rulebook, shall be performed by electronic means through the Balancing Market System. In case communication through the Balancing Market System is not possible for any reason, or in case of emergency, communication can take place by other means such as telephone, email or fax at the discretion of the HETS Operator.
2. The HETS Operator shall use the appropriate international standards to establish appropriate interconnection protocols for the Participants to communicate with the Balancing Market System and shall make these interconnection protocols available to all requesting persons. The Participants shall put into service systems that are suitable for effective communication with the Balancing Market System operated by the HETS Operator.
3. The Balancing Market System automatically issues an acknowledgment of receipt, which is sent directly to the Participants through the Participants Communication System.

4. In the event of a total or partial unavailability of the Participants Communication System, the HETS Operator shall immediately notify all the Participants by sending a relevant notice by any appropriate means, specifying the procedure to be followed for further communication and the expected amount of time required to restore the system availability. As soon as the system is restored, the HETS Operator shall notify all Participants electronically.
5. In any case, the Participants Communication System shall be the preferred route of communication as long as there is no unavailability issue. In that case, the provisions on Emergency Situations, as defined in the HETS Grid Code, shall apply.
6. Each Participant shall comply with specific standards in its communications with the HETS Operator. These standards shall apply with regard to the operational capability, reliability and safety of its own communication centers and the appropriate computer and data networking equipment. The equipment must be used by the Participants only for their communications with the Balancing Market System.
7. Each Participant shall be responsible for the provision and maintenance of telephone, fax and e-mail equipment at its own expense.
8. The HETS Operator shall not be liable to the Participants for the timely transmission of offers, declarations or other data from the Participants, or for technical failures in the systems and the equipment used by the Participants to communicate with the Balancing Market System.

#### **Article 2.5 Participants Support**

The HETS Operator shall inform the Participants about the Balancing Market System and shall provide support and instructions so that they can get a suitable and compatible system for their communication with the Balancing Market System

#### **Article 2.6 Record Keeping**

1. The HETS Operator shall keep a record of all the information used for the execution of its responsibilities under this Rulebook, for at least five (5) years. The HETS Operator shall provide the Participants with a copy of the information pertaining to them, in editable form, at their request.
2. All data generated by the Balancing Market System are the property of the HETS Operator.

#### **Article 2.7 Publication of Information by the HETS Operator**

1. The HETS Operator shall publish on its web site, at the end of each calendar month, information on the operation of the Balancing Market in the preceding calendar month, which shall include at least the following items:
  - a) the total electricity and maximum total HETS load per Dispatch Day,
  - b) the zonal imbalances per Imbalance Settlement Period,
  - c) any important HETS events,
  - d) aggregate information on Dispatch Instruction violations by Balancing Service Providers.

## CHAPTER 3. MISCELLANEOUS

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### Article 3.1 Force Majeure

1. For the purpose of this Rulebook Force Majeure events shall mean all events that affect the performance of obligations arising from this Rulebook, are beyond the control of the party affected by them and could not have been anticipated or prevented, despite the diligence that any prudent party might have shown.
2. If any party is unable to fulfill any of its obligations under this Rulebook due to circumstances of Force Majeure, the fulfillment of mutual claims and obligations arising from the corresponding Balancing Service Contract or the Balance Responsible Party Contract shall be suspended for the Force Majeure period.
3. In the event of Force Majeure, the HETS Operator or the registered Balancing Service Provider/registered Balance Responsible Party that invokes Force Majeure, shall have the following obligations:
  - a) it shall be required to send to the other party a notice, as soon as possible, describing the nature of the Force Majeure event and its probable duration, and to continue to give reports with reasonable frequency during the period of the Force Majeure event.
  - b) it shall make every possible effort to limit the consequences of the Force Majeure event, as soon as possible, after the occurrence of the Force Majeure event,
  - c) it shall cooperate with the other Party in the interest of finding the best way to continue their activities to the extent possible in accordance with this Rulebook.
4. If the Force Majeure event continues for a period longer than six (6) months, the HETS Operator or the registered Balancing Service Provider/registered Balance Responsible Party affected by the Force Majeure event may unilaterally terminate the Balancing Service Contract or the Balance Responsible Party Contract, respectively, by notice to the other party. The termination shall take effect within ten (10) business days from the date of the notice or at any later date specified in the Termination Notice.

### Article 3.2 Notices

1. In addition to communication through the Balancing Market System as described in [Article 2.4](#)~~Article 2.4~~ or otherwise specified in this Rulebook, any notice or other communication in the context of or in connection with this Rulebook shall be conducted by personal delivery, or by post, fax or email, and shall be addressed to the representative of the other party, as defined in the Balancing Service Contract / Balance Responsible Party Contract, or as notified by the registered Participant.
2. In particular, for any communication concerning (i) the conclusion of the Balancing Service Contract/Balance Responsible Party Contract pursuant to [Article 4.2](#)~~Article 4.2~~, communication shall be conducted by personal delivery only or by post, with proof of receipt, or (ii) the termination thereof, according to [Article 4.4](#)~~Article 4.4~~, by bailiff service.
3. All notices and other communications, shall be deemed to have been received by the party they are addressed to, as follows:
  - a) in case of personal delivery or delivery by post, at the time of delivery,
  - b) in case of fax, at the time indicated on the proof of delivery of the sender's facsimile machine,

- c) in case of e-mail, at the time the e-mail was sent, indicated on the proof of sending.
4. If a notification or other announcement has been received outside the working hours of a business day, it shall be deemed to have been received at the beginning of the working hours on the following business day.

### Article 3.3 Transparency – Confidentiality

1. The HETS Operator shall comply with all the rules laid down in the applicable legislation regarding transparency and disclosure of information with respect to the transactions carried out in the context of the Balancing Market, and, in particular, with the provisions of:
  - a) Regulation (EU) 1227/2011 of the European Parliament and of the Council of 25 October 2011 on the integrity and the transparency of the wholesale energy market,
  - b) Implementing Commission Regulation (EU) 1348/2014 of 17 December 2014 on the reporting of data for the implementation of Article 8 (2) and (6) of Regulation (EU) 1227/2011 of the European Parliament and of the Council on the integrity and the transparency of the wholesale energy market,
  - c) Commission Regulation (EU) 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and on amending Annex I to Regulation (EC) 714/2009 of the European Parliament and of the Council,
  - d) Commission Regulation (EU) 2017/2195 of 23 November 2017 on establishing a guideline on electricity balancing, or
  - e) any other relevant regulatory act or law.
2. The HETS Operator shall provide to third parties, and, in particular, to the Participants, following a reasoned request, information relating to transactions carried out in the framework of the Balancing Market, provided that:
  - a) this act is not contrary to a provision of law,
  - b) the information does not constitute commercially sensitive information and its provision does not entail unfair commercial or competitive advantages to third parties and, in particular, to the registered Participants and
  - c) the third party, including the registered Participants, is bound by a confidentiality clause.
3. General information on the operation of the System as well as information on statistical data is not considered to be confidential.
4. Without prejudice to paragraph 3 of this Article, the HETS Operator and any registered Balancing Service Provider/registered Balance Responsible Party that receives confidential information in connection with this Rulebook shall preserve the confidentiality of such information and shall not disclose, report, publish, communicate, transfer or use, directly or indirectly, any part of the confidential information for a purpose other than that for which it was notified to it.
5. Without prejudice to paragraph 3 of this Article, the HETS Operator or the registered Balancing Service Provider/registered Balance Responsible Party may disclose confidential information of another party:
  - a) to the extent provided for in this Rulebook or the Clearing Rulebook for Balancing Market Positions.

- b) to the extent required, in order to comply with the applicable national or European legislation as provided for in paragraph 1 of this Article,
  - c) to the extent required by competent courts or authorities during proceedings before them, in which the addressee participates,
  - d) if required for the proper fulfillment of its duties and obligations under applicable law and this Rulebook, or
  - e) if required for the issuing of licenses or approvals by the competent authority.
6. Moreover, the obligations arising from this Article shall not apply:
- a) if the party receiving the information can prove that, at the time of disclosure, such information was already publicly available,
  - b) if the party receiving the information presents evidence that, since the notification the information has been legally received by a third party or made available to the public,
  - c) to confidential information disclosed in accordance with legal and regulatory arrangements in an aggregated form, from which no information relevant to a particular Market Participant can be deducted,
  - d) to information whose publication is explicitly provided for in the present Rulebook.
7. The confidentiality obligations of this Article shall remain in effect for the entire duration and for a period of five (5) years from the termination of the Balancing Service Contract or the Balance Responsible Party Contract.
8. The conclusion of a Balancing Service Contract or Balance Responsible Party Contract and the exchange of confidential information shall not give rise to any right to patents, knowledge or any other form of copyright in respect of information or tools made available or sent by one party to another by virtue of this Rulebook.

#### **Article 3.4 Release and Assignment**

The Registered Participant may not release or assign any of the rights or obligations arising from the Balancing Service Contract or the Balance Responsible Party Contract, or this Rulebook to third parties. In particular, the above persons are allowed to assign the Clearing of Positions they may possess to a Clearing Member with respect to their cash obligations and the corresponding claims arising from such Positions in accordance with the Clearing Rulebook for Balancing Market Positions

#### **Article 3.5 Applicable law and jurisdiction**

1. This Rulebook is governed by and interpreted in accordance with the Greek law.
2. The courts of Athens are competent for resolving any dispute that may arise from or in connection with this Rulebook.

#### **Article 3.6 Language and Currency**

1. If this Rulebook is translated into English, in the event of discrepancy between the Greek text and the English version, the Greek text shall prevail over the English language version.
2. For the purposes of implementation of the provisions of this Rulebook, all amounts shall be in euros.

### Article 3.7 Waiver

Omission or delay in the exercise of any right, power or judicial remedy, or individual or partial exercise of any such right, power or judicial remedy provided for by law or by this Rulebook, shall not constitute a waiver of this or any other right, power or judicial remedy.

### Article 3.8 Entirety of the agreement

1. This Rulebook, the Balancing Service Contract, the Balance Responsible Party Contract, the HETS Grid Code, and the HETS Transactions Contract constitute the full agreement between the HETS Operator and each registrant entered in the HETS Operator Registry.
2. If any provision of this Rulebook or the Balancing Service Contract or the Balance Responsible Party Contract or the HETS Grid Code or the HETS Transactions Contract is declared null, unenforceable or unlawful by the competent courts, or according to an arbitration or by order of a competent authority, such nullity, non-enforceability or unlawfulness shall not prejudice or affect the remaining provisions of this Rulebook, the Balancing Service Contract or the Balance Responsible Party Contract or the HETS Grid Code or the HETS Transactions Contract, which shall continue to be in force and have legal effects.

### Article 3.9 Special cases

1. Regarding Emergency Situations, the provisions of the HETS Grid Code and the Natural Gas Emergency Plan shall apply.
2. In the event that the Balancing Market is rendered inoperable, specifically due to an emergency situation, or a fault in the Balancing Market System, or in other electronic systems utilized by the HETS Operator, the HETS Operator shall apply the 'Rules for Suspension and Restoration of Market Activities', approved by the Regulatory Authority for Waste, Energy, and Water, subsequent to the recommendations of the HETS Operator, in accordance with the provisions of Article 18(4) of Law 4425/2016.

## SECTION II REGISTRATION OF PARTICIPANTS

### CHAPTER 4. CONTRACTS AND PROCEDURE FOR REGISTRATION WITH THE HETS OPERATOR REGISTRY

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#### Article 4.1 HETS Operator Registry

1. The HETS Operator keeps the HETS Operator Registry, which consists of the following individual Registries:
  - a) the Registry of Balancing Service Providers, in accordance with the [Article 4.2](#)~~Article 4.2~~,
  - b) the Balance Responsible Parties Registry, in accordance with [Article 4.2](#)~~Article 4.2~~,
  - c) the Balancing Market Generating Units Registry, in accordance with [Article 5.2](#)~~Article 5.2~~,
  - d) the Dispatchable RES Units Portfolio Registry, in accordance with [Article 5.3](#)~~Article 5.3~~ and,

- e) the Dispatchable Load Portfolio Registry, in accordance with ~~Article 5.4~~ [Article 5.4](#).
2. By virtue of registration with the HETS Operator Registry, the registrants expressly and unreservedly accept the provisions of this Rulebook and the HETS Grid Code and the Methodologies, parameters and other special approvals, Technical Decisions and Manuals issued in accordance therewith, as amended each time and in force, and they are bound to comply with their content.
3. In order to register with the HETS Operator Registry, the interested parties shall file an application as laid down in the procedure specified in ~~Article 4.5~~ [Article 4.5](#) and the Technical Decision 'Procedures for registration with the HETS Operator Registry'.
4. Together with the application for registration, the interested parties shall pay a registration fee both for their registration with the Registries specified in ~~Article 4.2~~ [Article 4.2](#), and for the registration of each separate Balancing Service Entity represented within the Registries specified in ~~Article 5.2~~ [Article 5.2](#), ~~Article 5.3~~ [Article 5.3](#) and ~~Article 5.4~~ [Article 5.4](#) of this Rulebook. The registration fee is determined by decision of the Regulatory Authority for Waste, Energy, and Water subsequent to a proposal from the HETS Operator. The DAPEEP, exclusively for its capacity as a representative of the Portfolios of RES Units without Obligation to Participate in the Market the Supplier of Last Resort and the Default Supplier are exempted from payment of the registration fee.
5. The HETS Operator shall not be responsible for the completeness, correctness and trueness of the data provided by the Participants and entered in the HETS Operator Registry. The Participants are exclusively liable therefor.

#### **Article 4.2 Balancing Service Contract and Balance Responsible Party Contract**

1. Natural or legal persons, in one or more of the following capacities, shall be entitled to register with the Balancing Service Providers Registry kept by the HETS Operator, as long as they are able to provide Balancing Services:
  - a) Producers, holders of a Production License or a relevant Exemption, as long as they own a power generating unit with a valid production license, which is located on the mainland or on the interconnected islands and has an installed capacity of over 5 MW,
  - b) RES Producers, holders of a Production License or a RES Producer Certificate or a relevant Exemption, for RES Units with Market Participation Obligation, as long as they own a RES unit and they are not represented by a RES Aggregator,
  - c) Auto-producers,
  - d) RES Aggregators, holders of a RES Aggregator License for RES Units with Market Participation Obligation
  - e) Demand Response Aggregators, holders of a relevant license, and
  - f) consumers who provide Demand Response Services if they are not represented by a Demand Response Aggregator.

Registration with the Balancing Service Providers Registry is mandatory for producers under item (a).

2. For the purposes of registration in the Balancing Service Providers Registry, the terms and conditions described in the 'Terms and Conditions of Balancing Service Providers' must be satisfied, as approved by decision of the Regulatory Authority for Waste, Energy, and Water subsequent to a recommendation from the HETS Operator, in accordance with paragraph 4 of Article 18 of Law 4425/2016.

3. On registration in the Balancing Service Providers Registry, the natural or legal persons as per paragraph 1 of this Article (Balancing Service Providers) shall conclude a Balancing Service Contract with the HETS Operator, the content of which shall be in alignment with the provisions of this Rulebook. The Balancing Service Contract is deemed as concluded between the parties upon registration with the Balancing Service Providers Registry and shall not be subject to any further formalities.
4. Natural or legal persons, in one or more of the following capacities, are obliged to be registered with the Balance Responsible Party Registry kept by the HETS Operator:
  - a) Producers, holders of a Production License or a relevant Exemption, as long as they own a power generating unit with a valid production license, which is located on the mainland or on the interconnected islands and has an installed capacity of over 5MW,
  - b) RES Producers, holders of a Production License or a RES Producer Certificate or a relevant Exemption, for RES Units with Market Participation Obligation, as long as they own a RES unit and they are not represented by a RES Aggregator,
  - c) Auto-producers,
  - d) RES Aggregators, holders of a RES Aggregator License for RES Units with Market Participation Obligation, including Last Resort RES Aggregators.
  - e) Demand Response Aggregators, holders of a relevant license,
  - f) Consumers, who provide Demand Response Services, if they are not represented by a Demand Response Aggregator.
  - g) Suppliers, holders of a Supply License, including Suppliers of Last Resort and Default Suppliers,
  - h) Self-Supplied customers,
  - i) Traders, holders of a Trading License, and
  - j) DAPEEP, which is the Operator of the RES Units Portfolio without Market Participation Obligation.
5. To register in the Balance Responsible Parties Registry, the terms and conditions foreseen by the 'Terms and Conditions for Balance Responsible Parties', as approved by decision of the RAEWW subsequent to the recommendations of the HETS Operator, must be met in accordance with paragraph 4 of Article 18 of Law 4425/2016.
6. On registration in the Balance Responsible Parties Registry, the natural or legal persons as per paragraph 4 of this Article (Balance Responsible Parties) shall conclude a Balance Responsible Parties Contract with the HETS Operator, the content of which shall be in alignment with the provisions of this Rulebook. The Balance Responsible Party Contract shall be deemed to have been entered into by the parties upon registration with the Balance Responsible Parties Registry and shall not be subject to any further formalities.

#### **Article 4.3 Dispute Resolution**

1. In the event of a dispute between the parties in the Balancing Service/ Balance Responsible Parties Contract, the HETS Operator and the registered Balancing Service Provider / registered Balance Responsible Party shall initially seek an amicable settlement by mutual consultation in accordance with paragraph 2. To that end, the party raising the dispute shall send a notice to the other party, stating:

- a) the Balancing Service Contract or the Balance Responsible Parties Contract between the Parties,
  - b) the reason for the dispute, and
  - c) a request for a future meeting, with a view to the amicable settlement of the dispute.
2. The parties shall meet within twenty (20) business days from communication of the notice. The parties must conduct the consultations in good faith and in accordance with business conventions in order to settle the dispute. The results of the consultations shall be reflected in a report, which shall be signed by their representatives and shall be binding upon the parties.
  3. If no agreement is reached or no response is received within thirty (30) business days from the date of the above request for a meeting, either party may refer the issue for resolution in accordance with paragraph 4 of this article.
  4. In the event that the dispute is not resolved through the amicable settlement process, the parties may refer the dispute to the RAEWW, either via the complaint procedure outlined in Article 34 of Law 4001/2011 or on the basis of Article 5(8) of Regulation (EU) 2017/2195, or they may submit the case for resolution by arbitration, in accordance with Article 37 of Law 4001/2011 and the arbitration mechanism of the RAEWW, or to another arbitration body or to the competent courts. For the resolution of any dispute regarding the interpretation or the implementation of this Rulebook, the Greek law shall apply.
  5. Recourse to amicable settlement, arbitration or litigation pursuant to this Article shall not relieve the parties of their duty to perform their obligations under this Rulebook and any Balancing Service Contract entered into by the registered Balancing Service Provider or a Balance Responsible Party Contract entered into by the registered Balance Responsible Party.
  6. This Article shall also apply after termination of the Balancing Service Contract of a registered Balancing Service Provider, or of the Balance Responsible Party Contract of a registered Balance Responsible Party.

#### **Article 4.4 Termination of the Balancing Service Contract or the Balance Responsible Party Contract**

1. The Balancing Service Contract/Balance Responsible Party Contract may be dissolved by termination by one of the Parties, in accordance with the provisions of this Article.
2. Each Balancing Service Provider / Balance Responsible Party is entitled to terminate the Balancing Service Contract / Balance Responsible Party Contract at any time. The Balancing Service Provider / Balance Responsible Party declares in writing, by serving a declaration by bailiff, its intention to terminate the Balancing Service Provider/Balance Responsible Party Contract, including its proposed last day of active participation. The HETS Operator shall accept the declaration within a period of thirty (30) days from the date of notification and shall determine the last day of active participation, having communicated with the RAEWW, the Energy Exchange, the Clearing House and/or the Network Operator, as applicable. From the day following the last active participation date and until the completion of all settlement arrangements provided for in this Rulebook or the HETS Grid Code or the Rulebook on Clearing of Balancing Market Positions for the period of active participation and the full and complete settlement of all of its liabilities arising from these obligations in accordance with this Rulebook, the Clearing Rulebook for Balancing Market Positions and the HETS Grid Code, the Balancing Service Provider/Balance Responsible Party shall be considered a Participant subject to Deletion.

Specifically for Load Representatives, the condition for their status as a Participant subject to Deletion is the non-representation of load meters after their last day of active participation. In the event that no Clearing House is in operation on the Balancing Market, another condition for establishing the Participant's status as a Deleted Participant is the presentation of guarantees in accordance with the provisions of [Article 25.5](#) and the 'Methodology for Calculating Balancing Market Participation Guarantees'. The HETS Operator may extend the above deadline for acceptance of the declaration until the required actions of the Network Operator or the HETS Operator, as the case may be, regarding the change in the representation of the load meters of the declaring Load Representative or the provision of guarantees, if required as mentioned above, have been completed. The Participant under Deletion shall not be entitled to assume any new rights or obligations in accordance with this Regulation or the HETS Grid Code. After the completion of all settlements provided for in this Regulation or the HETS Grid Code or the Clearing Rulebook for Balancing Market Positions for the period of active participation and after having verified the full and complete payment of all the liabilities of the Participant subject to Deletion arising from these settlements in accordance with this Rulebook, the Clearing Rulebook for Balancing Market Positions and the HETS Grid Code, the termination shall become effective, the Balancing Service Provider/Balance Responsible Party Contract is dissolved, and the HETS Operator shall then complete the deletion of the Participant from the HETS Operator Registry.

3. The HETS operator may terminate the Balancing Service Contract/Balance Responsible Party Contract in the following cases:
  - a) if the registered Balancing Service Provider/registered Balance Responsible Party does not meet the conditions for the lawful exercise of an electricity activity and/or the conditions for participation in the Balancing Market, or
  - b) if the registered Balancing Service Provider/registered Balance Responsible Party is in breach of its obligations against the Clearing House, or is subject to a measure on the basis of the Clearing Rulebook for Balancing Market Positions, and, in particular, to limitations regarding its participation in the Clearing of Positions and Cash Settlement procedures carried out by the Clearing House, to suspension of its capacity to act as a Clearing Member or deletion, or, in the event that no Clearing House operates in the Balancing Market, it hasn't submitted guarantees in accordance with [Article 25.5](#) of this Rulebook or it has financial obligations against the HETS Operator deriving from this Rulebook that have fallen due, or
  - c) if the registered Balancing Service Provider/registered Balance Responsible Party has not submitted guarantees for the charges foreseen in the HETS Grid Code or it has financial obligations against the HETS Operator deriving from the HETS Grid Code that have fallen due, or
  - d) if the registered Balancing Service Provider/registered Balance Responsible Party has lost the capacity to act as a Clearing Member or if is not on a contract with a General Clearing Member for the settlement of the cash claims and obligations it may have in accordance with the provisions in the Clearing Rulebook for Balancing Market Positions.
4. The HETS operator may terminate the Balancing Service Contract/Balance Responsible Party Contract in the following cases:
  - a) if the registered Balancing Service Provider/registered Balance Responsible Party repeatedly breaches its obligations under this Rulebook or the Balancing Service Contract/Balance Responsible Party Contract, or the HETS Grid Code, or

- b) if the measure of deletion has been imposed on the registered Balancing Service Provider/registered Balance Responsible Party on the basis of the HeNEx Spot Trading Rulebook,
- 5. In the cases of paragraphs 3 and 4 of this Article, termination shall be notified in writing by a bailiff and shall enter into force and take effect as of the date of service thereof.
- 6. The Balancing Service Contract/Balance Responsible Party Contract shall be dissolved ipso jure if the HETS Operator Transactions Contract provided for in the HETS Grid Code is terminated, upon termination by the HETS Operator in accordance with paragraphs 3 and 4 of subsection 1.5 of the HETS Grid Code. The Balancing Service Provider or the Balance Responsible Party shall automatically become a Participant subject to Deletion, in case they become Participants subject to Deletion in accordance with the provisions of the HETS Grid Code, following a declaration by the Participant in accordance with paragraph 2 of subsection 1.5 of the HETS Grid Code.
- 7. The termination of the Balancing Service Contract / Balance Responsible Party Contract with Self-Supplied customers or Consumers, whose facilities are connected to HETS, shall mean that electricity supply shall cease for these facilities. In the event of termination of the Balancing Service Contract/Balance Responsible Party Contract with Self-Supplied customers or Consumers, whose facilities are connected to the Distribution Network, the HETS Operator shall notify the competent Distribution Network Operator, in order to take the necessary action to interrupt power supply as provided for in the Distribution Network Operation Code.
- 8. The registered Balancing Service Provider/registered Balance Responsible Party whose Balancing Service Contract/Balance Responsible Party Contract is terminated, shall continue to be liable to the HETS Operator and the Clearing House, in accordance with the provisions of this Rulebook, the Clearing Rulebook for Balancing Market Positions and the HETS Grid Code, for obligations incurred prior to termination of the contract.
- 9. In the cases of paragraphs 3 and 4 of this Article, as of the termination of the Balancing Service Contract/Balance Responsible Party Contract and deletion from the HETS Operator Registry, all obligations of the deleted participant under this Rulebook shall become due and immediately payable.
- 10. The HETS Operator is required to notify termination or ipso jure dissolution of the Balancing Service Contract/Balance Responsible Party Contract or the placing of a Balancing Services Provider/Balance Responsible Party under the status of Participant subject to Deletion, to the RAEWW, the Energy Exchange, the Clearing House, the Distribution Network Operator and any other person deemed necessary, as soon as possible.

#### **Article 4.5 Procedure for registration with the Balancing Service Providers Registry and the Balance Responsible Parties Registry**

- 1. The interested party that wishes to register with the Balancing Service Providers Registry and/or the Balance Responsible Parties Registry shall submit the following to the HETS Operator:
  - a) A registration application whereby it declares that it expressly and unconditionally accepts this Rulebook, the HETS Grid Code and the Methodologies, parameters, special approvals, Technical Decisions and Manuals issued in accordance thereof, as amended and in force each time, and that it is obliged to comply with their content, including the fulfillment of their cash obligations deriving therefrom,

- b) A solemn declaration by the interested party or its legal representative, indicating the documents attached to the Registration Application.
  - c) Documents evidencing the legal incorporation and operation of the interested party, and the legal representation of the applicant by the person signing the application and the above declarations.
  - d) Certificate from the Clearing House confirming that a Clearing Account has been created for the Participant as a Direct Clearing Member, or that a Clearing Account has been created for the Participant by a General Clearing Member, or Guarantees, in accordance with [Article 25.5](#) in the event that no Clearing House operates in the Balancing Market, for any reason whatsoever,
  - e) Guarantees in accordance with the HETS Grid Code.
  - f) Generating Licence, or RES Generation Certificate, or a Supply Licence, Trading Licence, or Aggregator's Licence, depending on the capacity in which the interested party is acting. If the interested party acts in many Capacities, it should adduce an appropriate license for each capacity.
  - g) For RES Producers, a copy of the Differential State Aid Support Contract or a certificate from the Renewable Energy Sources Operator and Guarantees of Origin (DAPEEP) regarding the operational status of RES and HECHP Units covered by the provisions of Article 3(19) of Law 4414/2016.
2. The HETS Operator shall register the applicant with the HETS Operator Registry within fifteen (15) business days from the day of submission of a complete application. Upon registration, the HETS Operator shall issue a relevant certificate to the interested party. A copy of the certificate shall be forwarded to the RAEWW, the Distribution Network Operator, the Clearing House and the Energy Exchange.
  3. Details regarding the registration with the Balancing Service Providers Registry and the Balance Responsible Parties Registry are specified in the Technical Decision "Procedures for Registration with the HETS Operator Registry".

#### **Article 4.6 Rejection of an application for registration with the HETS Operator Registry**

1. The HETS Operator may reject an application for registration with the HETS Operator Registry, when:
  - a) the applicant has not submitted a complete application or has not paid the registration fee, in accordance with [Article 4.1](#) of this Rulebook,
  - b) in the past, the Applicant has been in breach of its obligations under an earlier Balancing Service Contract or a Balance Responsible Party Contract or a HETS Operator Transactions Contract, resulting in the termination of the Contract, unless the circumstances giving rise to the termination have ceased to exist,
  - c) the conclusion of a Balancing Service Contract or a Balance Responsible Party Contract with the applicant Participant is a reason of breach on the part of the HETS Operator of its obligations under any term of any mandatory legal or regulatory obligation as laid down in the applicable legislation,
  - d) the applicant has outstanding financial obligations to the HETS Operator for any reason whatsoever that have fallen due,
  - e) the relevant requirements, as set out in this Rulebook and the HETS Grid Code, are not met.

2. The HETS Operator shall justify the rejection of the Application. The rejection shall be notified to the RAEWW, the Distribution Network Operator, the Clearing House and the Energy Exchange.
3. The applicant may lodge an objection within ten (10) business days from the notification of the above rejection, on which the HETS Operator shall decide within ten (10) business days. The above objection and decision shall be notified to the RAEWW, the Distribution Network Operator, the Clearing House and the Energy Exchange.
4. In case of rejection of the application, the HETS Operator shall reimburse 80% of the registration fee paid for registration with the Registries specified in [Article 4.2](#)~~Article 4.2~~.

## CHAPTER 5. REGISTRIES OF ENTITIES

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### Article 5.1 Entities

1. The entities participating in the Balancing Market shall be categorized into Balancing Service Entities and Balance Responsible Entities. The Balancing Service Entities shall be represented by Balancing Service Providers, while the Balance Responsible Entities shall be represented by the Contracted Balance Responsible Parties.
2. The Balancing Service Entities shall be entitled to provide Balancing Energy and/or Balancing Capacity and shall include the following categories:
  - a) Dispatchable Generating Unit,
  - b) Dispatchable RES Units Portfolio,
  - c) Dispatchable Load Portfolio.
3. The Dispatchable RES Units Portfolios are categorised into Non-Intermittent RES Units Generation Portfolios with no technology distinction and Intermittent RES Generation Units Portfolios, based on the technology of the facilities. RES Units that are in Commissioning Operation status are not eligible to participate in Dispatchable RES Units Portfolio.
4. The Dispatchable RES Units Portfolios and the Dispatchable Load Portfolios have a minimum allocated capacity of 1 MW. The following are registered in the HETS Operator Registry in separate portfolios:
  - a) Dispatchable Load,
  - b) Dispatchable Non-Intermittent RES Generation Units,
  - c) Dispatchable Intermittent RES Generation Units with wind farms,
  - d) Dispatchable Intermittent RES Generation Units with photovoltaics,
  - e) Dispatchable Intermittent RES Generation Units with small hydroelectric plants.
5. Contracted Generating Units are also included among the Entities, but are not referred to in paragraph 2 of this Article since they do not participate in the Balancing Market procedures. The Contracted Generating Units shall provide additional services in any situation that may lead to the load and/or reserve requirements not being covered during the Integrated Scheduling Process (ISP), following conclusion of a relevant contract, as stipulated in the HETS Grid Code.

6. Balance Responsible Entities are those entities that assume responsibility for imbalances created and include the Balancing Service Entities referred to in paragraph 2 of this Article as well as the following entities:
  - a) Non-Dispatchable RES Units Portfolio,
  - b) Load Portfolio,
  - c) RES Units Portfolio without Market Participation Obligation,
  - d) Import Portfolios and Export Portfolios, excluding the Cross-Border Physical Deliveries corresponding to imports and exports under the coupled interconnection within the framework of the Single Day-Ahead Market Coupling (SDAC), Intraday Auctions, and Continuous Intraday Trading, as calculated in the results of the Single Day-Ahead Market Coupling, Intraday Auctions, and Continuous Intraday Trading, respectively.
7. Cross-Border Physical Deliveries corresponding to imports and exports through coupled interconnections within the framework of Single Day-Ahead Market Coupling, Intraday Auctions, and Continuous Intraday Trading, as calculated in the corresponding results of the Single Day-Ahead Market Coupling, Intraday Auctions, and Continuous Intraday Trading, respectively, shall be declared to the HETS Operator in accordance with the provisions of the HETS Grid Code and the contract concluded between the HETS Operator and the Shipping Agent.

#### **Article 5.2 Balancing Market Generating Units Registry**

1. The HETS Operator shall keep a Balancing Market Generating Units Registry for the registration of the Dispatchable Generating Units that have successfully completed the relevant pre-qualification tests described in the Technical Decision "Process and Prequalification Tests for BSPs".
2. The information included in the Balancing Market Generating Units Registry and any supporting documents required for registration therewith are described in detail in the Technical Decision "Procedures of Registration with the HETS Operator Registry".
3. The Producer is obliged to immediately notify the HETS Operator of any modification in the Generating Unit data entered in the Balancing Market Generating Units Registry.
4. For a power generation unit which has a valid production license, is located on the mainland or on the interconnected islands and has an installed capacity over 5 MW to be put in the Commissioning operation or to perform pre-qualification tests, the unit must have been pre-registered with the Balancing Market Generating Units Registry.
5. Each Producer is obliged to immediately notify the HETS Operator of any changes in the data held in the Balancing Market Generating Units Registry. The HETS Operator shall determine whether any upcoming change in the technical characteristics of the Unit requires the repeat execution of prequalification tests for the Unit, as defined in the Technical Decision 'Process and Prequalification Tests for BSPs'. The Producer shall again pay 50 % of the registration fee applicable to Balancing Service Entities for the execution of new prequalification tests.
6. Dispatchable Generating Units shall be deleted from the Generating Units Registry when they permanently cease to operate, as arising from the relevant decision of the RAEWW.
7. As regards Dispatchable Auto-producer Units, Dispatchable HECHP Units, Dispatchable Units with Alternative Fuel and Dispatchable Multi-Shaft Combined Cycle Units, the

provisions of this Rulebook relating to Dispatchable Generating Units shall apply, unless otherwise expressly stated.

### **Article 5.3 Dispatchable RES Units Portfolio Registry**

1. The HETS Operator shall keep a Dispatchable RES Units Portfolio Registry for the registration of the Dispatchable RES Units Portfolios that have successfully completed the relevant pre-qualification tests described in the Technical Decision “Process and Prequalification Tests for BSPs”.
2. The information included in the Dispatchable RES Units Portfolios Registry and any supporting documents required for registration therewith are described in detail in the Technical Decision “Procedures for Registration with the HETS Operator Registry”.
3. Each RES Producer/RES Aggregator is obliged to immediately notify the System Operator of any changes in the data held in the Dispatchable RES Units Portfolios Registry. The HETS Operator determines whether any upcoming change in the technical characteristics of the Portfolio requires the re-performance of prequalification tests for the Portfolio, either in whole or in part, as defined in the Technical Decision “Process and Prequalification Tests for BSPs”. To conduct the new prequalification tests, the Aggregator or the RES Producer pays again 50 % of the registration fee as applicable for Balancing Service Entities.
4. For a Dispatchable RES Units Portfolio to be put in Commissioning operation or to undergo pre-qualification tests, the Portfolio must have been pre-registered with the Dispatchable RES Units Portfolio Registry. During the pre-registration, DAPEEP enters the under testing portfolios in the Table of RES and CHP Units, which it maintains and notifies to the HETS Operator in accordance with the provisions of the RES & Guarantees of Origin Operator Code.
5. Each Dispatchable RES Units Portfolio is required to participate separately in the Day-Ahead Market and the Intra-Day Market.

### **Article 5.4 Dispatchable Load Portfolio Registry**

1. The HETS Operator shall keep a Dispatchable Load Portfolio Registry for the registration of the Dispatchable Load Portfolios that have successfully completed the relevant pre-qualification tests described in the Technical Decision “Process and Prequalification Tests for BSPs”.
2. The information included in the Dispatchable Load Portfolios Registry and any supporting documents required for registration therewith are described in detail in the Technical Decision “Procedures of Registration with the HETS Operator Registry”. The Aggregator of Dispatchable Load Portfolios submits, together with the registration documents, a technical report stating, under the responsibility of the Aggregator, the technical readiness for the provision of Balancing Services.
3. Each Response Demand Aggregator and each Consumer participating in the Balancing Market as Balancing Service Provider is obliged to immediately notify the HETS Operator of any changes in the data held in the Dispatchable Load Portfolios Registry. The HETS Operator determines whether any upcoming change in the technical characteristics of the Portfolio requires the re-performance of prequalification tests for the Portfolio, either in whole or in part, as defined in the Technical Decision “Process and Prequalification Tests for BSPs”. To conduct the new prequalification tests, the Demand Response Aggregator

or the Consumer pays again 50% of the registration fee as applicable for Balancing Service Entities.

4. Each Dispatchable Pumped-Storage hydro Generating Unit shall be a distinct Dispatchable Load Portfolio. The Producers representing the above Units are obliged to immediately notify the HETS Operator of any changes in the data held in the Dispatchable Load Portfolios Registry.
5. Placement of a Load Portfolio with Demand Response capability under commissioning operation or under execution of prequalification tests requires prior registration in the Dispatchable Load Portfolio Registry.
6. The HETS Operator maintains a Table of Meters for the Dispatchable Load Portfolios, which clearly indicates the meters of the loads included in each Portfolio of the Demand Response Aggregator, as described in the Technical Decision "Procedures of Registration with the HETS Operator Registry". The HETS Operator sends the above table to HEDNO for the purposes of the settlement procedure.

## CHAPTER 6. BALANCING MARKET FEE

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### Article 6.1 Balancing Market Fee

1. The expenditure related to the obligations of the HETS Operator in accordance with this Rulebook, the Day-Ahead and Intra-Day Market Rulebook, as well as the HETS Grid Code regarding the calculation and allocation of interconnection capacity, which are considered reasonable, efficient and compensatory, as well as the rate of return on capital employed, are recovered by the Operator through a Balancing Market Fee payable by every Balancing Service Provider and Balance Responsible Party. The details for the calculation and the procedure for the establishment of the HETS Operator Required Revenue for the operation of the Markets recovered through the Balancing Market Fee are set out in the "Methodology for the determination of the HETS Operator Required Revenue for the operation of the Markets", based in particular on the above criteria and parameters.
2. The Balancing Market Fee includes two components, the Imbalances Component and the Energy Component, to which the Required Revenue of the HETS Operator for the operation of the Markets is allocated as follows:
  - a) the Imbalances Component of the Market Balancing Fee is equal to 20% of the Required Revenue, and
  - b) the Energy Component of the Balancing Market Fee is equal to 80% of the Required Revenue.
3. The unit charges of the components of the Balancing Market Fee for year y+1 are determined annually by decision of the RAEWW adopted before 30 November of year y, after a proposal from the HETS Operator submitted to the RAEWW before 10 November of the same year, taking into account the HETS Operator Required Revenue for operation of the Markets as calculated in accordance with the decision as per paragraph 1.
4. The Balancing Market Fee is calculated monthly by the HETS Operator, in accordance with the provisions of ~~Article 6.3~~ [Article 6.3](#).
5. The Balancing Market Fee is collected monthly by the Clearing House and is paid to the HETS Operator, in accordance with the provisions of ~~Article 23.1~~ [Article 23.1](#).

6. The HETS operator and the Shipping Agent are exempted from the obligation to pay the Balancing Market Fee.
7. For Participants subject to Deletion, the Market Balancing Fee is calculated for the period up to and including the last day of their active participation, as determined in accordance with [Article 4.4](#) par. 2.

## Article 6.2 Calculation of Balancing Market Fee Unit Charges

1. The Unit Charge of the Imbalances Component is calculated as the quotient of the attributable Required Revenue to the total estimated annual amount of activated energy and imbalances, as follows:

$$UNBMF^{IMB} = \frac{0,2 * (\text{Απαιτούμενο Έσοδο Αγοράς Εξισορρόπησης})}{EAE^{up/dn} + EFIMB}$$

Where:

$UNBMF^{IMB}$  The Unit Charge corresponding to the Imbalance Component of the Balancing Market Fee.

$EAE^{up/dn}$  The estimate of the total upward and downward activated energy in MWh for all Balancing Service Providers for year y+1.

$EFIMB$  The estimate of the Final Imbalance in MWh for all Balance Responsible Parties p for year y+1.

Estimates of total upward and downward activated energy and Imbalances energy for year y+1 are based on the latest available 12-month reporting data.

In the above calculation, both upward and downward activated energy are considered to have a positive sign. Activated energy means the activated Balancing Energy for mFRR and aFRR as well as activated energy for non-balancing purposes.

In addition, for the estimation of the Final Imbalance, the sum of the absolute values of the Imbalances for each Participant and each Imbalance Settlement Period is taken into account for each of the following categories of Entities:

- a) Load Portfolios, including Universal Service Portfolios and Last Resort Portfolios,
  - b) Balancing Service Entities, i.e. Dispatchable Load Portfolios, Dispatchable RES Units Portfolios and Dispatchable Generating Units Portfolios,
  - c) Non-Dispatchable RES Units Portfolios and RES Units Portfolio without Market Participation Obligation, and
  - d) Import Portfolios and Export Portfolios.
2. The Energy Component Unit Charge is calculated as the quotient of the Required Revenue to the total estimated amount of energy absorbed/produced and the trading schedules for electricity imports/exports, excluding the schedules of the HETS Operator and the Shipping Agent, as follows:

$$UNBMF^{EN} = \frac{0,8 * (\text{Απαιτούμενο Έσοδο})}{\sum_p [\sum_m \{EMQ_{p,m} + ERealSch_{p,m}\}]}$$

Where,

$UNBMF^{EN}$  The Unit Charge corresponding to the Energy Component of the Balancing Market Fee.

*EMQ* The estimate of the total energy absorbed (calculated at the Transmission System-Distribution System Boundary) and the energy produced for all Participants for year y+1.

*ERealSch* The estimated amount for trading schedules in electricity imports/exports for all Participants for year y+1. Import/export schedules of the HETS Operator and the Transmission System Operator are excluded.

Estimates of total energy absorbed/produced and electricity import/export trading schedules for year y+1 are based on the latest available 12-month reporting data.

### Article 6.3 Calculation of Monthly Charges of Balancing Market Fee

1. The charge for the Imbalance Component is calculated by the HETS Operator for Balance Responsible Entities and Balancing Service Providers for each month m of the year, as follows:

$$BMF_{p,m}^{IMB} = UNBMF^{IMB} \times \{EAE_{p,m}^{up/dn} + \sum_{t \in m} \sum_{c \in p} |FIMB_{p,c,t}|\}$$

Where,

$BMF_{p,m}^{IMB}$  The Balancing Market Fee Imbalance Component for Participant p and month m.

$UNBMF^{IMB}$  The Unit Charge corresponding to the Imbalance Component of the Balancing Market Fee, which is calculated in accordance with the provisions of [Article 6.2](#)~~Article 6.2~~.

$EAE_{p,m}^{up/dn}$  The sum of the total upward and downward activated energy in MWh per Balancing Service Provider p for month m.

$FIMB_{p,t}$  The amount of Final Imbalance in MWh per Balance Responsible Party p, for each Entity category c, and for each Imbalance Settlement Period t, as the algebraic sum of the Final Imbalances in MWh for each entity belonging to the Entity category, c

c The categories of entities specified in [Article 6.2](#)~~Article 6.2~~ paragraph 1.

In the above calculation, both upward and downward activated energy are considered to have a positive sign. Activated energy means the activated Balancing Energy for mFRR and aFRR as well as activated energy for non-balancing purposes.

2. The charge for the Energy Component is calculated by the HETS Operator for Participants for each month m of the year, as follows:

$$BMF_{p,m}^{EN} = UNBMF^{EN} \times (MQ_{p,m} + RealSch_{p,m})$$

Where:

$BMF_{p,m}^{EN}$  The Balancing Market Fee Energy Component for Participant p and month m.

$UNBMF^{EN}$  The Unitary Charge corresponding to the Energy Component of the Balancing Market Fee, which is calculated in accordance with the provisions of [Article 6.2](#)~~Article 6.2~~.

- $MQ_{p,m}$  The sum of the energy absorbed (calculated at the Transmission System-Distribution System Boundary) and the energy produced per Participant p for month m. In the above calculation, both the energy absorbed and the energy produced are considered to have a positive sign.
- $RealSch_{p,m}$  The Trading Schedules for Imports/Exports of Electricity per Participant p for the month m. Import/export schedules of the HETS Operator and the Transmission System Operator are excluded. In the above calculation, both imports and exports are considered to have a positive sign.

## SECTION III SPECIAL PROVISIONS

### CHAPTER 7. SPECIAL PROVISIONS

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#### Article 7.1 General Obligations for Hydro Resources Management

1. The Balancing Service Providers representing Dispatchable Hydro Generating Units, including Dispatchable Pumped-Storage hydro Generating Units shall submit to the HETS Operator the following hydro management declarations:
  - a) Yearly ahead hydro usage declarations,
  - b) Weekly mandatory hydro management declarations and
  - c) Daily mandatory hydro injection declarations.
2. The Balancing Service Providers representing Dispatchable Hydro Generating Units are required to:
  - a) submit to the HETS Operator annual curves regarding reservoir reserves for the last ten (10) years, on a monthly basis. As for the new power stations of Dispatchable Hydro Generating Units, given that the historical data on water levels are limited, they must submit the estimated curves and shall take into account any available historical data.
  - b) inform the HETS Operator about the reservoir water level of the Dispatchable Hydro Generating Unit and any changes expected, and about the water supply to the reservoir of the Dispatchable Hydro Generating Unit (instantaneous or average for a specific period), one day before the Dispatch Day or on an ad hoc basis, as the HETS Operator deems appropriate.
  - c) take into account the current level of the relevant water reserves, any forecasts for the evolution of these reserves, their obligations for water supply, irrigation and ecological supply, and ensure that the Safety Minimum Reservoir Level is constantly maintained, when planning the operation of these Units and, in particular, at the time of submission of hydro management declarations and at the time of submission of Techno-Economic Declarations, which include information on the maximum daily energy injection for the Generating Units in question.
  - d) notify the HETS Operator of the forecasted changes in any components affecting mandatory hydro management as soon as possible after the occurrence of the emergency.

- e) notify the HETS Operator, on a weekly basis, of the daily quantity of water in cubic meters and the corresponding energy in MWh that came through the spillway for each reservoir.
3. The Maximum Reservoir Safety Level and the Minimum Reservoir Safety Level are determined for each Dispatchable Hydroelectric Generation Unit by the RAEWW following a proposal from the respective Balancing Service Provider and the recommendations of the HETS Operator.
4. The Balancing Service Providers representing Dispatchable hydro Generating Units that are connected to the reservoir may:
  - a) submit mandatory hydro injection declarations for the above Units to avoid an overflow only when the water level in the relevant reservoir is expected to be equal or higher than the Safety Maximum Reservoir Level.
  - b) submit declarations of maximum daily energy injection constraint for the above Units only when the water level in the relevant reservoir is expected to be equal or higher than the Safety Minimum Reservoir Level.
5. Upon expiration of the Dispatch Day, the HETS Operator shall immediately publish the quantity of energy injected by each Dispatchable hydro Generating Unit for each Imbalance Settlement Period of the Dispatch Day.
6. The HETS Operator shall submit a report to the RAEWW on a monthly basis, containing requests submitted for amendment of weekly mandatory hydro management declarations, outlining the reasons for submission, the supporting documentation provided by the Balancing Service Providers, and the acceptance or rejection of these requests by the HETS Operator, and any other relevant information.
7. The HETS Operator shall send a report to the RAEWW by the end of the following month, which shall include at least the following information per day for each Dispatchable Hydro Generating Unit.
  - a) the water level in the relevant reservoir,
  - b) curves on reservoir reserves,
  - c) total injected energy,
  - d) mandatory hydro injection declarations with distinct reference to the quantities by reason of overflow,
  - e) pumping energy.
8. The HETS Operator shall inform the Energy Exchange with regard to the mandatory hydro injection declarations in accordance with the provisions of the Day-Ahead & Intra-Day Markets Trading Rulebook.
9. Details on hydro resources management may be specified in the Technical Decision "Integrated Scheduling Process".

## **Article 7.2 Yearly Ahead Hydro Usage Declarations**

1. The yearly ahead hydro usage declaration refers to the upcoming twelve months and shall be submitted on a rolling basis up to five (5) days before the start of the first month to which it refers. The yearly ahead hydro usage declaration shall be submitted to the HETS Operator, accompanied by the evidence on the maximization of the hydro resources value

- and the overall benefit of using the Dispatchable hydro Generating Units for the electricity sector.
2. The yearly ahead hydro usage declaration shall determine for each month of the following twelve-month period, as a sum for all Dispatch Periods of the Dispatch Days of the month, as a sum for all Dispatchable hydro Generating Units of each Balancing Service Provider, and for three (3) hydrological scenarios (high, low and intermediate total inflows) the following:
    - a) the schedule of forecasted energy injection due to mandatory operation,
    - b) the schedule of forecasted generation of additional energy,
    - c) the expected water inflows in the reservoirs, and
    - d) the forecasted water reserves in the reservoirs at the end of the month.
  3. Within one (1) month of the end of each year, the Balancing Service Providers representing Dispatchable Hydro Generating Units shall submit a report to the HETS Operator and the RAEWW regarding hydro resource management during the previous year. The report shall include:
    - a) The accounting statements pursuant to paragraph 1 of this Article,
    - b) a comparison with the corresponding yearly ahead hydro usage declarations and evidence on the imbalances and
    - c) evidence on the maximization of the hydro resources value and the overall benefit of using the Dispatchable hydro Generating Units for the electricity sector.

### **Article 7.3 Weekly Mandatory Hydro Management Declarations**

1. The weekly mandatory hydro management declaration shall be submitted by the relevant Balancing Service Providers every Thursday by 12:00 EET and shall refer to a period of seven Dispatch (7) Days in total starting on the following Saturday. The weekly mandatory hydro management declaration shall specify the estimated quantity of mandatory energy injections for each Dispatchable hydro Generating Unit and for each Dispatch Period of the Dispatch Days to which the declaration refers and shall correspond to the following mandatory operations:
  - a) water supply,
  - b) irrigation, and
  - c) ecological supply.
2. The Balancing Service Providers representing Dispatchable Hydro Generating Units must substantiate the energy quantity declarations for the mandatory operations on a weekly basis, by submitting data on the said operations and on the inflow-outflow water balance in the reservoirs. The data substantiating the declarations shall be both actuarial and budget data and shall be published on the website of the HETS operator. The weekly mandatory hydro management declarations for each Dispatchable Hydro Generating Unit are binding and cannot be amended for energy quantities corresponding to paragraph 1, item (c), of this article.
3. Balancing Service Providers representing Dispatchable Hydro Generating Units may submit a request for amendment of the weekly mandatory hydro management declaration with regard to the information as per paragraph 1 of this Article for emergency reasons, which include cases of violation of the Maximum Reservoir Safety Level, other safety

reasons or special works and third-party claims. The Balancing Service Provider shall fully substantiate the request for amendment. The HETS Operator may request additional information at a later stage if in its judgment the justification is not complete. In case of amendment of the weekly mandatory hydro management declaration, the HETS Operator shall notify the Participants as soon as possible.

#### **Article 7.4 Daily Mandatory Hydro Management Declarations**

1. Balancing Service Providers representing Dispatchable hydro Generating Units are required to notify the HETS Operator of a forecasted change in any components affecting mandatory hydro management as soon as possible after the occurrence of the event. In particular, they are required to inform the HETS Operator with regard to:
  - a) the water level in the reservoir of the Dispatchable hydro Generating Units and the expected changes therein, especially if a violation of the Safety Maximum Reservoir Level is ascertained or forecasted,
  - b) the water supply in the reservoir of the Dispatchable hydro Generating Unit (instantaneous or average for a specific period),
  - c) any necessary measures taken for the safety of the reservoir dams when increased water supplies are observed,
  - d) the modification of irrigation needs,
  - e) special works and third-party claims or
  - f) other safety reasons (Force Majeure).
2. Balancing Service Providers representing Dispatchable Hydro Generating Units are required to submit daily mandatory hydro injection declarations to the HETS Operator before 09:30 EET on the previous Dispatch Day. Furthermore, they are also required to submit daily mandatory hydro injection declarations to the HETS Operator as soon as possible after the occurrence of any event affecting the management of hydro resources subject to mandatory reporting.
3. A deviation of the daily mandatory hydro injection declaration from the weekly mandatory hydro management declaration is allowed only in the following cases:
  - a) modification water supply needs,
  - b) modification of irrigation needs,
  - c) avoidance of overflow,
  - d) special works and third-party claims and
  - e) other safety reasons (Force Majeure).
4. Any deviation of the daily mandatory hydro injection declaration from the weekly mandatory hydro management declaration shall be fully substantiated by the Balancing Service Provider. The HETS Operator may request additional information at a later stage if in its judgment the justification is not complete. In case of amendment of the weekly mandatory hydro management declaration, the HETS Operator shall notify the Participants as soon as possible.
5. If an amended daily mandatory hydro injection declaration is submitted during the Dispatch Day to which the declaration refers, the HETS Operator shall:

- a) depending on the extent of the amendment, decide if an execution of an ad-hoc ISP is required,
- b) include the amended daily mandatory hydro injection declarations in the Balancing Energy Market, and
- c) have the possibility to allocate the additional quantities within the Dispatch Day, so that the operation of the HETS is ensured and the operation of the Balancing Market is not disturbed to the extent possible.

## SECTION IV. INTEGRATED SCHEDULING PROCESS

### CHAPTER 8. GENERAL PROVISIONS

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#### Article 8.1 Scope

This section presents:

- a) the exchange of information between the Day-Ahead Market and the Intra-Day Market on the one hand and the Balancing Market on the other,
- b) the procedure and the conditions for the submission of a Total or Partial non-Availability Declaration by the Balancing Service Providers for the Balancing Service Entities they represent,
- c) the procedure for the submission of a Techno-Economic Declaration by the Balancing Service Providers for the Balancing Service Entities they represent,
- d) the procedure for the submission of ISP Balancing Energy Offers by the Balancing Service Providers for the Balancing Service Entities they represent,
- e) the procedure for the submission of Balancing Capacity Offers by the Balancing Service Providers for the Balancing Service Entities they represent, and
- f) details on the implementation of the Integrated Scheduling Process (ISP).

#### Article 8.2 General Provisions for the Integrated Scheduling Process

1. ISP aims to (a) commit the Balancing Capacity needed in the short term and (b) to achieve a schedule that shall meet the technical constraints of the HETS and the Balancing Service Entities based on ex ante estimation of any HETS Imbalances.
2. All procedures and actions related to ISP shall refer to a specific Dispatch Day D.
3. The Dispatch Day to which the ISP refers, coincides with the Delivery Day of the Day-Ahead Market and the Intra-Day Market. Dispatch Day D shall start at 01:00 EET of calendar day D and shall end at 01:00 EET of calendar day D +1.
4. A Dispatch Day consists of individual Dispatch Periods. The duration of each Dispatch Period is set at half an hour. The first Dispatch Period of Dispatch Day D is 01:00 – 01:30 EET.
5. The ISP shall be executed at three scheduled times:
  - a) one (ISP1) which shall be executed at 16:45 EET on calendar day D-1 and shall cover all Dispatch Periods of Dispatch Day D,

- b) one (ISP2) which shall be executed at 00:00 EET on calendar day D and shall cover all Dispatch Periods of Dispatch Day D, and
  - c) one (ISP3) which shall be executed at 12:00 EET on calendar day D and shall cover the last twenty-four (24) Dispatch Periods of Dispatch Day D,
6. The HETS Operator may execute the ISP at any time for all or for certain Dispatch Periods ("ad-hoc ISP"), in the event of an occurrence which significantly affects the scheduling of the Balancing Service Entities and the dispatch of the Balancing Capacity. Such events include but are not limited to, significant changes in the zonal Load Forecast, or zonal RES Units Forecast, or the availability of resources, or the HETS conditions.
  7. The following products shall be used in the ISP:
    - a) upward and downward Balancing Energy without distinction between mFRR and aFRR;
    - b) the following Balancing Capacity products:
      - i. Upward and downward FCR,
      - ii. Upward and downward aFRR, and
      - iii. Upward and downward mFRR,
  8. The submission of Balancing Capacity Offers and ISP Balancing Energy Offers by Balancing Service Providers to the ISP, for Dispatch Day D shall start at 14:00 EET on calendar day D-1 and shall end at 16:45 EET on calendar day D-1. During this time period, the Balancing Service Providers may submit Offers for the Balancing Service Entities they represent, as many times as they wish. Only the last validated Offers shall be taken into consideration in the execution of the ISP.
  9. The Deadline for the Submission of ISP Offers is set at 16:45 EET.
  10. The HETS Operator shall draw up a timetable for the activities governing the actions required for the execution of the ISP, which shall include the actions required during calendar days D and D-1. This schedule is set out in the Technical Decision pertaining to the Integrated Scheduling Process.
  11. Details on the ISP are provided in the Technical Decision: "Integrated Scheduling Process".

### **Article 8.3 Transmission of information to the HETS Operator within the framework of the ISP**

1. The Energy Exchange shall transmit details of each Market Time Unit for each Dispatch Day to the HETS Operator delivered within 20 minutes of the final deadline for submission of bids in either the Intraday Auction or Continuous Intraday Trading, containing the following information:
  - a) The Scheduled Energy Exchanges and the corresponding purchase prices, for each inter-zonal corridor, as calculated in the results of the Day-Ahead Market and the Intra-Day Market.
  - b) The Market Schedules, i.e. the algebraic sum of the energy volumes of the accepted Day-Ahead and Intra-Day Market Orders per Market Time Unit of the Dispatch Day for each of the following Entities:
    - i. Dispatchable Generating Units in normal operation,
    - ii. Dispatchable Generating Units in Testing Operation:

- iii. generating units in Commissioning Operation,
    - iv. Dispatchable RES Units Portfolios per Bidding Zone in normal operation,
    - v. Dispatchable RES Units Portfolios per Bidding Zone in Testing Operation,
    - vi. Non-Dispatchable RES Units Portfolios per Bidding Zone in normal operation,
    - vii. Non-Dispatchable RES Units Portfolios per Bidding Zone in Testing Operation or in Commissioning Operation,
    - viii. RES Units Portfolio without Market Participation Obligation per Bidding Zone,
    - ix. Load Portfolios per Bidding Zone,
    - x. Dispatchable Load Portfolios per Bidding Zone,
    - xi. Pumping load from Dispatchable Pumped Storage hydro Generating Units.
  - c) The Market Schedules related to the HETS Losses per Bidding Zone, as calculated in the results of the Day-Ahead Market and the Intra-Day Market.
2. The Distribution Network Operators shall notify the HETS Operator as soon as possible in case of disconnection:
    - a) of any component of the Distribution Network that may affect the normal operation of the HETS in real time,
    - b) of any load connected to the Distribution Network which may affect the zonal Load Forecast performed by the HETS Operator in the context of the Balancing Market operation, and
    - c) of any RES Unit connected to their Distribution Network, which may affect the zonal RES Forecast performed by the HETS Operator in the context of the Balancing Market operation.
  3. The Distribution Network Operators shall immediately notify the HETS Operator, on justifiable grounds, if they plan to have a load curtailment or any other Network operations that are expected to cause a decrease in load in excess of ten (10) MW at a specific point of connection to the HETS.
  4. The Load Representatives that have submitted a Buy Order to the Electricity Markets managed by the Energy Exchange are obliged to immediately notify the HETS Operator of any possible changes in the energy volumes that correspond to the load meters they represent. The Load Representatives that have not submitted a Buy Order to the Electricity Markets managed by the Energy Exchange for load meters they represent on the Dispatch Day in question, in accordance with the Meter to Load Representative Correspondence Table as defined in the HETS Grid Code, are obliged to notify the HETS Operator of any possible changes in the total load they expect those load meters to offtake for each Dispatch Period of the Dispatch Day.
  5. The RES Producers and / or RES Aggregators representing RES Units Portfolios, shall submit injection forecasts for each Dispatch Period of the Dispatch Day no later than two (2) hours prior to the execution of each scheduled ISP.

## CHAPTER 9. HELLENIC ELECTRICITY TRANSMISSION SYSTEM OPERATOR OBLIGATIONS

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### Article 9.1 HETS Operator Obligations

1. In the framework of the ISP, the HETS Operator shall prepare and then publish on its website until 09:30 EET of calendar day D-1 the following forecasts for each Dispatch Period of Dispatch Day D:
  - a) The zonal Load Forecasts,
  - b) The zonal RES Units Forecasts, which includes the forecast of the Portfolios of non-Dispatchable RES Units and of the Portfolios of Dispatchable Intermittent RES Generation Units,
  - c) zonal and systemic upward and downward needs of the HETS in FCR, aFRR, and mFRR.
2. The above forecasts shall be updated by the HETS Operator and shall be published on its website in three programmed time periods:
  - a) in the framework of ISP1 at 13:30 EET of calendar day D-1,
  - b) in the framework of ISP2 at 21:00 EET of calendar day D-1, and
  - c) In the framework of ISP3 at 9:00 EET of calendar day D,
3. The HETS Operator shall keep records of the data and the parameters used for the above forecasts, as well as the results of such forecasts for each calendar year.
4. The HETS Operator shall not be liable for the accuracy of the forecasts it prepares in the framework of its obligations under this Rulebook.
5. The HETS Operator publishes statistical data on the accuracy of the above forecasts within two (2) months from the end of each calendar year. The above data shall be communicated to the RAEWW.
6. The HETS Operator determines the inter-zonal transfer capacity between the internal Bidding Zones and identify the imbalances in the import/export schedules in the interconnections for the execution of the ISP.
7. The HETS Operator publishes on its website the availability of the Dispatchable Generating Units based on their Non-Availability Declarations at 09:30 EET of calendar day D-1, three (3) hours prior to the execution of each scheduled ISP and whenever there is a significant change in availability.
8. The HETS Operator calculates the constraints in the maximum daily energy injection from Dispatchable Natural Gas Units for the total of Dispatchable Natural Gas Units or for individual groups of Dispatchable Natural Gas Units after having received the volumes of the maximum daily Natural Gas consumption from DESFA.
9. The HETS Operator executes the ISP, it shall notify each Balancing Service Provider of the ISP results that refer to the Balancing Service Entities it represents and shall publish the results on its website.
10. Before the end of week W+1, the HETS Operator shall send to the RAEWW details of the minimum variable cost of generation for thermal Dispatchable Generating Units for each day of Settlement Week W. The cost for each thermal Dispatchable Generating Unit shall be calculated, based on the data of the table presented in [Article 10.3](#)~~Article 10.3~~ of this

Rulebook, in accordance with the 'Methodology for Calculating the Variable Costs of Dispatchable Thermal Units'.

### **Article 9.2 Zonal Load Forecasting**

The HETS Operator shall prepare the zonal Load Forecasts for the Dispatch Periods under consideration, taking into account the following information:

- a) Historical data on Load Portfolios and statistics deriving from the processing of the historical data, including, but not limited to, the evolution of load per energy use category,
- b) the weather forecast, historical data on load under similar weather conditions, comparable statistics, as well as the covariance of load and weather parameters,
- c) events that the HETS Operator already anticipates,
- d) operations in the HETS and/or the Distribution Network affecting the half-hourly energy offtake at a Transmission Meter, of which the HETS Operator has been informed, and
- e) other information collected and notified to the HETS Operator.

### **Article 9.3 Zonal RES Units Forecasting**

The HETS Operator shall prepare the zonal RES Units Forecasts for the Dispatch Periods under consideration, taking into account the following information:

- a) historical data on injections of RES Units, as well as statistics deriving from the processing of the historical data,
- b) weather forecasts (wind speed, sunshine, etc.), historical data on injections of RES Units under similar weather conditions, comparable statistics, as well as the covariance of RES Units injections and weather parameters,
- c) events that the HETS Operator already anticipates,
- d) other information collected and notified to the HETS Operator.

### **Article 9.4 Determination of Zonal/Systemic Balancing Capacity Needs**

The HETS Operator shall determine the zonal and systemic needs in Balancing Capacity for the (a) FCR, (b) aFRR and (c) mFRR, in order to ensure an adequate system response/regulation/reserve within the acceptable limits as established in the HETS Grid Code, taking into account the particular characteristics of the HETS, as defined in the 'Methodology for Determination of Zonal/Systemic Balancing Capacity Needs', which is approved by the RAEWW following a proposal by the HETS Operator in accordance with the provisions of paragraph 4 of Article 18 of Law 4425/2016.

## CHAPTER 10. OBLIGATIONS OF BALANCING SERVICE PROVIDERS

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### Article 10.1 General Obligations of Balancing Service Providers

1. Balancing Service Providers representing Dispatchable Generating Units and Dispatchable Pumped Hydroelectric Generating Units shall submit the following to the HETS Operator:
  - a) ISP Balancing Energy Offers,
  - b) Balancing Capacity Offers,
  - c) Techno-Economic Declarations,
  - d) Non-Availability Declarations and
  - e) Major Outage Declarations.
2. Balancing Service Providers representing Dispatchable RES Units Portfolios or Dispatchable Load Portfolios are entitled to submit to the HETS Operator:
  - a) ISP Balancing Energy Offers, and
  - b) Balancing Capacity Offers.
3. In the event that the Balancing Services Providers representing Dispatchable RES Unit Portfolios or Dispatchable Load Portfolios should submit ISP Balancing Energy Offers and/or Balancing Capacity Bids to the HETS Operator, they must submit Non-Availability Declarations to the HETS Operator for the specific Dispatch Day.
4. Balancing Service Providers representing Balancing Service Entities, which wish to be placed under Commissioning Operation regime lasting more than four (4) hours and Balancing Service Providers representing entities under Testing Operation regime are obliged to submit to the HETS Operator preliminary Declarations of Operating Schedules in Commissioning Operation or Testing Operation at 08:00 EET for Dispatch Day, D and revised by 09:30 EET of Dispatch Day D-1. The above Balancing Service Providers have the right to submit to the HETS Operator updated schedules of Commissioning Operation or Testing Operation. The initial Declarations of Operation Schedules and the updated schedules of Commissioning Tests or Testing Operation are accepted after the approval of the HETS Operator, which is communicated to the Balancing Service Providers.
5. The above Declarations of Operation Schedules concern an entire Dispatch Day and the relevant Operation Schedule for the last hour of the specific Dispatch Day is zero. Exceptionally, the above Declarations of Operation Schedules may include a non-zero quantity at the last hour of the Dispatch Day if the Commissioning Operation or Operation Tests continue on the following Dispatch Day.
6. The Balancing Service Providers representing Balancing Service Entities, which wish to be placed under Commissioning Operation regime lasting four (4) hours or more for the Dispatch Day, D submit to the HETS Operator Declarations of Operation Schedules for Commissioning Operation until 17:00 EET in Dispatch Day, D-1 and updated Commissioning Operation schedules within Dispatch Day, D. The above declarations are not considered in the Day-Ahead Market as well as in ISP. The respective Operating Schedule for Dispatchable Generating Units and Dispatchable RES Portfolios for the last mFRR Time Unit of Commissioning Trial Operation must be equal to the relevant Market Schedule for that specific Market Time Unit. The above Commissioning Operation is carried out after approval by the HETS Operator. In particular, for the Dispatchable Generation Units and the Portfolios of Dispatchable Intermittent RES Units, the above

Commissioning Operation is carried out after approval by the HETS Operator if the following are cumulatively met:

- a) according to the results of the ISP for each Dispatch Period within the intended duration of the Commissioning Operation, the Generation Unit or the Portfolio of Dispatchable Intermittent RES Units is loaded at least to its Technically Minimum Generation, and
  - b) after checking by the HETS Operator, no problems arise in the safe operation of the System during the intended duration of the Commissioning Operation
7. The Balancing Service Providers representing Dispatchable hydro Generating Units have the obligation to submit to the HETS Operator hydro resources management declarations in accordance with ~~CHAPTER 7~~ [CHAPTER 7](#) of this Rulebook.
  8. The Balancing Service Providers representing Dispatchable hydro Generating Units shall submit, if required, to the HETS Operator declarations of maximum daily energy Injection constraint in accordance with ~~CHAPTER 7~~ [CHAPTER 7](#) of this Rulebook. The Regulatory Authority for Energy, Waste and Water may exercise its powers to request and review the aforementioned declarations.

### **Article 10.2 Available Capacity**

1. The Available Capacity of the Balancing Service Entities is used in the ISP and in the Balancing Energy Market.
2. Minimum Available Capacity means the Technically Minimum Generation, as modified by the Balancing Service Entity.
3. Maximum Available Capacity of a Dispatchable Generation Unit means the Maximum Net Capacity, as modified on the basis of the Non-Availability Declarations and Major Outage Declarations of the Balancing Service Provider representing it. In case of Total Non-Availability, Maximum Available Capacity is zero. In case of Partial non-Availability, Maximum Available Capacity is modified on the basis of the non-Availability Declaration.
4. Available Capacity of a Dispatchable RES Units Portfolio or a Dispatchable Load Portfolio means the dispatchable capacity resulting from the Registered Characteristics of the Portfolio, as modified by the Balancing Service Provider representing it on the basis of the Non-Availability Declarations.

### **Article 10.3 Techno-Economic Declarations**

1. Balancing Service Providers representing Dispatchable Generating Units shall submit Techno-Economic Declarations to the HETS Operator, separately for each Balancing Service Entity.
2. The Balancing Service Providers representing Dispatchable Generating Units with Alternative Fuel are required to submit separate Techno-Economic Declarations for the operation both with the primary and the alternative fuel.
3. The Producers representing Dispatchable Multi-Shaft Combined Cycle Generating Units are additionally required to submit separate Techno-Economic Declarations for all possible configurations (combinations of gas turbine and steam turbine operation) of their Dispatchable Generating Units.

4. The Techno-Economic Declarations shall include the data of the following tables. The financial data of the Techno-Economic Declaration must reflect the actual operating costs of the Balancing Service Entities.

<b>A. Technical parameters</b>				
<b>Description</b>	<b>Numerical value</b>		<b>Unit of Measurement</b>	
Maximum daily energy injection			MWh	
<b>B. Variable Cost Parameters for Dispatchable Thermal Generating Units</b>				
Fuel cost by fuel type	Fuel A			€/unit of quantitative measurement
	Fuel B			
	Fuel C			
Lower Heating Value of Fuel by fuel type	Fuel A			GJ/unit of quantitative measurement
	Fuel B			
	Fuel C			
Percentage composition of fuels on each capacity interval of the Specific Heat Consumption function.	Net Generation Level (MW)	Fuel A (%)	Fuel B (%)	Fuel C (%)
	1.			
	2.			
	3.			
	4.			
	5.			
	6.			
	7.			
	8.			
	9.			
10.				
Average Special cost of raw materials besides fuel for all capacity intervals of the Specific Heat Consumption function.	Net Generation Level (MW)		Cost (euro/MWh)	
Average Special cost of additional maintenance costs due to operation, (excluding fixed maintenance costs) for all capacity intervals of the Specific Heat Consumption function.	Net Generation Level (MW)		Cost (euro/MWh)	
Average special cost of CO <sup>2</sup> emissions for all capacity intervals	Net Generation Level (MW)		Cost (euro/MWh)	

of the Specific Heat Consumption function.		
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5. The fuel cost referred to in the Techno-Economic Declarations corresponds to all costs incurred by the Balancing Service Provider for the supply of fuel irrespective of the type of individual cost factors. The cost per one unit of fuel quantity shall be calculated as if the fuel was supplied to the Balancing Service Provider by an independent third party at a uniform fuel price for each unit of fuel quantity. In case that fuel cost cannot be evidenced by documents, it shall be calculated as the ratio between the total expenses or the total cost for fuel supply, as recorded over a reasonable period of time, and the total quantity of fuel supplied to the Balancing Service Provider for the Dispatchable Generating Unit over the same period of time.
6. A Techno-Economic Declaration submitted for a Dispatchable Auto-producer Unit, shall refer only to the part of Unit Capacity that corresponds to the Maximum Net Capacity of the Unit, as defined in the Balancing Market Generating Units Registry.

#### Article 10.4 Techno-Economic Declaration Submission Procedure

1. Techno-Economic Declarations shall be submitted for each Dispatch Day, within the Deadline for Submission of the ISP Offers. For the duration of that period, Balancing Service Providers may submit Declarations for the Balancing Service Entities they represent as many times as they wish. Only the last validated Declarations shall be taken into consideration in the execution of the ISP.
2. The Techno-Economic Declaration may refer to one or more Dispatch Days. A more recent Techno-Economic Declaration shall replace the one preceding it, provided it is submitted in accordance with paragraph 1 of this Article.
3. Declarations submitted to the ISP shall be taken into consideration for the execution of ISP1, ISP2 and ISP3, as well as for any ad hoc ISP. Any submission of a Techno-Economic Declaration after the Expiration of the Deadline for Submission of ISP Offers (for the first Dispatch Day to which the Declaration refers) shall not be accepted.

#### Article 10.5 Acceptance and Rejection of the Techno-Economic Declaration by the HETS Operator

The HETS Operator shall accept the Techno-Economic Declarations provided that they have been submitted in time and comply with the requirements set out in [Article 10.3](#) and [Article 10.4](#) of this Rulebook. In the event that a Techno-Economic Declaration does not meet the above requirements, the last legally submitted Declaration.

#### Article 10.6 Non-Availability Declarations

1. Balancing Service Providers, who have a corresponding obligation pursuant to [Article 10.1](#) of this Rulebook, shall submit a Declaration of Total or Partial Non-Availability for each Balancing Service Entity directly to the HETS Operator for each Dispatch Day during which there is reduced Available Capacity of the Balancing Service Entity compared to that arising out of the Declared Characteristics. Reduced Available Capacity may occur in case of failure for technical reasons, related to the operation or the safety of its facilities, or for other reasons.

2. The Balancing Service Providers submit the initial Non-Availability Declarations for the Balancing Service Entities they represent for the Dispatch day, D until 09:00 EET of Dispatch Day, D-1 and the updated Non-Availability Declarations immediately after a reduction in the available capacity entries into force.
3. The Producers representing Dispatchable Units with Alternative Fuel are required to submit separate non-Availability Declarations for the operation of their Dispatchable Generating Units both with the primary and the alternative fuel.
4. The Producers representing Dispatchable Multi-Shaft Combined Cycle Generating Units are obliged to submit separate non-Availability Declarations for each configuration of their Dispatchable Generating Units.
5. The Total or Partial non-Availability Declarations shall include at least the following:
  - a) the Dispatch Periods within a Dispatch Day or the Dispatch Days when non-availability is expected to occur,
  - b) the non-Available Capacity for each Dispatch Period of the Dispatch Day or the Dispatch Days, and
  - c) a detailed technical description of the reasons for the total or partial non-availability.
6. Without prejudice to the provisions of ~~Article 10.8~~ [Article 10.8](#) hereof, non-Availability Declarations shall remain in effect for all the Dispatch Periods to which they refer, unless they are revoked or amended by the Balancing Service Providers that submitted them.

#### **Article 10.7 Major Outage Declaration**

1. The Balancing Service Provider is required to submit directly to the HETS Operator a Major Outage Declaration for each Dispatchable Generating Unit it represents, if the respective Balancing Service Entity is unable to operate for technical reasons, for a period that is expected to exceed a continuous period of ten (10) consecutive days in periods of high-demand (from 15 June to 15 August and from 10 December to 31 January) and two months for the remainder of the year, for each Dispatch Day during which the outage exists.
2. The Producers representing Dispatchable Generating Units with Alternative Fuel are required to submit separate Major Outage Declarations for the operation of their Dispatchable Generating Units both with the primary and the alternative fuel.
3. The Producers representing Dispatchable Multi-Shaft Combined Cycle Generating Units are obliged to submit separate Major Outage Declarations for each configuration of their Dispatchable Generating Units.
4. The Major Outage Declarations shall include at least the following:
  - a) the Dispatch Days on which the failure is expected to occur,
  - b) a detailed technical description of the causes of the failure and the expected recovery time.
5. Major Outage Declarations shall remain in effect for all the Dispatch Periods to which they refer, unless they are revoked or amended by the Balancing Service Providers that submitted them.

### **Article 10.8 Acceptance and Rejection of Non-Availability Declarations and Major Outage Declarations**

1. The HETS Operator shall accept the submitted non-Availability or Major Outage Declarations provided they meet the conditions of this Chapter. If the Declarations submitted do not meet the conditions of this Chapter, they shall be rejected by a duly justified decision of the Operator, which shall be forwarded to the Balancing Service Provider and to the RAEWW.
2. The Balancing Service Provider is entitled to object to the decision of the HETS Operator within five (5) days from the notification of the decision. The HETS Operator shall issue a final reasoned decision on the objection within five (5) days from the notification of the objection. If no decision is issued within that period, the objection shall be considered to have been tacitly rejected.
3. In case the Partial non-Availability Declaration or the Total non-Availability Declaration or the Major Outage Declaration for a Dispatch Period is rejected, the Available Capacity of the Dispatchable Generating Unit shall be equal to Maximum Available Capacity.

## **CHAPTER 11. BALANCING CAPACITY OFFERS TO THE ISP**

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### **Article 11.1 Submission of Balancing Capacity Offers to the ISP**

1. Balancing Capacity Offers represent the intention to provide reserves for the Balancing Capacity products referred to in ~~Article 8.2~~ [Article 8.2\(7\)](#) of this Rulebook:
  - a) Upward and downward FCR,
  - b) Upward and downward aFRR, and
  - c) Upward and downward mFRR,
2. The Balancing Service Providers representing Dispatchable Generating Units that are registered with the Balancing Market Generating Units Registry are obliged to submit to the ISP, for each Balancing Capacity product, on condition that they possess the relevant technical capacity:
  - a) an upward Balancing Capacity Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a total upward Balancing Capacity quantity that corresponds to the Registered Characteristics (Maximum contribution to FCR, Maximum contribution to aFRR, Maximum contribution to mFRR) and
  - b) a downward Balancing Capacity Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a total downward Balancing Capacity amount corresponding to its Registered Characteristics (Maximum contribution to FCR, Maximum contribution to aFRR, Maximum contribution to mFRR).
3. The Producers representing pumped storage Dispatchable hydro Generating Units are obliged to submit separate Balancing Capacity Offers for generation and pumping. The submission of Balancing Capacity Offers for the pumping operation is not obligatory.
4. The Producers representing Dispatchable Multi-Shaft Combined Cycle Generating Units are required to submit separate Balancing Capacity Offers for each configuration of their Units.

5. The Balancing Service Providers representing Dispatchable RES Units Portfolios are entitled to submit to the ISP for each Balancing Capacity product:
  - a) an upward Balancing Capacity Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a quantity no greater than the Registered Characteristics (Maximum contribution to FCR, Maximum contribution to aFRR, Maximum contribution to mFRR), and
  - b) a downward Balancing Capacity Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a quantity no greater than the Registered Characteristics (Maximum contribution to FCR, Maximum contribution to aFRR, Maximum contribution to mFRR).
6. The Balancing Service Providers representing Dispatchable Load Portfolios are entitled to submit to the ISP for each Balancing Power Product:
  - a) an upward Balancing Capacity Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a quantity no greater than its Registered Characteristics (Maximum contribution to FCR, Maximum contribution to aFRR, Maximum contribution to mFRR).
  - b) a downward Balancing Capacity Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a quantity no greater than its Registered Characteristics (Maximum contribution to FCR, Maximum contribution to aFRR, Maximum contribution to mFRR).
7. The offers submitted to the ISP shall be taken into consideration for the execution of ISP1, ISP2 and ISP3, as well as for any ad-hoc ISP. A re-submission of Offers before ISP2 and ISP3 or for any ad hoc ISP is not allowed.
8. Details of how to submit Balancing Capacity Offers to ISP are described in the Technical Decision "Integrated Scheduling Process".

### **Article 11.2 Content and Form of Balancing Capacity Offers**

1. The Balancing Capacity Offers for each Balancing Service Entity and for each Dispatch Period shall consist of individual steps and shall refer to all types of Balancing Capacity for which their Balancing Service Entities have the required technical capacity as per their Registered Characteristics. Each step shall contain the price of the Balancing Capacity Offer in €/MW - hour, accurate to two (2) decimal places, and the quantity of the Balancing Capacity Offer in MW, accurate to one (1) decimal place.
2. The minimum quantity of the Balancing Capacity Offer shall be equal to one (1) MW.
3. The upward Balancing Capacity Offer shall include between one (1) and ten (10) steps. The Balancing Capacity Offer price for each successive step may not be reduced in relation to the price of the Offer for the preceding step.
4. The downward Balancing Capacity Offer shall include between one (1) and ten (10) steps. The Balancing Capacity Offer price for each successive step may not be reduced in relation to the price of the Offer for the preceding step.
5. Balancing Capacity Offers for each Dispatch Period of a Dispatch Day shall be submitted separately for upward and downward FCR Balancing Capacity, for upward and downward aFRR Balancing Capacity and for upward and downward mFRR Balancing Capacity. The price for each step of the above offers shall be greater or equal to the Balancing Capacity Offer Minimum Price and less than or equal to the Balancing Capacity Offer Maximum Price for each type of reserve.

6. The numerical values of the Balancing Capacity Offer Minimum Price and the Balancing Capacity Offer Maximum Price are specified in the Technical Decision “Technical limits on bidding and clearing prices in the Balancing Market”. This Technical Decision shall be issued at least two (2) months prior to the date of enforcement of the new values of the above limits.

### Article 11.3 Validation of Balancing Capacity Offers

1. In the event that a Balancing Capacity Offer is not submitted in accordance with ~~Article 11.1~~ and ~~Article 11.2~~, the Balancing Capacity Offer for all Dispatch Periods of the Dispatch Day shall be automatically rejected by the Balancing Market System. In that case, the grounds for the rejection shall be notified to the Balancing Service Providers through the Balancing Market System. The Balancing Service Provider may re-submit a Balancing Capacity Offer until the Expiration Date for Submission of Offers to the ISP. If the Balancing Capacity Offer is submitted in accordance with ~~Article 11.1~~ and ~~Article 11.2~~, the Balancing Capacity Offer shall be validated. Only the last validated Balancing Capacity Offers shall be taken into consideration for the execution of the ISP.
2. In case the Balancing Service Providers representing Dispatchable RES Units Portfolios or Dispatchable Load Portfolios do not submit Balancing Energy Offers for a quantity that corresponds at least to the offered quantity of Balancing Capacity for a Dispatch Period, the Balancing Capacity offers for the respective Dispatch Period shall be automatically rejected by the Balancing Market System.
3. After the Expiration Date for Submission of Offers to the ISP, Balancing Capacity Offers may not be modified and shall be used as-is for resolution of the Integrated Scheduling Processes of ISP1, ISP2, ISP3, and any other ISP requirement.
4. In case of non-submission or non-acceptance of Balancing Capacity Offers for a Dispatch Day in connection with a Balancing Service Provider that is obliged to submit a Balancing Capacity Offer in accordance with ~~Article 11.1~~, the Balancing Market System shall automatically create Balancing Capacity Offers for the respective Dispatchable Generating Unit and for all Dispatch Periods of the Dispatch Day, establishing prices equal to the corresponding prices included in the last validated Balancing Capacity Offer of the previous day. The Offers which are created automatically by the Balancing Market System shall be considered as having been submitted by the Participant and shall produce all the results provided for in this Rulebook, as if these Offers had been submitted by the Participant.

## CHAPTER 12. BALANCING ENERGY OFFERS TO THE ISP

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### Article 12.1 Submission of Balancing Energy Offers to the ISP

1. ISP Balancing Energy Offers correspond to an intention to provide upward or downward Balancing Energy in relation to the Market Schedule of the respective Balancing Service Entity.
2. An upward ISP Balancing Energy Offer is:
  - a) the possibility of increase in the production level of the Dispatchable Generating Units and Dispatchable RES Units Portfolios in comparison to their Market Schedule,

- b) the possibility of decrease in the consumption level of Dispatchable Load Portfolios in comparison to their Market Schedule.
- 3. A downward ISP Balancing Energy Offer is:
  - a) the possibility of decrease in the production level of the Dispatchable Generating Units and Dispatchable RES Units Portfolios in comparison to their Market Schedule,
  - b) the possibility of increase in the consumption level of Dispatchable Load Portfolios in comparison to their Market Schedule.
- 4. The Balancing Service Providers representing Dispatchable Generating Units registered with the Balancing Market Generating Units Registry are obliged to submit to the ISP:
  - a) an upward ISP Balancing Energy Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a total upward Balancing Energy quantity equal to the Maximum Net Capacity of the Balancing Service Entity as set out in its Registered Characteristics and
  - b) a downward ISP Balancing Energy Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a total downward Balancing Energy quantity equal to the Maximum Net Capacity of the Balancing Service Entity as set out in its Registered Characteristics.
- 5. The Producers representing pumped storage Dispatchable hydro Generating Units are obliged to submit separate Balancing Energy Offers for generation and pumping. The submission of Balancing Energy Offers for the pumping operation is obligatory. In the event of failure to submit Balancing Energy Offers for pumping operations for a Dispatch Day or certain Dispatch Periods of the Dispatch Day, the Balancing Market System shall automatically generate Balancing Energy Offers for the pumping operation for the corresponding Balancing Service Entity for all Dispatch Periods of the Dispatch Day or for Dispatch Periods of the Dispatch Day for which no offer was submitted, by setting offer quantities equal to the Maximum Net Power of the Balancing Service Entity, with offer prices equal to the Maximum and Minimum Balancing Energy Offer Limits, as set out in the Technical Decision 'Technical limits on bidding and clearing prices in the Balancing Market', subject to the provisions of [Article 27.2](#) this Rulebook. The Offers which are created automatically by the Balancing Market System shall be considered as having been submitted by the Participant and shall produce all the results provided for in this Rulebook, as if these Offers had been submitted by the Participant.
- 6. The Producers representing Dispatchable Multi-Shaft Combined Cycle Generating Units are obliged to submit separate Balancing Energy Offers for each configuration of their Dispatchable Generating Units.
- 7. The Balancing Service Providers representing Dispatchable RES Units Portfolios are entitled to submit to the ISP:
  - a) an upward ISP Balancing Energy Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a total upward Balancing Energy quantity which shall be no higher than the dispatchable capacity of the Balancing Service Entity as set out in its Registered Characteristics and
  - b) a downward ISP Balancing Energy Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a total downward Balancing Energy quantity which shall be no higher than the dispatchable capacity of the Balancing Service Entity as set out in its Registered Characteristics.
- 8. The Balancing Service Providers representing Dispatchable Load Portfolios are entitled to submit to the ISP:

- a) an upward ISP Balancing Energy Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a total upward Balancing Energy quantity which shall be no higher than the dispatchable capacity, and
  - b) a downward ISP Balancing Energy Offer per Balancing Service Entity for each Dispatch Period of the Dispatch Day, for a total downward Balancing Energy quantity which shall be no higher than the dispatchable capacity.
9. Balancing Service Providers representing Dispatchable RES Units Portfolios or Dispatchable Load Portfolios, with the exception of Dispatchable Hydroelectric Generation Units with pumped storage capacity are obliged to submit upward and downward Balancing Energy Offers to the ISP, provided that they also submit the corresponding Balancing Capacity Offers.
  10. The offers submitted to the ISP shall be taken into consideration for the execution of ISP1, ISP2 and ISP3, as well as for any ad-hoc ISP. The re-submission of Offers is not allowed after the Expiration of the Deadline for the Submission of ISP Offers.
  11. Balancing Energy Offers submitted to the ISP are used in both the mFRR and aFRR Processes as set out in [Article 15.1](#)~~Article 15.1~~.
  12. Details of how to submit Balancing Energy Offers to ISP are described in the Technical Decision “Integrated Scheduling Process”.

#### **Article 12.2 Content and Form of Balancing Energy Offers to the ISP**

1. The upward and downward ISP Balancing Energy Offers for each Balancing Service Entity and for each Dispatch Period shall consist of individual steps. Each step shall contain the price of the Balancing Energy Offer in €/MW, accurate to two (2) decimal places, and a quantity representing the generation/load level of the Balancing Service Entity in MW, accurate to one (1) decimal place. The minimum quantity of the Offer shall be equal to one (1) MW.
2. The upward ISP Balancing Energy Offer shall include between one (1) and ten (10) steps. The price of the ISP Balancing Energy Offer for each successive step may not be reduced in relation to the price of the Offer for the preceding step. For the Balancing Service Entities for which a Technically Minimum Generation is applied, the quantity of the first step of the upward ISP Balancing Energy Offer in MW shall be equal to, at least, the Technically Minimum Generation.
3. The downward ISP Balancing Energy Offer shall include between one (1) and ten (10) steps. The price of the ISP Balancing Energy Offer for each successive step may not be increased in relation to the price of the Offer for the preceding step. For the Balancing Service Entities for which a Technically Minimum Generation is applied, the quantity of the last step of the downward ISP Balancing Energy Offer in MW shall be equal to, at least, the Technically Minimum Generation.
4. ISP Balancing Energy Offer prices must be within the Balancing Energy Offer Maximum Price and the Balancing Energy Offer Minimum Price, as in force for the Dispatch Period to which the Balancing Energy Offer corresponds.
5. The numerical values of the Balancing Energy Offer Minimum Price and the Balancing Energy Offer Maximum Price are specified in the Technical Decision “Technical limits on bidding and clearing prices in the Balancing Market”. This Technical Decision shall be issued at least two (2) months prior to the date of enforcement of the new values of the above limits.

6. In stepped ISP Balancing Energy Offers for mFRR of Dispatchable Load Portfolios, Balancing Service Providers shall have the right to include a specific quantity per step, which is offered as a single set and can therefore either be accepted in its entirety or rejected in its entirety by the ISP. The above right is granted to Balancing Service Providers after approval by the HETS Operator following the submission of justification and technical documentation by the Balancing Service Providers.

### Article 12.3 Validation of Balancing Energy Offers to the ISP

1. In the event that an ISP Balancing Energy Offer was not submitted in accordance with ~~Article 12.1~~ and ~~Article 12.2~~, the ISP Balancing Energy Offer for all Dispatch Periods of the Dispatch Day shall be automatically rejected by the Balancing Market System. In case of rejection, the grounds for the rejection shall be notified to the Balancing Service Providers through the Balancing Market System. Balancing Service Providers may re-submit an ISP Balancing Energy Offer before the Deadline for Submission of ISP Offers. If the ISP Balancing Energy Offer is submitted in accordance with ~~Article 12.1~~ and ~~Article 12.2~~, the ISP Balancing Energy shall be validated. Only the last validated ISP Balancing Energy Offers shall be considered for the execution of the ISP.
2. After the Deadline for Submission of Offers to the ISP, Balancing Energy Offers may not be modified and shall be used as-is for resolution of the Integrated Scheduling Processes of ISP2, and ISP3.
3. In the event of non-submission of ISP Balancing Energy Offers for a Dispatch Day by a Balancing Service Provider who is obliged to submit a Balancing Energy Offer in accordance with ~~Article 12.1~~, the Balancing Market System shall automatically create ISP Balancing Energy Offers for the respective Dispatchable Generating Unit, and for all Dispatch Periods of the Dispatch Day, setting bidding prices equal to the corresponding prices of the last validated ISP Balancing Energy Offer of the Balancing Service Entity on the previous day. The Offers which are created automatically by the Balancing Market System shall be considered as having been submitted by the Participant and shall produce all the results provided for in this Rulebook, as if these Offers had been submitted by the Participant.

## CHAPTER 13. EXECUTION OF THE INTEGRATED SCHEDULING PROCESS

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### Article 13.1 Data of Integrated Scheduling Process

1. The HETS Operator shall execute the ISP based on the following data, for each Dispatch Period concerned:
  - a) The price - quantity pairs of the stepwise ISP Balancing Energy Offers.
  - b) The price-quantity pairs of the Balancing Capacity Offers for upward and downward FCR, upward and downward aFRR and upward and downward mFRR.
  - c) The Registered Characteristics of the Balancing Service Entities.
  - d) The Techno-Economic Declarations submitted by the Balancing Service Providers for the Balancing Service Entities they represent.

- e) The Total and Partial non-Availability Declarations and the Major Outage Declarations submitted by the Balancing Service Providers for the Balancing Service Entities they represent.
  - f) The operational status of the Balancing Service Entities at the start of the scheduling period, namely the number of half-hours already in operation or out of operation and the scheduled injection or consumption at the start of the ISP scheduling period.
  - g) The Market Schedules of all the Balancing Service Entities.
  - h) Any updated schedules for the scheduled operation of the generating units in Commissioning Operation.
  - i) Any updated schedules for the scheduled operation of the Dispatchable Generating Units in Testing Operation.
  - j) The mandatory schedules for hydroelectric power generation, as submitted by the respective Producers to the HETS Operator through the daily mandatory hydro injection declarations.
  - k) The zonal Load Imbalances.
  - l) The zonal RES Units Imbalances.
  - m) The available flows in the Inter-Zonal Corridors.
  - n) The import/export schedule Imbalances at the interconnections imposed by the HETS Operator.
  - o) The zonal and systemic needs of the HETS in Balancing Capacity.
  - p) Events that are notified to the HETS Operator, in accordance with the HETS Grid Code.
  - q) The declarations of maximum daily energy injection constraint.
  - r) Other information collected and/or notified to the HETS Operator in accordance with the HETS Grid Code, as well as other technical data and simulation data regarding the operation of the HETS.
2. On the basis of the data sent by the Energy Exchange, the HETS Operator shall determine:
- a) the Final Internal Schedules per Dispatch Period of the Dispatch Day, which correspond to Balancing Service Entities and Balance Responsible Entities in Greece and are equal to the Market Schedules sent by the Energy Exchange, and
  - b) the Final External Schedules per Dispatch Period of the Dispatch Day, which correspond to import/export schedules at the interconnections, and take into account the Market Schedules, the schedules among Transmission System Operators, any imbalances due to technical constraints on interconnection lines and the import/export imbalances included in the latest Physical Transmission Rights Declarations of the Participants, caused:
    - i. either by the difference between the imported quantity included in the Market Schedule of a Participant and his nomination of long-term Physical Transmission Rights for electricity imports through an interconnection where there is an obligation for physical delivery,
    - ii. or by the difference between the quantities of energy sold/bought on the Day-Ahead Market that correspond to the short-term Physical Transmission Rights and the quantities of energy sold/bought on the Day-Ahead Market(s) of neighboring countries that correspond to the same short term Physical Transmission Rights.

### Article 13.2 Integrated Scheduling Process Optimization Methodology and Algorithm

1. The ISP is executed as a Mixed Integer Linear Programming model.
2. The quantity of the upward ISP Balancing Energy Offer taken into account in the ISP corresponds to the difference between the Available Capacity of the Balancing Service Provider and the capacity resulting from the Balancing Service Provider's Market Schedule, as in force at the time of submission of the Offer. The quantity of the downward ISP Balancing Energy Offer corresponds to the difference between zero quantity and the capacity resulting from the Balancing Service Provider's Market Schedule as in force at the time of submission of the Offer. If the Balancing Energy prices of the ISP Balancing Energy Offers for the same Dispatch Period arithmetically coincide, and the respective Balancing Energy quantities of such ISP Balancing Energy Offers are not fully included in the ISP results, then the following order of priority shall be applied for the bidding segments: (a) Dispatchable RES Units Portfolio, (b) Dispatchable hydro Generating Units, (c) Dispatchable Load Portfolio, and (d) Dispatchable thermal Generating Units. Among bidding segments that belong to the same category, priority shall be given to the segments of the offers corresponding to the Balancing Service Entity with the highest Ramp Up Rate. For bidding segments that come into the same category and have the same Ramp Up Rate there will be random selection.
3. If the Balancing Capacity prices of the Balancing Capacity Offers for the same Dispatch Period arithmetically coincide, and the respective Balancing Capacity quantities of those Balancing Capacity Offers are not fully included in the ISP results, the bidding segments shall be selected in the following order of priority: (a) Dispatchable RES Units Portfolio, (b) Dispatchable hydro Generating Units, (c) Dispatchable Load Portfolio, and (d) Dispatchable thermal Generating Units. Among bidding segments that belong to the same category, priority shall be given to the segments of the offers corresponding to the Balancing Service Entity with the highest Ramp Up Rate. For bidding segments that come into the same category and have the same Ramp Up Rate there will be random selection.
4. The Integrated Scheduling Process Optimization Algorithm is briefly described as follows:
  - a) The ISP execution produces:
    - i. the commitment status of each Balancing Service Entity, for each Dispatch Period of the Dispatch Day,
    - ii. the upward and downward Balancing Capacity for FCR in MW per Balancing Service Entity for each Dispatch Period of the Dispatch Day,
    - iii. the upward and downward Balancing Capacity for aFRR in MW per Balancing Service Entity for each Dispatch Period of the Dispatch Day,
    - iv. the upward and downward Balancing Capacity for mFRR in MW per Balancing Service Entity for each Dispatch Period of the Dispatch Day,
    - v. the inter-zonal flows,
    - vi. the potential energy surplus in MW for every Dispatch Period of the Dispatch Day, and
    - vii. the Balancing Capacity requirements limitation in MW, when required, for every Dispatch Period of the Dispatch Day.
  - b) The algorithm works in such a way that the total Balancing Energy and Balancing Capacity procurement cost is minimized. The total cost of providing Balancing Energy may include the estimated cost of real-time activation of Balancing Capacity. Total cost of Balancing Energy and Balancing Capacity procurement means the sum of the

Balancing Energy and Balancing Capacity procurement for all Dispatch Periods of Dispatch Day D in the case of ISP1 and ISP2, or for the remaining Dispatch Periods of Dispatch Day D in the case of ISP3 and any other execution of any ad hoc ISP during the Dispatch Day.

- c) The algorithm must comply with the following constraints:
- i. the HETS Imbalances constraint, according to which the sum of the allocated upward and downward ISP Balancing Energy is equal to the forecasted HETS Imbalances, per Bidding Zone and as a total,
  - ii. the inter-zonal constraints,
  - iii. the sum of the Balancing Capacity for FCR of all Balancing Service Entities that have been chosen to provide Balancing Capacity for FCR must be greater than or equal to the total requirements per Bidding Zone or/and of HETS as a whole with respect to upward and downward Balancing Capacity for FCR,
  - iv. the sum of the Balancing Capacity for aFRR of all Balancing Service Entities that have been chosen to provide Balancing Capacity for aFRR must be greater than or equal to the total requirements per Bidding Zone or/and of HETS as a whole or of the bidding zone with respect to upward and downward Balancing Capacity for aFRR,
  - v. the sum of Ramp Up or Ramp Down Rates of Balancing Service Entities that have been selected to provide Balancing Capacity for aFRR must be greater than or equal to the total requirements of the HETS with respect to Ramp Up and Ramp Down Rates for aFRR,
  - vi. the sum of the Balancing Capacity for mFRR of all Balancing Service Entities that have been chosen to provide Balancing Capacity for mFRR must be greater than or equal to the total requirements per Bidding Zone or/and of HETS as a whole with respect to upward and downward Balancing Capacity for mFRR,
  - vii. the updated operation schedules of generating units in Commissioning Operation,
  - viii. the updated operation schedules of Dispatchable Generating Units in Testing Operation,
  - ix. the daily mandatory hydro management declarations,
  - x. the technical constraints of the Balancing Service Entities that are included in their Declared Characteristics such as Balancing capacity supply constraints, Balancing Energy constraints, Technically Minimum Generation and Maximum Net Capacity and Available Capacity constraints under normal operation or under AGC, synchronization time, soak time and desynchronization time, time and generation of the Dispatchable Generating Unit between synchronization and the Technically Minimum Generation, the logical status of commitment constraints, the minimum up/down time constraints, the ramp rate of power output and Balancing Capacity of the Units constraints, the Maximum Operating Time per activation and the Maximum Number of Activations per Dispatch Day,
  - xi. the constraints on the maximum daily energy injection from Dispatchable Natural Gas Generating Units,
  - xii. the constraints on the maximum daily energy injection from Dispatchable Hydro Generating Units based on the constraints declarations for maximum daily energy injection from Dispatchable Hydro Generating Units,

- xiii. in each Dispatch Period, pumped storage Dispatchable Hydro Generating Units shall operate either as Dispatchable Generating Units or as pumping loads,
  - xiv. in each Dispatch Period the Dispatchable Multi-Shaft Combined Cycle Generating Units shall operate only in one configuration,
  - xv. in each Dispatch Period, the Dispatchable Load Portfolios may be allocated either as (a) Balancing Energy for mFRR and/or FCR or (b) Balancing Energy for aFRR and/or FCR. Additionally, if the Dispatchable Load Portfolio has a non-zero Market Schedule or a non-zero ISP Schedule during a Dispatch Period, it cannot be assigned aFRR Balancing Energy.
  - xvi. In each Dispatch Period, Dispatchable Intermittent RES Units Portfolio may be allocated either as (a) Balancing Energy for mFRR and/or FCR or (b) Balancing Energy for aFRR and/or FCR. In addition, if the Dispatchable Intermittent RES Unit Portfolio has a non-zero ISP Schedule during a Dispatch Period, it cannot be assigned aFRR Balancing Energy,
  - xvii. the constraints for the transition between two virtual entities, as those are defined and specified in the Technical Decision “Integrated Scheduling Process”.
- d) In cases where observance of the energy balance is not feasible, in order to achieve the desired convergence of the algorithm, and especially in cases of excess energy, the algorithm may resolve it by displaying the energy surplus in the ISP results. Relevant details are described in the Technical Decision “Integrated Scheduling Process”.
  - e) In cases where maintaining Balancing Capacity zonal/systemic requirements is not feasible, in order to achieve the desired algorithm convergence, the algorithm may solve by limiting the Balancing Capacity requirements up to a maximum specified volume. Relevant details are described in the Technical Decision “Integrated Scheduling Process”.
- 5) In the event that, after resolution of the ISP, coverage of anticipated imbalances and/or zonal/systemic Balancing Capacity requirements remains impossible, any available ISP Balancing Energy Offers for Contracted Generating Units shall be included, the following constraints shall be gradually lifted, and the ISP shall be executed again. The procedure for lifting constraints is as follows:
- a) First of all, the constraint on Balancing Capacity requirements for upward and downward mFRR is not implemented across its full range,
  - b) Then, the Balancing Capacity requirements constraint for upward and downward FCR is not implemented in its entire range,
  - c) Furthermore, the constraint on Balancing Capacity requirements for upward and downward aFRR is not implemented across its full range,
  - d) Finally, the HETS Imbalances constraint is not implemented in its entire range.
- 6) The HETS Operator shall include in the ISP data the declarations of maximum daily energy injection constraint from Dispatchable Natural Gas Generating Units. The quantity of injected electricity that is included in the ISP for the Dispatchable Natural Gas Generating Units, to which the submitted declarations of maximum daily energy injection constraint from Dispatchable Natural Gas Generating Units refer, may not exceed the quantity specified in the above declarations.
- 7) The HETS Operator shall include in the ISP data the declarations of maximum daily energy injection constraint from Dispatchable hydro Generating Units. The quantity of injected

electricity that is included in the ISP for the Dispatchable hydro Generating Units, to which the submitted declarations of maximum daily energy injection constraint from Dispatchable hydro Generating Units refer, may not exceed the quantity specified in the above declarations.

### Article 13.3 Results of the Integrated Scheduling Process

1. The results of the ISP, shall include:
  - a) the commitment (synchronization/desynchronization) schedule of the Balancing Service Entities,
  - b) the Balancing Capacity for FCR, mFRR and aFRR in either direction (upward and downward) for each Balancing Service Entity and for each Dispatch Period of the Dispatch Day.
  - c) the potential energy surplus in MW for every Dispatch Period of the Dispatch Day
  - d) the constraint of Balancing Capacity requirements in MW, when required, for every Dispatch Period of the Dispatch Day, and
  - e) the inter-zonal flows.
2. For each Dispatch Period, the sum of the upward and downward Balancing Power awarded by the ISP to each Balancing Service Entity calculated separately for each of the Balancing Power Products (FCR, mFRR and aFRR) cannot be less than a specified limit. This limit is calculated for Dispatchable Generating Units as 2% of the Maximum Net Capacity and for Dispatchable Load Portfolios or Dispatchable RES Units Portfolios as 2% of the dispatched capacity. The above limit is rounded to a whole number and is assigned values from 1MW to 10MW. In cases where this limit is calculated to be less than 1MW, it is assigned the value 1 MW and in cases where it is calculated to be greater than 10MW it is assigned the value 10 MW.
3. An indicative generation/consumption schedule also results from the ISP, for each Balancing Service Entity and for each Dispatch Period of the Dispatch Day ("ISP schedule"). The differences between the ISP schedule and the automatic Dispatch Instruction mechanism (Balancing Energy Market) shall not be considered deviations from the ISP. In addition, an indicative schedule may also result from the ISP, which corresponds to the energy surplus, in MW, for every Dispatch Period of the Dispatch Day. The energy surplus observed in real time can differ significantly from the indicative schedule mentioned above and can be addressed with appropriate measures taken by the HETS Operator close to real-time.
4. Without prejudice to paragraph 5 of this Article, with regard to the results of the ISP for Balancing Capacity, the following shall apply:
  - a) The results of ISP1 shall not be binding.
  - b) The results of ISP2 shall be binding for the first twenty-four (24) Dispatch Periods of Dispatch Day D.
  - c) The results of ISP3 shall be binding for the last twenty-four (24) Dispatch Periods of Dispatch Day D.
  - d) The results of the ad hoc ISPs shall be binding for the Dispatch Periods to which they refer.
5. The results of all ISP executions shall be binding with regard to the commitment schedule of the Balancing Service Entities.

6. The Balancing Service Providers are obliged to comply with the binding results of the ISP executions. In case of non-compliance, the Balancing Service Providers shall not be entitled to a fee and shall be subject to non-Compliance Charges, in accordance with ~~CHAPTER 22~~ **CHAPTER 22** of this Rulebook.
7. The HETS Operator shall publish the results forty-five (45) minutes after the execution of each ad-hoc ISP. Within the same deadline, it shall inform the Balancing Service Providers whose Balancing Energy and Balancing Capacity Offers were submitted to the ISP and accepted of the results of the ISP that concern them.
8. The HETS Operator may deviate from the results of the ISP in all cases where it has substantiated evidence to consider that such a deviation is necessary so as to ensure the safe operation of the HETS and the smooth operation of the Balancing Market.

#### **Article 13.4 Surveillance of the Results of the Integrated Scheduling Process**

Until 11:00 EET on each D+1 calendar day, the HETS Operator shall notify the RAEWW of all data, parameters and results of the ISP executed on Dispatch Day D in editable form, in order for the Authority to review the regular operation of the ISP and identify potential distortions in the ISP results and the scheduling of Balancing Service Entities.

## SECTION V. BALANCING ENERGY MARKET

### CHAPTER 14. GENERAL PROVISIONS

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#### Article 14.1 Scope

This Section presents:

- a) the obligations of the HETS Operator in the framework of the Balancing Energy Market,
- b) the obligations of the Balancing Service Providers in the framework of the Balancing Energy Market,
- c) The transmission of data between the Integrated Scheduling Process and the Energy Balancing Market,
- d) the conditions and the procedure for the submission of Balancing Energy Offers by the Balancing Service Providers for the Balancing Service Entities,
- e) details regarding input data, the optimization model, the clearing methodology, and the Balancing Energy Market results, and
- f) the Dispatch Instructions issued for each of the Balancing Service Providers, and
- g) the procedures required in the context of participation by the HETS Operator in the European Platforms provided for in Regulation (EU) 2017/2195.

#### Article 14.2 General Provisions

1. The Balancing Energy Market includes the mFRR Process and the aFRR Process. mFRR Process means those processes that are carried out locally by the HETS Operator to activate mFRR Balancing Energy Offers. aFRR Process means those processes that are carried out within the framework of the European aFRR Platform and in the framework of the Automatic Regulation of Production by the HETS Operator to activate aFRR Balancing Energy Offers.
2. In the Balancing Energy Market, the following products are used:
  - a) The upward and downward Balancing Energy (mFRR) activated through the mFRR Process for each mFRR Unit of Time.
  - c) The upward and downward Balancing Energy (aFRR) activated through the aFRR Process for each aFRR Process execution cycle.
3. The Balancing Service Providers submit Balancing Energy Offers (mFRR and aFRR) by Bidding Zone, that is, Balancing Energy Offers corresponding to activation of mFRR and aFRR. Balancing Energy Offers (aFRR) are converted into aFRR Standard Products by the HETS Operator.
4. The HETS Operator participates in the European Automatic Frequency Restoration Reserve (aFRR) Platform for the exchange of Balancing Energy from aFRR Standard Products. Balancing Energy exchange means activation of aFRR Balancing Energy Offers for the supply of Balancing Energy from Balancing Service Providers in a scheduling area other than the scheduling area of the HETS Operator.
5. The European aFRR Platform operates using a Balancing Energy exchange model that incorporates a Common Merit Order List (CMOL). The Common Merit Order List refers to

the common list of all aFRR Balancing Energy Offers from the aFRR Standard Products of all the TSOs participating in the European aFRR Platform, ranked according to their offer prices, which is used for the purpose of activating those offers.

6. The mFRR Process is carried out periodically. The mFRR Process execution cycle takes place during an mFRR Time Unit, which is a period of 15 minutes, commencing as of 01:00 EET on the Dispatch Day. mFRR Time Units are sequential and do not overlap.
7. The aFRR Process is carried out periodically. The execution cycle of the European aFRR Platform is referred to as the aFRR optimisation cycle. The Automatic Generation Control execution cycle is referred to as the AGC cycle.
8. The mFRR Process adopts, without modification or review, the binding results of the ISP for each Balancing Service Entity unless the Entity in question is subject to a forced interruption arising from submission of a Partial or Total Non-Availability Declaration, or a Major Outage Declaration. In that case, the Balancing Service Entity shall be considered unavailable and the ISP may be executed again.
9. The Balancing Capacity for FCR, automatic FRR, and manual FRR, determined in the ISP, as per [Article 13.2](#) of this Rulebook, shall remain in effect during all Dispatch Periods of the Dispatch Day. In case that a Balancing Service Entity is not available due to a failure, the ISP may be executed again in order to award a Balancing Capacity for the FCR, automatic FRR and manual FRR that are actually available.

### Article 14.3 HETS Operator Responsibilities

1. The HETS Operator:
  - a) shall collect, in real time, the telemetered electricity generation/consumption values of the Balancing Service Entities,
  - b) shall realise very short-term zonal Load Forecasts for mFRR Time Units in each mFRR Process that is executed,
  - c) shall realise very short-term zonal Forecasts for RES Units for mFRR Time Units in each mFRR Process that is executed,
  - d) shall receive any updated Balancing Energy Offers and the non-Availability Declarations of the Participants,
  - e) shall operate the Use Declaration Submission System of the HETS Operator,
  - f) shall calculate the zonal Imbalances to be covered by activating Balancing Energy Offers,
  - g) shall calculate the remaining available flows of the inter-zonal corridors for the execution of mFRR and aFRR Processes;
  - h) shall execute mFRR and aFRR Processes;
  - i) shall create an aFRR Local Merit Order List (LMOL), on the basis of the aFRR Balancing Energy Offers submitted by the Balancing Service Providers;
  - j) shall calculate the upward or downward aFRR requirements of the HETS for each AGC cycle;
  - k) shall issue and send out Dispatch Instructions to Balancing Service Entities;
  - l) shall monitor the compliance of Balancing Service Entities with Dispatch Instructions,
  - m) shall manage and use the Dispatch Information Administration System, and

- n) shall submit information to the Transparency Platform of the European Network of Transmission System Operators for Electricity (ENTSO-e) and the Agency for the Cooperation of Energy Regulators (ACER).
2. The HETS Operator is obliged to maintain a complete database on the dispatch process, including:
  - a) an ISP Schedule record,
  - b) a Dispatch Instructions record,
  - c) a proof of delivery record for the Dispatch Instructions.
3. The information contained in the above records shall be kept by the HETS Operator for at least five (5) years from their entry. Upon a reasoned request, the Balancing Service Providers shall have the right to access the above information for their Balancing Service Entities as well as for other Balancing Service Entities only in the context of dispute settlement in accordance with the procedure set out in the HETS Grid Code.

#### **Article 14.4 Dispatch Instructions**

1. The HETS Operator shall issue Dispatch Instructions to the Dispatchable Generating Units whereby it shall determine the Active Power generation, their synchronization or de-synchronization with the HETS, the provision of Reserves and other Ancillary Services and, in general, their mode of operation. The HETS Operator shall issue Dispatch Instructions to the other Balancing Service Entities whereby it shall determine the injection or offtake of Active Power, the provision of Reserves and other Ancillary Services and, in general, their mode of operation.
2. In particular, the Dispatch Instructions issued by the HETS Operator in the framework of the Balancing Market, shall be as follows:
  - a) Commitment Dispatch Instructions (i.e. synchronization Dispatch Instructions for the Dispatchable Generating Units) or decommitment (i.e. de-synchronization Dispatch Instructions for the Dispatchable Generating Units) or transition (i.e. transition Dispatch Instructions between operating configurations for Multishaft Combined Cycle Dispatchable Generating Units) in the framework of the ISP.
  - b) mFRR Dispatch Instructions
  - c) aFRR Dispatch Instructions;
  - d) mFRR Test Dispatch Instructions.
3. In addition to the above Dispatch Instructions, the HETS Operator shall issue other instructions for the activation of Balancing Energy Offers for mFRR for purposes other than balancing, in order to ensure reliable operation of the HETS, in particular with regard to frequency, voltage, and current of the HETS at important nodes or component parts. The Balancing Energy Offers for mFRR that are activated for purposes other than balancing shall be marked with the appropriate indications.
4. The Dispatch Instructions shall be issued by the HETS Operator to the Balancing Service Entities through the Dispatch information Administration System, or by alternative means of communication, such as telephone and e-mail.
5. In case of interruption or failure of the Dispatch information Administration System, which makes the issuing of Dispatch Instructions impossible, alternative ways of communication, such as telephone, e-mail and fax, shall be used.

6. Without prejudice to the specifications of the following paragraphs, Dispatch Instructions shall be mandatory for the Balancing Service Providers. The Balancing Service Providers shall ensure that the operational mode of their Balancing Service Entities complies with the Dispatch Instructions and that they change their operation only upon a new Dispatch Instruction. In case of non-compliance, the Balancing Service Providers shall be subject to non-Compliance Charges, in accordance with [Article 22.3](#)~~Article 22.3~~ and [Article 22.4](#)~~Article 22.4~~ of this Rulebook.
7. When Compliance with a Dispatch Instruction is impossible due to constraints on the operation of a Balancing Service Entity, which constraints are included in the Balancing Service Entity's Declared Characteristics, then the respective Balancing Service Provider shall immediately notify the HETS Operator both by telephone and e-mail or fax. In that case, the HETS Operator may withdraw the original Dispatch Instruction and issue a new one.
8. When Compliance with a Dispatch Instruction is impossible for reasons solely attributable to the security of the personnel or the facilities of a Balancing Service Entity, then the respective Balancing Service Provider shall immediately notify the HETS Operator. In that case, the HETS Operator may issue a new Dispatch Instruction taking into account the updated Characteristics of the respective Balancing Service Entity.
9. Balancing Service Providers shall be considered to have complied with the Dispatch Instructions for the synchronization or de-commitment of their Balancing Service Entities, if they execute them with a variance of no more than ten (10) minutes from the time specified in the instructions, as described in the Technical Decision 'Dispatch Instructions'.
10. Balancing Service Entities selected to provide aFRR Balancing Energy shall comply with the activation profile of aFRR Standard Products. The permitted activation profile shall take into account the characteristics of the aFRR Standard Products and a tolerance range as specified in the Technical Decision 'Dispatch Instructions'.
11. The HETS Operator may perform checks on Balancing Service Entities to establish compliance with the permitted activation profile. If any discrepancy is found, the HETS Operator shall impose Non-Compliance Charges in accordance with [Article 22.2](#)~~Article 22.2~~.

#### **Article 14.5 Participation of Balancing Service Providers in the Balancing Energy Market**

1. Participation in the mFRR Process is mandatory for all Dispatchable Generating Units having that obligation, in accordance with the HETS Grid Code, for all their Available Capacity, regardless of the mFRR Balancing Capacity awarded in the ISPs.
2. Participation in the aFRR Process is optional for Dispatchable RES Units Portfolios and Dispatchable Load Portfolios, with the exception of capacity volumes corresponding to the aFRR Balancing Capacity awarded in the ISPs, for which participation is mandatory.
3. Participation in the aFRR Process is mandatory for all Dispatchable Generating Units having that obligation, in accordance with the HETS Grid Code, regardless of the aFRR Balancing Capacity awarded in the ISPs.
4. Participation in the aFRR Process is optional for Dispatchable RES Units Portfolios and Dispatchable Load Portfolios, except for the capacity volume corresponding to the aFRR Balancing Capacity awarded to them in the ISPs, for which participation is mandatory.
5. Participation in the mFRR Process shall confer the following obligations on the Balancing Service Providers:

- a) the submission of Total or Partial non-Availability Declarations and Major Outage Declarations, immediately after the occurrence of events affecting their availability,
  - b) submission of upward mFRR Balancing Energy Offers on behalf of the Balancing Services Entities they represent,
  - c) submission of downward mFRR Balancing Energy Offers on behalf of the Balancing Services Entities they represent,
  - d) availability for operation according to their Declared Characteristics, and
  - e) compliance with the Dispatch Instructions issued by the HETS Operator.
6. Participation in the aFRR Process shall confer the following obligations on the Balancing Service Providers:
- a) the submission of Total or Partial non-Availability Declarations, immediately after the occurrence of an event affecting their availability;
  - b) submission of upward aFRR Balancing Energy Offers on behalf of the Balancing Services Entities they represent,
  - c) submission of downward aFRR Balancing Energy Offers on behalf of the Balancing Services Entities they represent,
  - d) availability for operation according to their Declared Characteristics, and
  - e) compliance with the Dispatch Instructions issued by the HETS Operator.
7. Balancing Service Providers shall not be obliged to submit upward or downward mFRR and aFRR Balancing Energy Offers for the Balancing Service Entities they represent, and for which they have a corresponding obligation in accordance with paragraphs 1 to 4 of this Article, only in the following cases:
- a) for the period during which the Balancing Service Entity is in scheduled maintenance, in accordance with the HETS Grid Code, and
  - b) for the period of validity of the corresponding Total non-Availability Declaration or the Major Outage Declaration of the Balancing Service Entity.

## **CHAPTER 15. BALANCING ENERGY OFFERS IN THE BALANCING ENERGY MARKET**

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### **Article 15.1 Submission of Balancing Energy Offers to the Balancing Energy Market**

1. Balancing Energy Offers are submitted by the Balancing Service Providers for each Balancing Service Entity and for each mFRR Time Unit of the Dispatch Day, separately for mFRR and aFRR.
2. Balancing Energy Offers for mFRR may be submitted, at the latest, until the respective Deadline for Submission of mFRR Offers. The Deadline for Submission of mFRR Offers shall be fifteen (15) minutes before each mFRR Time Period to which the submitted mFRR Balancing Energy Offer applies.
3. Balancing Energy Offers for aFRR may be submitted, at the latest, until the respective Deadline for Submission of aFRR Offers. The Deadline for Submission of aFRR Offers shall be forty-five (45) minutes before each aFRR Time Period to which the submitted aFRR Balancing Energy Offer applies.

4. Each Balancing Energy Offer is assigned to a specific mFRR Time Unit during the Dispatch Day. In all other respects, the submission of mFRR and aFRR Balancing Energy Offers, with regard to the terms governing their content and form, shall be in accordance with the provisions laid down in [Article 12.2](#)~~Article 12.2~~.
5. For Dispatchable Generating Units and Pumped Storage Dispatchable Hydroelectric Generating Units, the ISP Balancing Energy Offers per Dispatch Period are automatically converted into equivalent 15-minute mFRR and aFRR Energy Market Offers. Each ISP Balancing Energy Offer per Dispatch Period shall be converted into two (2) equivalent 15-minute Balancing Energy Offers for mFRR and aFRR, in the same form and for the same Balancing Energy volumes and prices as those in the original offer. These automatically created Offers shall be deemed as submitted by the Participant and shall produce all the results provided for in this Rulebook, as if the Offers had been submitted by the Participant.
6. The price of the Balancing Energy Offers for mFRR and aFRR submitted pursuant to paragraph 1 of this Article by Balancing Service Providers representing Dispatchable Generating Units, including Dispatchable Hydro Generation Units with pumped storage capability, must be an improved price in relation to the ISP Balancing Energy Offer submitted to the ISP for the Dispatch Period which includes the mFRR Time Unit. The term improved price means a lower price for upward Balancing Energy Offers and a higher price for downward Balancing Energy Offers. The price of the Balancing Energy Offers for mFRR and aFRR submitted pursuant to paragraph 1 of this Article by Balancing Service Providers representing Dispatchable Generating Units, including Dispatchable Hydro Generation Units with pumped storage capability, cannot be changed in relation to the volume of the ISP Balancing Energy Offer submitted to the ISP for the Dispatch Period which includes the mFRR Time Unit.
7. For the Dispatchable RES Units Portfolios and the Dispatchable Load Portfolios after each ISP, for each Dispatch Period until the end of the Dispatch Day for which there is a corresponding obligation, in accordance with [Article 14.5](#)~~Article 14.5~~, the ISP Balancing Energy Offers shall be automatically converted into corresponding 15-minute mFRR and aFRR Energy Market Offers and shall replace any other currently valid offers. Each ISP Balancing Energy Offer per Dispatch Period shall be converted into two (2) equivalent 15-minute mFRR and aFRR Energy Market Offers with the same Balancing Energy prices and a volume corresponding to the sum of the volumes of Balancing Energy awarded under the ISP, together with the volume of Balancing Energy corresponding to the Balancing Capacity for mFRR or aFRR supply awarded under the ISP.
8. The price of mFRR and aFRR Balancing Energy Offers submitted pursuant to paragraph 1 of this Article by Balancing Service Providers representing Dispatchable Load Portfolios, and Dispatchable RES Units Portfolios must be improved compared to the price of the ISP Balancing Energy Offer for the Dispatch Period that includes the mFRR Unit for volumes of Balancing Energy corresponding to the Balancing Energy awarded under the ISP and for the Balancing Energy volumes corresponding to the Balancing Capacity volume for mFRR or aFRR supply awarded under the ISP. The term improved price means a lower price for upward Balancing Energy Offers and a higher price for downward Balancing Energy Offers. The volumes of mFRR and aFRR Balancing Energy Offers submitted pursuant to paragraph 1 of this Article by Balancing Service Providers representing Dispatchable Load Portfolios, and Dispatchable RES Units Portfolios may not be reduced for the Dispatch Period that includes the mFRR Time Unit in relation to the sum of the volumes of Balancing Energy awarded under the ISP and the volumes of Balancing Energy corresponding to the Balancing Capacity for the provision of mFRR and aFRR awarded under the ISP.

9. The energy quantities included in the upward and downward Balancing Energy Offers submitted to the Balancing Energy Market by the Dispatchable Generating Units, including Dispatchable Hydro Generation Units with pumped storage capability, and the Dispatchable RES Units Portfolios shall be deemed to have been injected/absorbed at the meter connection point.
10. The energy quantities included in the upward and downward Balancing Energy Offers submitted to the Balancing Energy Market by the Dispatchable Load Portfolios shall be considered to be injected/absorbed at the Transmission System-Distribution System Boundary.
11. Details on the submission of Balancing Energy Offers are provided in the Technical Decisions "Manual FRR " and "Automatic FRR".

### **Article 15.2 Conversion of Balancing Energy Offers into Standardized Automatic Frequency Restoration Reserve (aFRR) Products**

1. The HETS Operator shall carry out the process of converting aFRR Balancing Energy Offers into Standard Products as follows:
  - a) at three scheduled times to take into account the most recent execution of the ISP,
  - b) after the Deadline for the Submission of Offers for aFRR Balancing Energy on the Balancing Energy Market, and
  - c) at any other time deemed necessary by the HETS Operator.
2. The local aFRR merit order list is created through the Offer conversion process for both upward and downward directions during each mFRR Time Unit of the Dispatch Day, which includes eligible steps of upward and downward aFRR Balancing Energy Offers from the Balancing Service Providers, to whom aFRR Balancing Capacity has been awarded in accordance with the latest ISP resolution, without prejudice to the provisions of paragraph 6 of this Article.
3. Offers are ranked by price in the local aFRR merit order list. For upward aFRR Offers the ranking is from lowest to highest price, while for the downward aFRR Offers the ranking is from highest to lowest price.
4. Without prejudice to paragraph 6 of this Article, during execution of the conversion process for aFRR Balancing Energy Offers, the HETS Operator shall take into account the characteristics of aFRR Standard Products and the following information regarding the Entities to which aFRR Balancing Energy has been conferred:
  - a) the steps of upward and downward aFRR Balancing Energy Offers,
  - b) the Balancing Energy awarded for upward and downward aFRR in accordance with the latest resolution of the ISP,
  - c) technical constraints in accordance with Registered Characteristics,
  - d) the Market Schedules,
  - e) the Available Capacity, based on the most recent Non-Availability Declarations submitted.
5. In carrying out the conversion process of the aFRR Balancing Energy Offers, the HETS Operator shall identify the steps eligible for activation of aFRR Offers as follows:

- a) The upward aFRR Balancing Energy Offer steps are selected from the Balancing Services Entity's aFRR Reference Point and for a volume equal to the upward aFRR Balancing Energy granted to the Entity.
- b) The downward aFRR Balancing Energy Offer steps are selected from the Balancing Services Entity's aFRR Reference Point and for a volume equal to the downward aFRR Balancing Energy granted to the Entity.

The aFRR Reference Point means the ISP Schedule and is used to determine the steps of Offers eligible for activation under the aFRR Process.

6. In exceptional cases where the provision of aFRR Balancing Capacity other than the results of the ISP is required for operational security reasons, the volume and the aFRR Reference Point referred to in paragraph 4 of this Article may be amended. More specifically, the volume may differ from the assigned aFRR Balancing Capacity, and the aFRR Reference Point may differ from the ISP Schedule, taking into account the Registered Characteristics and Availability of the Entity as well as the aFRR needs of the HETS.
7. Details of the conversion of aFRR Balancing Energy Offers into Standardized Products are described in the Technical Decision 'Rules for the conversion of Balancing Energy Offers into Standardized Products on the Local Merit Order List.

### **Article 15.3 Revision of the aFRR Local Merit Order Lists by Balancing Service Providers**

1. On completion of the process of converting aFRR Balancing Energy Offers into Standard Product offers, the HETS Operator shall communicate the Local Merit Order List to the Balancing Service Providers.
2. In the event of an event affecting the activation of one or more eligible steps of the Offers, Balancing Service Providers shall promptly and without undue delay revise their availability on the Local aFRR Merit Order List, and shall submit appropriate justification at the same time. Eligible steps to provide upward aFRR are reviewed in descending order, starting with the step with the highest Balancing Energy Offer price. Eligible steps to provide downward aFRR are reviewed in ascending order, starting with the step with the lowest Balancing Energy Offer price.
- 2.3. In the event that an Injection Curtailment Instruction is issued for any RES Unit within a RES Units Portfolio, the Balancing Service Provider representing that Unit shall immediately declare as unavailable all steps of the aFRR Energy Offers in the local aFRR merit order list, in both directions, until the Injection Curtailment Instruction is lifted.

### **Article 15.4 Revision of the aFRR Local Merit Order List**

The HETS Operator may revise the local aFRR merit order list for one or more mFRR Time Units due to operational security reasons, concerning the availability and/or the quantity of eligible Offer steps.

## **CHAPTER 16. MANUAL FRR PROCESS**

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### **Article 16.1 mFRR Process Input Data**

The HETS Operator shall draw up the results of a specific 15-minute solution of the Balancing Energy Market taking into consideration the following input data:

- a) the Market Schedule for each Balancing Service Entity as recorded by the Use Declaration Submission System of the HETS Operator,
- b) the operation schedules of the Dispatchable Generating Units / Dispatchable and non-Dispatchable RES Units Portfolios in Testing Operation, submitted by the respective Producers, through the operation schedule Declarations for units in testing operation,
- c) the operation schedules of the generating units/ non-Dispatchable RES Units Portfolios in Commissioning Operation, submitted by the respective Producers, through the Operation Schedule Declarations for units in Commissioning Operation,
- d) the mandatory generation schedules for Dispatchable hydro Generating Units, as submitted by the respective Producers through the daily mandatory hydro injection declarations,
- e) the Imbalances in the import/export schedules at the interconnections used for the ISP execution, along with actual tripping on interconnections, if any,
- f) the already established flows in the inter-zonal corridors between the Bidding Zones deriving from the Market Schedule of all Entities, in order to calculate the residual flows available in the inter-zonal corridors for the solution of the Balancing Energy Market,
- g) the information on Balancing Service Entities received by the Energy Management System (e.g. unit in or out of operation, SCADA measurements of the production of Dispatchable Generating Units),
- h) the Automatic Generation Control (AGC) status of Balancing Service Entities providing aFRR, which is received by the HETS Operator Energy Management System,
- i) the awarded Balancing Capacity of the Balancing Service Entities for upward and downward FCR, aFRR, and mFRR, as received after execution of the latest ISP,
- j) the mFRR Energy Offers, in accordance with [Article 15.1](#)~~Article 15.1~~,
- k) the Available Capacity of all Balancing Service Entities, based on the most recently submitted non-Availability Declarations,
- l) the latest updated operation schedule of the Balancing Service Entities that have activated a constraint in the maximum quantity of daily energy injection by their Techno-Economic Declaration,
- m) the Declared Characteristics of the Balancing Service Entities,
- n) the initial level of production/consumption of the Balancing Service Entities before and as close as possible to the start of the mFRR Time Unit of the specific mFRR Process resolution,
- o) the zonal Load Imbalances,
- p) the zonal RES Units Imbalances.

### **Article 16.2 Execution of the Manual FRR Process**

1. The mFRR Process is executed as a mixed integer linear programming model for each mFRR Time Period.
2. The objective function for resolution of mFRR minimises the cost of covering zonal imbalances for all Bidding Zones using upward and downward mFRR Energy Offers submitted by Balancing Service Entities. The cost of covering HETS zonal imbalances arises from the mFRR Energy Offers that are accepted.

3. The constraints on mFRR problem resolution shall include at least:
  - a) the zonal Imbalance constraint for each Bidding Zone,
  - b) the constraints on electricity flows between the Bidding Zones,
  - c) the technical constraints of the Balancing Service Entities,
  - d) the constraints ensuring that the overall HETS requirements for ISP Balancing Capacity and aFRR are maintained,
  - e) any restrictions on mandatory injections, and
  - f) any constraints on maximum daily electricity injection from Dispatchable Generating Units.
4. In the event that the offer prices of two or more Balancing Energy Offers pertaining to the same mFRR Time Unit are identical, and, at the same time, the respective Balancing Energy quantities of the above offers are not included in their entirety in the mFRR Process results resolution, the offer segments shall be selected in the following order of priority: (a) Dispatchable RES Units Portfolio, (b) Dispatchable hydro Generating Units, (c) Dispatchable Load Portfolio, and (d) Dispatchable thermal Generating Units. Among bidding segments that belong to the same category, priority shall be given to the segments of the offers corresponding to the Balancing Service Entity with the highest Ramp Up Rate. For bidding segments that come into the same category and have the same Ramp Up Rate there will be random selection.
5. In the event that no feasible result is produced for a mFRR Time Unit under the mFRR Process resolution, that is, covering the short-term forecasted imbalances by observing the constraints in paragraph 3 of this Article is unfeasible, the HETS Operator shall repeat the mFRR Process having indicatively undertaken to:
  - a) include Balancing Energy Offers from Contracted Generating Units;
  - b) relax the constraints indicated in paragraph 3 (4) of this Article in order to reach a feasible solution.

If, after following the above steps, there is still no feasible solution, the manual FRR process shall be performed once again in accordance with the provisions on Emergency Situations, as defined in the HETS Grid Code.
6. When resolving the manual FRR Process, mFRR Balancing Energy Offers that may have been submitted by Dispatchable Intermittent RES Units Portfolios or Dispatchable Load Portfolios are not taken into account if they are supplying aFRR during the specific manual FRR Time Unit.
7. When resolving the mFRR Process, optimisation may be executed for three consecutive 15-minute periods, so that the impact of HETS conditions during the subsequent mFRR Time Units are effectively taken into account for each mFRR Time Unit. In this case, only the results of the first mFRR Time Unit shall be binding. Results related to subsequent mFRR Time Units shall be indicative.

### **Article 16.3 Immediate Activation of manual FRR**

1. Immediate activation of mFRR means activation of mFRR Balancing Energy at a time that does not coincide with the scheduled periodic performances of the mFRR Process in 15-minute cycles.

2. The HETS Operator is entitled to proceed with an immediate activation of mFRR Balancing Energy and to send Dispatch Instructions to Balancing Service Entities in order to balance the HETS or to address technical constraints at any point in time between the scheduled resolutions of mFRR Processes.
3. To this end, the HETS Operator may, for example, execute the mFRR Process within the 15-minute cycle and/or use two merit order lists already created based on the submitted Balancing Energy Bid prices, one for the upward direction and one for the downward direction.
4. When two merit order lists are used in accordance with the provisions of paragraph 3 of this Article, the volume of mFRR Balancing Energy that can be supplied by each Balancing Service Entity shall be calculated on the basis of the volume of its Balancing Energy Offers and its technical characteristics. The HETS Operator is entitled to select and activate the mFRR Balancing Energy sequentially in accordance with the respective merit order list for the corresponding direction (upward or downward).
5. Balancing Energy Offers that are related to immediate activation of mFRR are taken into account when calculating the mFRR Energy Price for the specific mFRR Time Unit within the framework of Balancing Market Settlement.
6. In the event that the HETS Operator issues Dispatch Instructions that differ from the result of the mFRR resolution, the HETS Operator shall submit a report to the RAEWW justifying the choice of Balancing Service Entities selected to cover the imbalance in the HETS. The report shall be submitted for each month, within one (1) month from the end of the month to which it refers.

#### **Article 16.4 Manual FRR Dispatch Instructions**

1. The results of executing the mFRR Process include the activation volumes of the upward and downward Balancing Energy Offers from the Balancing Energy Entities that are used to issue Dispatch Instructions to the Balancing Service Entities, in order to achieve balance in the Hellenic Electricity Transmission System. No Dispatch Instructions shall be issued if the volume of upward or downward Balancing Energy Offer activated by the manual FRR Process falls below a specific a limit. This limit is calculated as  $\frac{1}{4}$  of 2% of the Maximum Net Capacity for Dispatchable Generating Units and as  $\frac{1}{4}$  of 2% of the dispatchable capacity for Dispatchable Load Portfolios or Dispatchable RES Units Portfolios. These quantities which are calculated as 2% of the Maximum Net Capacity for Dispatchable Generating Units and as 2% of the dispatchable capacity for Dispatchable Load Portfolios or Dispatchable RES Units Portfolios, shall be rounded to a whole number. The above limit is assigned values from 0.25MWh to 1MWh. In cases where this limit is calculated to be less than 0.25MWh, it is assigned the value 0.25MW and in cases where it is calculated to be greater than 1MWh it is assigned the value 1MWh.
2. The HETS Operator shall issue Dispatch Instructions to the Balancing Service Entities for each mFRR Time Unit, in accordance with the results of the mFRR Process.
3. Each subsequent Dispatch Instruction shall replace each preceding one, as far as the same mFRR Time Unit is concerned.
4. In emergency situations, the HETS Operator may issue Dispatch Instructions to a Dispatchable Generating Unit (with the agreement of the Balancing Service Provider) in order to operate at a capacity greater than the Maximum Net Capacity, as specified in its Registered Characteristics. In that case, there shall be no additional fee for the Dispatchable Generating Unit.

5. In the event that the HETS Operator issues Dispatch Instructions that differ from the result of the mFRR resolution, the HETS Operator shall submit a report to the RAEWW justifying the choice of Balancing Service Entities selected to cover the imbalance in the HETS. The report shall be submitted for each month, within one (1) month from the end of the month to which it refers.
6. The Balancing Service Entities that are selected to provide Balancing Energy shall have the obligation to follow the Dispatch Instructions issued by the HETS Operator that concern the chosen quantities and the time period.
7. The HETS Operator may issue Dispatch Instructions to activate mFRR Balancing Energy Offers for non-balancing purposes, and Test mFRR Dispatch Instructions.

#### **Article 16.5 Content of manual FRR Dispatch Instructions**

1. The HETS Operator shall issue Dispatch Instructions which shall determine the generation/offtake level of the Balancing Service Entities.
2. Dispatch Instruction shall be notified by the HETS Operator to the Balancing Service Entity before or at the start of each mFRR Time Unit, except in the case of immediate activation of mFRR.
3. The Dispatch Instruction expires at the end of the mFRR Time Unit to which the Dispatch Instruction was issued, unless a new Dispatch Instruction has been issued in the meantime.
4. The execution by the Balancing Service Provider of the Dispatch Instruction relating to the Balancing Energy through immediate activation of mFRR begins directly after the respective Dispatch Instruction has been transmitted, and ceases at the end of the mFRR Time Unit in which the Dispatch Instruction was issued.
5. Dispatch Instructions are consistent with the Declared Characteristics of Balancing Service Entities.
6. Details regarding the issue and execution of mFRR Dispatch Instructions are provided in the Technical Decision 'Dispatch Instructions'.

#### **Article 16.6 Manual FRR Test Dispatch Instructions**

1. The HETS Operator may issue mFRR Test Dispatch Instructions to Balancing Service Entities whenever necessary and without prior notice.
2. The mFRR Test Dispatch Instructions transmitted to Dispatchable Generating Units relate to the activation of the Minimum or Maximum Available Capacity.
3. The mFRR Test Dispatch Instructions to the Dispatchable Load Portfolios and Dispatchable RES Unit Portfolios relate to activation of Balancing Energy corresponding to full activation of the Balancing Capacity awarded for mFRR.
4. The HETS Operator may issue a maximum of thirteen (13) Test Dispatch Instructions (mFRR) to a Balancing Service Entity in a rolling twelve (12) month period. If a Balancing Service Entity fails to comply with an mFRR Test Dispatch Instruction, the number of mFRR Test Dispatch Instructions issued during the previous twelve (12) month period shall be set to zero for the purposes of this calculation. In the event that a Balancing Service Entity complies with two consecutive mFRR Test Dispatch Instructions, the maximum number is reduced from 13 to 6.

5. Balancing Service Entities shall be obliged to comply with the mFRR Test Dispatch Instructions issued by the HETS Operator which relate to the volumes and time period for which a corresponding Test Dispatch Instruction has been issued. In the event of non-compliance with an mFRR Dispatch Instruction, Non-Compliance Charges shall be imposed on the respective Balancing Service Provider, calculated in accordance with [Article 22.3](#) of this Rulebook.
6. Details on the procedure for issuing mFRR Test Dispatch Instructions are provided in the Technical Decision 'Dispatch Instructions'.

## CHAPTER 17. AUTOMATIC FRR PROCESS

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### Article 17.1 Activation of automatic FRR

1. The Balancing Energy (aFRR) is automatically activated through the use of the Automatic Generation Control (AGC) function by the HETS Operator to regulate frequency, as defined in Regulation (EU) 2017/1485.
2. The HETS Operator shall send the local aFRR merit order list to the European aFRR Platform no later than ten (10) minutes prior to the start of the mFRR Time Unit.
3. For each AGC cycle, the HETS Operator calculates and sends to the European aFRR Platform a demand for aFRR, taking into account the current conditions in the Hellenic Electricity Transmission System (HETS). The aFRR European Platform executes the relevant optimisation algorithm and sends the aFRR Correction Signal back to the local AGC controller.
4. For each AGC cycle, the required activation of aFRR Balancing Energy serviced locally is the algebraic sum of the aFRR requirement and the most recent aFRR Correction Signal.
5. The local AGC controller selects aFRR Balancing Energy Offers from the local aFRR Merit Order List in order to cover the requisite aFRR Balancing Energy activation, based on criteria that include at least activation costs.
6. After the execution of each AGC cycle, the HETS Operator issues the respective aFRR Dispatch Instructions to the Balancing Services Entities located in the AGC to supply aFRR Balancing Energy in accordance with the local aFRR Merit Order List.
7. In specific situations that result in changes in communication and/or data exchange with the European aFRR Platform, the HETS Operator shall disconnect from the European aFRR Platform and carry out the aFRR Process locally. During local execution of the aFRR Process, the aFRR Correction Signal received from the European aFRR Platform is set to zero.
8. More details on the activation of aFRR Balancing Energy are provided in the Technical Decision 'Automatic FRR'.

## SECTION VI BALANCING MARKET SETTLEMENT

### CHAPTER 18. GENERAL PROVISIONS

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#### Article 18.1 General Provisions

1. Imbalance Settlement Period The 15-minute time period over which the Imbalance of the Contracted Balance Responsible Parties is calculated. The Balancing Energy and the Balancing Capacity shall also be settled per Imbalance Settlement Period.
2. The Electricity Transmission System Operator remains financially neutral in the management of the Balancing Market. The financial neutrality of the HETS Operator in the operation of the Balancing Market is ensured through the debits and credits to Balance Responsible Parties, as described in [Article 21.4](#) of this Rulebook.
3. Details and examples of calculations regarding the Balancing Market Settlement are described in Technical Decision "Balancing Market Settlement".
4. For the execution of the Balancing Market Settlement pursuant to this Section, the provisions of the Balancing Market Regulation shall apply, as applicable at the given time in relation to respective settlement period.

#### Article 18.2 Balancing Market Settlement Object

1. Balancing Market Settlement means the transparent calculation of the volumes of Balancing Energy and Balancing Capacity and the calculation of the monetary value of the Participants' debits and credits in the context of the Balancing Market, as detailed in paragraph 2 of this Article.
2. The Balancing Market Settlement shall include the following calculations for each Dispatch Day:
  - a) calculation of the Balancing Energy for mFRR for each Balancing Service Entity and for each Imbalance Settlement Period of the Dispatch Day,
  - b) calculation of the Balancing Energy for aFRR for each Balancing Service Entity and for each Imbalance Settlement Period of the Dispatch Day,
  - c) calculation of the energy supplied for purposes other than balancing, for each Balancing Service Entity, for each Imbalance Settlement Period of the Dispatch Day,
  - d) calculation of Imbalances, for each Balance Responsible Entity, for each Imbalance Settlement Period of the Dispatch Day,
  - e) calculation of Imbalances Adjustment, for each Balance Responsible Entity, for each Imbalance Settlement Period of the Dispatch Day,
  - f) calculation of the Balancing Capacity for FCR for each Balancing Service Entity and for each Imbalance Settlement Period of the Dispatch Day,
  - g) calculation of the Balancing Capacity for mFRR for each Balancing Service Entity and for each Imbalance Settlement Period of the Dispatch Day,
  - h) calculation of the Balancing Capacity for aFRR for each Balancing Service Entity and for each Imbalance Settlement Period of the Dispatch Day,

- i) calculation of the debits and credits to the Balancing Service Provider for Balancing Energy and Balancing Capacity for each of the Balancing Service Entities it represents and for each Imbalance Settlement Period of the Dispatch Day,
- j) calculation of the debits and credits to the Balancing Service Provider for energy supplied for purposes other than balancing for each of the Balancing Service Entities it represents and for each Imbalance Settlement Period of the Dispatch Day,
- k) calculation of the debits and credits to the Balance Responsible Party for Imbalances for each of the Balance Responsible Entities it represents and for each Imbalance Settlement Period of the Dispatch Day,
- l) calculation of the cost of HETS Losses, for each Imbalance Settlement Period of the Dispatch Day,
- m) calculation of any Non-Compliance Charges imposed,
- n) calculation of debits and credits related to Uplift Accounts,
- o) calculation of the Balancing Market Fees for each Participant, and
- p) calculation of the amount that ensures the financial neutrality of the Balancing Market.

### **Article 18.3 Balancing Market Accounts**

1. The HETS Operator shall keep the following Balancing Market Accounts:
  - a) Balancing Energy Account,
  - b) Account for Energy supplied for purposes other than balancing,
  - c) Imbalances Account,
  - d) Balancing Capacity Account,
  - e) Uplift Account,
  - f) Non-compliance Charges Account,
  - g) Balancing Market Fees Account,
  - h) Account for debit or credit amounts due to corrective settlements for intended exchanges of energy pursuant to Article 50 of Regulation (EU) 2017/2195 and/or unintended exchanges of energy pursuant to Article 51 of Regulation (EU) 2017/2195.
2. The Accounts in items a) to e) and h), in paragraph 1 of this Article are not used for accounting purposes and are kept exclusively by the HETS Operator for the purpose of Balancing Market monitoring.
3. The Accounts in items f) to g), in paragraph 1 of this Article are used for financial accounting purposes.

### **Article 18.4 Required information for the execution of the Balancing Market Settlement**

1. For the performance of the Balancing Market Settlement, the HETS Operator shall use the following information:
  - a) the Market Schedule of every Balance Responsible Entity, as it results from the Day-Ahead Market and the Intra-Day Market,

- b) the Balancing Energy Offers for mFRR (volume and price) awarded in the mFRR Process,
  - c) the Balancing Energy Offers for aFRR (volume and price) awarded in the aFRR Process,
  - d) the HETS Operators requirements for aFRR per AGC cycle,
  - e) the activated energy offers for purposes other than balancing,
  - f) the Dispatch Instructions,
  - g) the Supervisory Control and Data Acquisition System (SCADA) measurements for the Balancing Service Entities that supply aFRR Balancing Energy,
  - h) the indications marking the energy supplied for purposes other than balancing,
  - i) The certified energy measurement data for the Balancing Service Entities and the interconnections, including the Electricity Supply Volume via Direct Lines,
  - j) the volume of electricity absorbed by Low and Medium Voltage consumers, as notified to the HETS Operator by Distribution Network Operators,
  - k) the energy profiles by category for non-metered Absorption Installations from Distribution Network Operators,
  - l) the total injections of the RES Units connected to the Low Voltage Network, as notified to the HETS Operator by the Distribution Network Operators,
  - m) the Declared Characteristics of the Balancing Service Entities,
  - n) any submitted Declarations of Total or Partial non-Availability or Major Outage Declarations of the Balancing Service Entities,
  - o) the ISP results for upward and downward FCR, automatic FRR and manual FRR Balancing Capacity for the Balancing Service Entities, in MW,
  - p) the Balancing Capacity Offers for the Balancing Service Entities,
  - q) the actual availability of the Balancing Service Entities for the supply of any type of Balancing Capacity,
  - r) the Baseline Load of the Dispatchable Load Portfolios and the Dispatchable Intermittent RES Generation Units,
  - s) the indications marking the energy supplied for an mFRR Test Dispatch Instruction, and
  - t) the total injections of the Dispatchable RES Generation Units Portfolios and the total offtake of the Dispatchable Load Portfolios.
2. For every Imbalance Settlement Period, the HETS Operator shall calculate the Electricity Supply Volume via a Direct Line for Demand Facilities with a Parallel Connection, as the lowest of the following:
- a) the metered generation by the generating unit that is connected to the Direct Line,
  - b) the energy corresponding to the HETS Operator's Dispatch Instructions issued to the generating unit that is connected to the Direct Line,
  - c) the metered energy drawn from the Direct Line, which is the lowest measurement value of the meters installed at the connection points between the Direct Line and the Direct Line Users,

- d) the metered energy consumed by the Demand Facility that is connected to the Direct Line,
  - e) the declaration submitted by the owner of the Demand Facility to the HETS Operator.
3. The declaration provided for in point (e) of paragraph 2 of this article includes the maximum amount of electricity that the Demand Facility can procure through the Direct Line in MWh and the Load Representative(s) to whom, as specified in paragraph 3 of this article, the Quantity of Electricity Supply through the Direct Line of the Demand Facility is allocated. The declaration is submitted by the start of operation of the Direct Line at the latest and updated by the owner of the Demand Facility in a timely manner, before any modification of the information included therein.
  4. For every Imbalance Settlement Period, the Electricity Supply Volume via Direct Line corresponding to a Demand Facility is apportioned to the Load Representatives based on their load representation rate, in accordance with the Load Meter Representation Declaration submitted by the Demand Facility pursuant to subsection 10.10 of the HETS Grid Code for that specific Imbalance Settlement Period. Volume shall not be charged against the Load Representatives if they were not included in the declaration provided for in paragraph 2(e) of this Article.

#### **Article 18.5 Contract with the Clearing House**

1. The HETS Operator shall assign the Clearing of Positions, risk management and Cash Settlement procedures that need to be performed in the context of the operation of the Balancing Market to a Clearing House, as set out in Article 12 and 17 of Law 4425/2016 and this Rulebook. The Clearing House shall have a Clearing Rulebook for Balancing Market Positions, which shall be issued as laid down in Articles 12 and 13(2) of Law 4425/2016.
2. The Clearing House shall perform the Clearing of Positions, risk management and Cash Settlement procedures in accordance with this Rulebook, the Clearing Rulebook for Balancing Market Positions and the Implementing and Technical Decisions issued for their performance, and shall undertake all the duties and responsibilities arising from them vis-a-vis the HETS Operator and any other third party involved in their implementation. The Participants shall be liable to fulfill their monetary obligations arising from this Rulebook as set out in the Regulation for the Settlement of Balancing Market Positions ~~CHAPTER 22~~ and in ~~CHAPTER 23~~ of this Rulebook.

#### **Article 18.6 ~~Obligations of the Distribution Network Operators under the Balancing Market Settlement process~~ Transmission of information to the Hellenic Transmission System Operator (HETS) within the framework of the Balancing Market Settlement process**

1. For the purposes of the Initial Settlement, the Distribution Network Operators shall communicate to the HETS Operator, every day D, for day D+2, the amounts calculated in advance for each Load Representative and per profile category of consumption of non-metered Low Voltage Absorption Facilities of the HETS Operator, in accordance with the Hellenic Electricity Distribution Network Code.
2. For the purposes of the Initial Settlement, the Distribution Network Operators shall communicate to the HETS Operator, every day, D, for the previous day D-1, per Imbalance Settlement Period:

- a) The measurements/estimates of total electricity offtake corresponding to telemetered Absorption Facilities connected to the HETS Low Voltage network, normalised to the Transmission System – Distribution Network boundary, per Load Representative, in accordance with the provisions of the Hellenic Electricity Distribution Network Operator (HEDNO) Management Code,
  - b) The measurements/estimates of total electricity offtake corresponding to HETS Medium Voltage Facilities, normalised to the Transmission System - Distribution Network boundary, per Load Representative, in accordance with the provisions of the Hellenic Electricity Distribution Network Operator (HEDNO) Management Code,
  - c) The measurements / estimates of total production by RES Units connected to the HETS Low Voltage network, as provided in the Hellenic Electricity Distribution Network Code,
  - d) The measurements of the total electricity offtake of the Distributed Load Portfolios for the installations connected to the Medium and/or Low Voltage network, adjusted to the Transmission System - Distribution System Limit, based on the Table of Meters for Dispatchable Load Portfolios referred to in [Article 5.4](#)~~Article 5.4~~ of this Rulebook,
  - e) The measurements of the total electricity production of the Dispatchable RES Units Portfolios for the units connected to the Low Voltage network, based on the Table of RES and CHP Units referred to in [Article 5.3](#)~~Article 5.3~~ of this Rulebook.
  - e)f) For each RES Unit Portfolio, the Injection Curtailment Instructions issued per RES Unit connected to the Medium or Low Voltage network.
3. For the purposes of the Corrective Settlement, the Distribution Network Operators shall communicate to the HETS Operator, until Monday of Settlement W+6, for every Settlement Week, W, per Imbalance Settlement Period, the following revised data:
- a) The measurements/estimates of total electricity offtake corresponding to telemetered Absorption Facilities connected to the HETS Low Voltage network, normalised to the Transmission System – Distribution Network boundary, per Load Representative, in accordance with the provisions of the Hellenic Electricity Distribution Network Operator (HEDNO) Management Code,
  - b) The measurements/estimates of total electricity offtake corresponding to HETS Medium Voltage Facilities, normalised to the Transmission System - Distribution Network boundary, per Load Representative, in accordance with the provisions of the Hellenic Electricity Distribution Network Operator (HEDNO) Management Code,
  - c) The measurements / estimates of total production by RES Units connected to the Interconnected System Low Voltage network, as provided in the Hellenic Electricity Distribution Network Code,
  - d) The measurements of the total electricity offtake of the Distributed Load Portfolios for the installations connected to the Medium and/or Low Voltage network, adjusted to the Transmission System - Distribution System Limit, based on the Table of Meters for Dispatchable Load Portfolios referred to in [Article 5.4](#)~~Article 5.4~~ of this Rulebook,
  - e) The measurements of the total electricity production of the Dispatchable RES Units Portfolios for the units connected to the Low Voltage network, based on the Table of RES and CHP Units referred to in [Article 5.3](#)~~Article 5.3~~ of this Rulebook.
  - e)f) For each RES Unit Portfolio, the Injection Curtailment Instructions issued per RES Unit connected to the Medium or Low Voltage network.

4. For the purposes of the Final Settlement of the first Half-Year Settlement Period of year Y, the Distribution Network Operators shall send details to the HETS Operator, before the twenty-sixth (26th) Tuesday of year Y+3, the final measurements for items a to ~~f~~e in paragraph 3 of this Article.
5. For the purposes of Final Settlement of the second Half-Year Settlement Period of year Y, the Distribution Network Operators shall communicate to the HETS Operator, by the fifty-second (52) Tuesday of the year Y+3, the final measurements for items a to ~~e-f~~ of paragraph 3 of this Article.
6. Any corrections to the data provided in this Article after the deadlines set out in paragraphs ~~44~~ and ~~55~~ of this Article shall not be taken into account for the Balancing Market Settlement pursuant to this Rulebook.

#### **Article 18.7 Deficit or Surplus Management in relation to Cross-Border Natural Supplies**

1. Any deficit in coupled markets in relation to Cross-Border Physical Deliveries that correspond to imports and exports per coupled interconnection under the Single Day-Ahead Market Coupling, Intra-Day Auctions and Continuous Intra-Day Trading, to the extent where it is not covered by a potential relevant surplus deriving from the Cross-Border Physical Deliveries to the HETS Operator or the Shipping Agent, shall be covered as follows:
  - a) Initially, by any remuneration paid due to failure of the contracting parties to fulfil their obligations relating to the Cross-Border Physical Deliveries that correspond to imports and exports per coupled interconnection under the Single Day-Ahead Market Coupling, Intra-Day Auctions and Continuous Intra-Day Trading, in accordance with the provisions of the contract between the Shipping Agent and the HETS Operator.
  - b) in the case that the amount of (a) does not suffice, by the payment of the remaining balance in the non-Compliance Charges Account held by the Energy Exchange in accordance with the Day-Ahead & Intra-Day Markets Trading Rulebook and the process described in section 3.12.8 thereof.
  - c) if the amount of cases (a) and (b) is not sufficient, by the payment of the available balance of the Non-Conformity Debit Account maintained by the HETS Operator in accordance with ~~Article 22.8~~ ~~Article 22.8~~ paragraph 1, case (b).
2. Any surplus in coupled markets in relation to Cross-Border Physical Deliveries that correspond to imports and exports per coupled interconnection under the Single Day-Ahead Market Coupling, Intra-Day Auctions and Continuous Intra-Day Trading, as calculated in the results of the Single Day-Ahead Market Coupling, Intra-Day Auctions and Continuous Intra-Day Trading respectively, which remains after covering potential relevant deficits deriving from the Cross-Border Physical Deliveries to the HETS Operator or the Shipping Agent, shall be transferred to the non-Compliance Charges Account held by the HETS Operator.

#### **Article 18.8 HETS Losses Management**

1. The HETS Operator makes provision for expected HETS Losses and shall take the necessary action to cover the respective quantities of energy through submission of Price-Taking Orders with Execution Priority in the Day-Ahead Market and/or through the Intraday Market and/or through the Energy Financial Market and/or through contracts concluded following a tender procedure.

2. The HETS Operator shall calculate the actual losses of the HETS and shall calculate the debit/credit of these losses to the Imbalance Settlement.
3. The total cost of HETS Losses shall be recovered by the HETS Operator through the corresponding Uplift Account as defined in [Article 21.2](#) of this Rulebook.
4. HETS Losses are estimated based on the "HETS Losses Calculation Methodology". The HETS Operator shall use the 'HETS Losses Calculation Methodology' for the hourly Forecasting of HETS Losses that must be purchased in accordance with this Article.

## CHAPTER 19. IMBALANCE AND BALANCING ENERGY SETTLEMENT

### Article 19.1 Calculation of Balancing Energy and Imbalances

1. The activated energy for each Imbalance Settlement Period  $t$  shall be calculated separately for mFRR, aFRR and for purposes other than balancing. An upward activated energy shall be always calculated with a positive value, while the downward activated energy shall be always calculated with a negative value.
2. The activated Balancing Energy for mFRR is determined as follows:
  - a) The upward activated Balancing Energy mFRR,  $ABE_{e,t}^{mFRR,up}$ , of a Balancing Service Entity  $e$  for an Imbalance Settlement Period  $t$  is (a) for Dispatchable Generating Units and Dispatchable RES Units Portfolios, the additional energy corresponding to the Adjusted Dispatch Instruction for mFRR and (b) for Dispatchable Load Portfolios, the reduction in energy absorption corresponding to the Adjusted Dispatch Instruction for mFRR, in accordance with the provisions of paragraph 5 of this article, and
  - b) The downward activated Balancing Energy mFRR,  $ABE_{e,t}^{mFRR,dn}$ , of an Balancing Service Entity  $e$  for a Balancing Settlement Period  $t$  is (a) with respect to the Dispatchable Generation Units and the Dispatchable RES Units Portfolios, the reduction of the energy corresponding to the Adjusted Dispatch Instruction for mFRR and (b) with respect to Dispatchable Load Portfolios, the increase in energy absorption corresponding to the Adjusted Dispatch Instruction for mFRR, as defined in paragraph 5 of this Article.
3. The activated Energy supplied for purposes other than balancing is defined as follows:
  - a) The upward activated energy for purposes other than balancing,  $AOE_{e,t}^{FRR,up}$ , of a Balancing Service Entity  $e$  for an Imbalance Settlement Period  $t$  (is (a) for Dispatchable Generating Units and Dispatchable RES Units Portfolios, the additional energy corresponding to the Adjusted Dispatch Instruction for purposes other than balancing, and (b) for Dispatchable Load Portfolios, the reduction in energy absorption corresponding to the Adjusted Dispatch Instruction for purposes other than balancing, in accordance with the provisions of paragraph 5 of this Article, and
  - b) The downward activated energy for purposes other than balancing,  $AOE_{e,t}^{mFRR,dn}$ , of a Balancing Service Entity  $e$  for an Imbalance Settlement Period  $t$  is (a) for Dispatchable Generating Units and Dispatchable RES Units Portfolios, the reduction in energy corresponding to the Adjusted Dispatch Instruction for purposes other than balancing, and (b) for Dispatchable Load Portfolios, the additional energy

absorption corresponding to the Adjusted Dispatch Instruction for purposes other than balancing, in accordance with the provisions of paragraph 5 of this Article.

4. The Adjusted Dispatch Instruction and the activated energy shall be calculated according to the 'Activated Balancing Energy Calculation Methodology', which takes into account at least the actual availability of the Balancing Service Entities.
5. The mFRR Instructed Energy of a Balancing Services Entity  $e$  for a Balancing Settlement Period  $t$ ,  $INST_{e,t}^{mFRR}$ , shall be calculated as follows:

- a) For Dispatchable Generation Units and for Dispatchable Intermittent RES Units Portfolios:

$$INST_{e,t}^{mFRR} = MS_{e,t} + ABE_{e,t}^{mFRR,up} + ABE_{e,t}^{mFRR,dn} + AOE_{e,t}^{mFRR,up} + AOE_{e,t}^{mFRR,dn}$$

- b) For Dispatchable Intermittent RES Units Portfolios:

$$INST_{e,t}^{mFRR} = BL_{e,t} + ABE_{e,t}^{mFRR,up} + ABE_{e,t}^{mFRR,dn} + AOE_{e,t}^{mFRR,up} + AOE_{e,t}^{mFRR,dn}$$

- c) For Dispatchable Load Portfolios (with the exception of Dispatchable Load Portfolios with pumped storage capability):

$$INST_{e,t}^{mFRR} = BL_{e,t} + MS_{e,t} - ABE_{e,t}^{mFRR,up} - ABE_{e,t}^{mFRR,dn} - AOE_{e,t}^{mFRR,up} - AOE_{e,t}^{mFRR,dn}$$

- d) For Dispatchable Load Portfolios with pumped storage capability:

$$INST_{e,t}^{mFRR} = MS_{e,t} - ABE_{e,t}^{mFRR,up} - ABE_{e,t}^{mFRR,dn} - AOE_{e,t}^{mFRR,up} - AOE_{e,t}^{mFRR,dn}$$

where:

$MS_{e,t}$  the Market Schedule of the Balancing Services Entity  $e$  for the Balancing Settlement Period  $t$ , where a) for Dispatchable Generation Units and Dispatchable RES Units Portfolios is always positive (+) and refers to the generation level of the Entity, b) for Dispatchable Load Portfolios (with the exception of Dispatchable Load Portfolios with pumped storage capability) it refers to the differential quantities absorbed with respect to the corresponding Reference Load, which is negative (-) when it comes to reduced absorption or positive when it concerns increased absorption from the Portfolio, and (c) for Dispatchable Load Portfolios with pumped storage capability it is always positive (+) and refers to the absorption level of the Portfolio.

$ABE_{e,t}^{mFRR,up}$  the upward activated Balancing Energy mFRR awarded to a Balancing Services Entity  $e$  for an Imbalance Settlement Period  $t$ .

$ABE_{e,t}^{mFRR,dn}$  the downward activated Balancing Energy mFRR awarded to a Balancing Services Entity  $e$  for an Imbalance Settlement Period  $t$ .

$AOE_{e,t}^{mFRR,up}$  the upward activated energy mFRR for purposes other than balancing awarded to a Balancing Services Entity  $e$  for an Imbalance Settlement Period  $t$ .

$AOE_{e,t}^{mFRR,dn}$  the downward activated energy mFRR for purposes other than balancing awarded to a Balancing Services Entity  $e$  for an Imbalance Settlement Period  $t$ .

$BL_{e,t}$  the Balancing Services Entity's Reference Load  $e$  for the Balancing Settlement Period  $t$ , as calculated by the HETS Operator and corresponding to a) the electricity that would be generated by the

Dispatchable RES Units Portfolio in the event of non-activation of the respective Balancing Energy Offers and b) the electricity that would have been absorbed from the Dispatchable Load Portfolio in the event of non-activation of the respective Balancing Energy Offers. Details and the rules for calculating the Baseline are provided in the "Baseline Calculation Methodology".

For calculation of the Instructed Energy mFRR, a tolerance limit may be set per category of Balancing Service Entity by decision of the RAEWW, subsequent to a proposal from the HETS Operator.

6. In the event that a Balancing Services Entity,  $e$ , operates under AGC, then the activated Balancing Energy for aFRR,  $ABE_{e,i}^{aFRR}$  shall be calculated over a period of a minute  $i$ , as follows:
- For Dispatchable Generating Units or Dispatchable Non-Intermittent RES Units Portfolios, the activated aFRR Balancing Energy  $ABE_{e,i}^{aFRR}$  shall be equal to the integral of the difference between the measurements of the Supervisory Control and Data Acquisition System (SCADA) and the Instructed Energy,  $INST_{e,i}^{mFRR}$  of the Entity  $e$  within minute  $i$ .
  - For Dispatchable Intermittent RES Units Portfolios, the activated aFRR Balancing Energy,  $ABE_{e,i}^{aFRR}$  shall be equal to the integral of the difference between the measurements of the Supervisory Control and Data Acquisition System (SCADA) and the Reference Load,  $BL_{e,i}$  of the Entity  $e$  within minute  $i$ .
  - For Dispatchable Load Portfolios, the activated aFRR Balancing Energy is  $ABE_{e,i}^{aFRR}$  equal to the integral of the difference between, on the one hand, the measurements of the Supervisory Control and Data Acquisition System (SCADA) and, on the other, the sum of the Reference Load and Market Schedule,  $BL_{e,i} + MS_{e,i}$  of the Entity  $e$  within minute  $i$ .

On the basis of the above calculations, when the activated aFRR Balancing Energy in minute  $i$  is positive,  $ABE_{e,i}^{aFRR,up}$ , it is considered to be upward, and when it is negative, it is considered to be downward,  $ABE_{e,i}^{aFRR,dn}$ .

7. In the event that a Balancing Service Entity  $e$  operates under AGC during an Imbalance Settlement Period  $t$ , then the Instructed Energy,  $INST_{e,t}$  is calculated as follows:
- For Dispatchable Generation Units or a Dispatchable non-Intermittent RES Units Portfolio:

$$INST_{e,t} = INST_{e,t}^{mFRR} + \sum_{i=1}^{15} ABE_{e,i}^{aFRR,up} + \sum_{i=1}^{15} ABE_{e,i}^{aFRR,dn}$$

- For a Dispatchable Intermittent RES Units Portfolio:

$$INST_{e,t} = BL_{e,t} + \sum_{i=1}^{15} ABE_{e,i}^{aFRR,up} + \sum_{i=1}^{15} ABE_{e,i}^{aFRR,dn}$$

- For Dispatchable Load Portfolios (with the exception of Dispatchable Load Portfolios with pumped storage capability):

$$INST_{e,t} = BL_{e,t} - \sum_{i=1}^{15} ABE_{e,i}^{aFRR,up} - \sum_{i=1}^{15} ABE_{e,i}^{aFRR,dn}$$

- For Dispatchable Load Portfolios with pumped storage capability:

$$INST_{e,t} = INST_{e,t}^{mFRR} - \sum_{i=1}^{15} ABE_{e,i}^{aFRR,up} - \sum_{i=1}^{15} ABE_{e,i}^{aFRR,dn}$$

In the event that a Balancing Service Entity  $e$  operates under AGC during an Imbalance Settlement Period  $t$ , then the Instructed Energy  $INST_{e,t}$  is equal to the Instructed mFRR Energy  $INST_{e,t}^{mFRR}$ .

8. In the event that the operation of a Balancing Services Entity,  $e$ , under AGC is suspended at the responsibility of the Entity for more than 5 minutes during a Balancing Settlement Period,  $t$ , then for that Balancing Settlement Period: (a) the entity shall not supply Balancing Energy, (b) The difference between the energy injected or absorbed and the Market Schedule or Reference Load is deemed to be an Imbalance, and (c) the entity shall not be remunerated for aFRR Balancing Energy.
9. The Imbalance of a Balance Responsible Entity providing Balancing Services,  $e$ , for an Imbalances Settlement Period  $t$  is equal to the difference between the quantity of energy that results on the basis of the Entity's certified measurement data  $MQ_{e,t}$  and the Entity's Market Schedule,  $MS_{e,t}$  or the Reference Load,  $BL_{e,t}$ , as given below:

- a) for Dispatchable Generating Units or Dispatchable RES Units Portfolio:

$$IMB_{e,t} = MQ_{e,t} - MS_{e,t}$$

- b) for Dispatchable Load Portfolios (with the exception of Dispatchable Load Portfolios with pumped storage capability):

$$IMB_{e,t} = BL_{e,t} - MQ_{e,t}$$

- c) for Dispatchable Load Portfolios with pumped storage capability:

$$IMB_{e,t} = MS_{e,t} - MQ_{e,t}$$

In the above functions, a positive sign corresponds to the injection of more energy or absorption of less energy by the Balance Responsible Entity, while a negative sign corresponds to the injection of less energy or absorption of more energy in relation to its Market Schedule.

10. The Imbalances adjustment of a Balancing Service Entity  $e$  that provides Balancing Energy for mFRR or energy for purposes other than balancing for an Imbalance Settlement Period  $t$  is given in the following functions:

- a) for Dispatchable Generation Units or a Dispatchable Non-Intermittent RES Units Portfolio:

$$IMBADJ_{e,t} = MS_{e,t} - INST_{e,t}$$

- b) For Dispatchable Intermittent RES Units Portfolio:

$$IMBADJ_{e,t} = BL_{e,t} - INST_{e,t}$$

- c) for Dispatchable Load Portfolios (with the exception of Dispatchable Load Portfolios with pumped storage capability):

$$IMBADJ_{e,t} = INST_{e,t} - BL_{e,t}$$

- d) for Dispatchable Load Portfolios with pumped storage capability:

$$IMBADJ_{e,t} = INST_{e,t} - MS_{e,t}$$

11. The Final Imbalance of a Balancing Services Entity  $e$  for a Balancing Settlement Period  $t$  is equal to the sum of the Imbalance and the Balancing Adjustment, as given below:

$$FIMB_{e,t} = IMB_{e,t} + IMBADJ_{e,t}$$

12. The Final Imbalance of a Balance Responsible Entity  $e$  that is not providing Balancing Services shall be equal to the Imbalance as calculated on the basis of paragraph 9 of this Article. In particular:

- a) For non-Dispatchable RES Units Portfolio, RES Units Portfolio without Market Participation Obligation and Electricity Exports from the Interconnections, the Final Imbalance shall be equal to

$$FIMB_{e,t} = MQ_{e,t} - MS_{e,t}$$

- b) For Load Portfolios and Electricity Exports from the Interconnections, the Final Imbalance shall be equal to

$$FIMB_{e,t} = MS_{e,t} - MQ_{e,t}$$

The Final Positive Imbalance (a) for Dispatchable Generating Units and Dispatchable RES Units Portfolios shall correspond to higher metered energy injection compared to the respective Adjusted Dispatch Instruction, and (b) for Dispatchable Load Portfolios and Dispatchable Load Portfolios with pumped storage capability to a lower metered energy absorption compared to the corresponding Adjusted Dispatch Instruction.

The Final Positive Imbalance (a) for Non-Dispatchable RES Units Portfolio and RES Units Portfolios without Market Participation Obligation shall correspond to higher metered energy injection compared to the respective Market Schedule, and (b) for Load Portfolios shall correspond to lower metered energy absorption compared to the respective Market Schedule.

The Final Negative Imbalance (a) for Dispatchable Generating Units and Dispatchable RES Units Portfolios shall correspond to lower metered energy injection in real time compared to the respective Adjusted Dispatch Instruction, and (b) for Dispatchable Load Portfolios and Dispatchable Load Portfolios with pumped storage capability to a higher metered energy absorption in real time compared to the corresponding Adjusted Dispatch Instruction.

The Final Negative Imbalance (a) for Non-Dispatchable RES Units Portfolio and RES Units Portfolios without Market Participation Obligation shall correspond to lower metered energy injection compared to the respective Market Schedule, and (b) for Load Portfolios shall correspond to higher metered energy consumption compared to the respective Market Schedule.

13. For the Imbalance Settlement Periods for which the entities are under Commissioning Operation or under Operation tests or under Prequalification Tests, the activated Balancing Energy and the Imbalances Adjustment will be equal to zero. The Final Imbalance of the above Balancing Service Entities is equal to the Imbalance as calculated in accordance with paragraph 9 of this Article.

### Article 19.2 Manual FRR and Automatic FRR Clearing Prices

1. The clearing prices of mFRR and aFRR are calculated in €/MWh.
2. If there is no congestion between Bidding Zones, the upward Balancing Energy Price for mFRR,  $BEP_{z,t}^{up}$ , for each Imbalance Settlement Period,  $t$ , for the activation of upward mFRR Balancing Energy shall be equal to the maximum Balancing Energy Offer prices for the mFRR steps that were activated to cover the HETS Imbalances. In the event there is congestion between the Bidding Zones, the clearing price for upward mFRR for each Imbalance Settlement Period,  $t$ , for activation of upward Balancing Energy for each Bidding

Zone is equal to the maximum prices of the mFRR Balancing Energy Offer steps that were activated to cover the imbalance in the specific Bidding Zone,  $z$ .

3. If there is no congestion between Bidding Zones, the downward mFRR clearing price (in EUR/MWh),  $BEP_{z,t}^{dn}$ , for each Imbalance Settlement Period,  $t$ , for the activation of downward mFRR Balancing Energy is equal to the minimum Balancing Energy Offer prices for the mFRR steps that were activated to cover the HETS Imbalances. If there is congestion between the Bidding Zones, the clearing price for downward mFRR for each Imbalance Settlement Period,  $t$ , for activation of downward Balancing Energy for each Bidding Zone is equal to the minimum prices of the mFRR Balancing Energy Offer steps that were activated to cover the imbalance of the specific Bidding Zone,  $z$ .
4. The upward and downward Balancing Energy Offers for mFRR activated for purposes other than balancing shall be marked and excluded from the calculation of upward and downward clearing prices for mFRR. The activation purposes which fall into the category of "purposes other than balancing" shall be defined in the methodology for classifying the activation purposes of Balancing Energy Offers in accordance with Article 29(3) of Regulation (EU) 2017/2195.
5. The upward and downward Balancing Energy Offers for mFRR for the Balancing Service Entities and for the Imbalance Settlement Periods which are set out in the 'Calculation Methodology for Unfeasible Market Schedule' shall be marked and excluded from the calculation of upward and downward mFRR clearing prices.
6. Upward and downward mFRR Balancing Energy Offers for the Balancing Service Entities and for Imbalance Settlement Periods that are activated for Test Dispatch Instruction purposes shall be marked and excluded from the calculation of upward and downward mFRR clearing prices.
7. If the calculation of the mFRR and aFRR clearing prices is impossible, in particular due to an Emergency Situation, or failure of the Balancing Market System or of the other electronic systems of the HETS Operator, the HETS Operator shall apply the procedure provided for in the 'Rules for settlement in case of suspension of market activities'.
8. The aFRR Clearance Price shall be derived per Balancing Services Entity, for each minute  $i$  of the Balance Settlement Period  $t$ , according to the direction of the Balancing Action activated, as follows:

- a) To activate upward aFRR Balancing Energy:

$$SP_{e,i}^{aFRR,up} = \max(SP_{WAE,i}^{aFRR,up}, OPBE_{e,s,i}^{aFRR,up})$$

Where:

$SP_{WAE,i}^{aFRR,up}$  The weighted clearing price of upward aFRR in €/ MWh for minute  $i$ , in accordance with paragraph 9 of this Article.

$OPBE_{e,s,i}^{aFRR,up}$  The price of step  $s$  of the Balancing Energy Offer for upward aFRR of the Balancing Services Entity corresponding to the activated upward aFRR energy calculated for minute  $i$ , in accordance with the 'Activated Energy Calculation Methodology'.

- b) To activate downward aFRR Balancing Energy:

$$SP_{e,i}^{aFRR,dn} = \min(SP_{WAE,i}^{aFRR,dn}, OPBE_{e,s,i}^{aFRR,dn})$$

Where:

$SP_{WAE,i}^{aFRR,dn}$  The weighted clearing price for downward aFRR in €/MWh for minute  $i$ , in accordance with paragraph 10 of this Article.

$OPBE_{e,s,i}^{aFRR,dn}$  The price of step  $s$  of the Balancing Energy Offer for downward aFRR of the Balancing Services Entity corresponding to the activated upward aFRR energy calculated for minute  $i$ , in accordance with the 'Activated Energy Calculation Methodology'.

9. The weighted clearing price for upward aFRR shall be calculated for each minute  $i$  of the Balance Settlement Period  $t$  as follows:

$$SP_{WAE,i}^{aFRR,up} = \frac{\sum_{c \in i} (RE_c^{aFRR,up} \times MP_c^{aFRR,up})}{\sum_{c \in i} (RE_c^{aFRR,up})}$$

Where:

$c$  The AGC cycle.

$MP_c^{aFRR,up}$  The weighted clearing price of upward aFRR in €/ MWh for AGC cycle  $c$ , in accordance with paragraph 11 of this Article.

$RE_c^{aFRR,up}$  The required activation of upward aFRR Balancing Energy served locally in MWh for each AGC cycle  $c$  during minute  $i$ , with a positive value.

10. The weighted settlement price for downward aFRR shall be calculated for each minute  $i$  of the Balance Settlement Period  $t$  as follows:

$$SP_{WAE,i}^{aFRR,dn} = \frac{\sum_{c \in i} (RE_c^{aFRR,dn} \times MP_c^{aFRR,dn})}{\sum_{c \in i} (RE_c^{aFRR,dn})}$$

Where:

$c$  The AGC cycle.

$MP_c^{aFRR,dn}$  The weighted clearing price for downward aFRR in an AGC cycle (in €/MWh) for AGC cycle  $c$ , in accordance with paragraph 11 of this Article.

$RE_c^{aFRR,dn}$  The required activation of downward aFRR Balancing Energy served locally in MWh for each AGC cycle  $c$  during minute  $i$ , with a positive value.

11. For the periods of time that the HETS Operator remains connected to the European aFRR Platform, the upward and downward aFRR clearance price in an AGC cycle shall be the same as and equal to the Cross-Border aFRR Clearance Price sent by the European aFRR Platform. For periods of time when the HETS Operator remains disconnected from the European aFRR Platform, the upward aFRR clearing price of the AGC cycle corresponds to the highest price of all upward aFRR Balancing Energy Offers that were activated from the local aFRR merit order list, while the downward aFRR clearing price of the AGC cycle corresponds to the lowest price of all downward aFRR Balancing Energy Offers that were activated from the local aFRR merit order list.

12. If the calculation of the mFRR and aFRR clearing prices is impossible, in particular due to an Emergency Situation, or failure of the Balancing Market System or of the other electronic systems of the HETS Operator, the HETS Operator shall apply the procedure provided for in the 'Rules for settlement in case of suspension of market activities'.

### Article 19.3 Calculation of Balancing Energy debits and credits

- The debits or credits to the Balancing Service Providers for each Balancing Service Entity they represent, per Imbalance Settlement Period, for activated Balancing Energy for mFRR following a relevant Dispatch Instruction shall be determined for each direction according to the following table:

	Positive Balancing Energy Price	Negative Balancing Energy Price
Upward Balancing Energy	Payment from Clearing House to Balancing Service Provider	Payment from Balancing Service Provider to Clearing House
Downward Balancing Energy	Payment from Balancing Service Provider to Clearing House	Payment from Clearing House to Balancing Service Provider

- The charge or credit of the Balancing Services Providers for each Balancing Service Entity that they represent per each Imbalance Settlement Period, for the activated mFRR Balancing Energy, including the activated Balancing Energy for mFRR Test Dispatch Instructions, is calculated as follows:
  - For the activated upward mFRR Balancing Energy:

$$ABEC_{e,t}^{mFRR,up} = ABE_{e,t}^{mFRR,up} \times BEP_{z,t}^{up}$$

Where:

$ABEC_{e,t}^{mFRR,up}$  The debit or credit in € for the activated upward Balancing Energy for mFRR for a Balancing Service Entity e and an Imbalance Settlement Period t.

$ABE_{e,t}^{mFRR,up}$  The activated upward Balancing Energy for aFRR for a Balancing Service Entity e and an Imbalance Settlement Period t.

$BEP_{z,t}^{up}$  The clearing price of an upward mFRR, of the Bidding Zone, z, in €/MWh to which the Balancing Services Entity e belongs.

- For the activated downward mFRR Balancing Energy:

$$ABEC_{e,t}^{mFRR,dn} = ABE_{e,t}^{mFRR,dn} \times BEP_{z,t}^{dn}$$

Where:

$ABEC_{e,t}^{mFRR,dn}$  The debit or credit in € for the activated upward Balancing Energy for mFRR for a Balancing Service Entity e and an Imbalance Settlement Period t.

$ABE_{e,t}^{mFRR,dn}$  The activated downward Balancing Energy for mFRR in MWh for a Balancing Service Entity e and an Imbalance Settlement Period t.

$BEP_{z,t}^{dn}$  The clearing price of a downward mFRR, of the Bidding Zone, z, in €/MWh to which the Balancing Services Entity e belongs.

- The charge or credit of the Balancing Service Providers for the activated upward aFRR Balancing Energy, and for each Balancing Service Entity e that they represent, is calculated per Imbalance Settlement Period t as the sum of the respective charges or credits for each

minute  $i$  within the Imbalance Settlement Period  $t$ . The above charges or credits shall be calculated as follows:

$$ABEC_{e,t}^{aFRR,up} = \sum_{i=1}^{15} (ABE_{e,i}^{aFRR,up} \times SP_{e,i}^{aFRR,up})$$

Where:

$ABEC_{e,t}^{aFRR,up}$  the debit or credit for the activated upward aFRR Balancing Energy for a Balancing Service Entity  $e$  and an Imbalance Settlement Period  $t$ .

$ABE_{e,i}^{aFRR,up}$  The upward activated aFRR Balancing Energy in MWh for the Balancing Services Entity  $e$  during one minute  $i$  within the Imbalance Settlement Period  $t$ .

$SP_{e,i}^{aFRR,up}$  The upward aFRR clearing price for the Balancing Services Entity  $e$  during one minute  $i$  within the Imbalance Settlement Period  $t$ .

- The charge or credit of the Balancing Service Providers for the activated downward aFRR Balancing Energy, and for each Balancing Service Entity  $e$  that they represent, is calculated per Imbalance Settlement Period  $t$  up to the sum of the corresponding charges or credits for each minute  $i$  within the Imbalance Settlement Period  $t$ . The above charges or credits shall be calculated as follows:

$$ABEC_{e,t}^{aFRR,dn} = \sum_{i=1}^{15} (ABE_{e,i}^{aFRR,dn} \times SP_{e,i}^{aFRR,dn})$$

Where:

$ABEC_{e,t}^{aFRR,dn}$  the debit or credit for the activated upward aFRR Balancing Energy for a Balancing Service Entity  $e$  and an Imbalance Settlement Period  $t$ .

$ABE_{e,i}^{aFRR,dn}$  The downward activated aFRR Balancing Energy in MWh for the Balancing Services Entity  $e$  during one minute  $i$  within the Imbalance Settlement Period  $t$ .

$SP_{e,i}^{aFRR,dn}$  The downward aFRR clearing price for the Balancing Services Entity  $e$  during one minute  $i$  within the Imbalance Settlement Period  $t$ .

- Details regarding the calculation of prices are described in the 'Balancing Market Price Calculation Methodology' and details regarding calculation of Balancing Energy debits and credits are described in the Technical Decision 'Balancing Market Settlement'.

#### **Article 19.4 Calculation of debits and credits for energy activated for purposes other than balancing**

- The debits or credits to the Balancing Service Providers for each Balancing Service Entity,  $e$ , they represent, per Imbalance Settlement Period,  $t$ , for energy activated for purposes other than balancing shall be calculated as follows:

- a) as the sum of the products of all steps, which result from the multiplication of the quantity of upward balancing energy in each step by the Price of the Offer for upward Balancing Energy for mFRR for that step and for the corresponding Entity.

$$AOEC_{e,t}^{mFRR,up} = \sum_s^{\square} (mFRRQ_{e,as,t}^{up} \times OPBE_{e,s,t}^{mFRR,up})$$

Where:

$AOEC_{e,t}^{mFRR,up}$  The debit or credit for upward Balancing Energy activated for purposes other than balancing for a Balancing Service Entity e and an Imbalance Settlement Period t.

$mFRRQ_{e,as,t}^{up}$  the segment, as, of step, s, in MWh of the upward Balancing Energy Offer for mFRR that has been validated for a Balancing Service Entity, e, for an Imbalance Settlement Period, t.

$OPBE_{e,s,t}^{mFRR,up}$  the price in €/MWh of step s of the upward Balancing Energy Offer of a Balancing Service Entity e for mFRR for an Imbalance Settlement Period t.

- b) as the sum of the products of all steps, which result from the multiplication of the quantity of downward balancing energy in each step by the Price of the Offer for downward Balancing Energy for mFRR for that step and for the corresponding Entity.

$$AOEC_{e,t}^{mFRR,dn} = \sum_s^{\square} (mFRRQ_{e,as,t}^{dn} \times OPBE_{e,s,t}^{mFRR,dn})$$

Where:

$AOEC_{e,t}^{mFRR,dn}$  The debit or credit for downward Balancing Energy activated for purposes other than balancing for a Balancing Service Entity e and an Imbalance Settlement Period t.

$mFRRQ_{e,as,t}^{dn}$  the segment, as, of step, s, in MWh of the downward Balancing Energy Offer for mFRR that has been validated for a Balancing Service Entity, e, for an Imbalance Settlement Period t.

$OPBE_{e,s,t}^{mFRR,dn}$  the price in €/MWh of step s of the downward Balancing Energy Offer of a Balancing Service Entity e for mFRR for an Imbalance Settlement Period t.

2. Where the calculated amounts  $AOEC_{e,t}^{mFRR,up}$  or  $AOEC_{e,t}^{mFRR,dn}$  activated energy for non-balancing purposes are negative, the Balancing Entity shall be required to pay the calculated amount, whereas when the amounts calculated are positive, the Balancing Entity shall be entitled to collect the calculated amount.

## Article 19.5 Calculation of System Imbalance

1. The System Imbalance,  $SI_t$  shall be calculated for each Imbalance Clearance Period t as follows:

$$SI_t = \Delta P_t + k\Delta f_t - AE_t$$

Where:

- $\Delta P_t$  The imbalance between intended exchanges of active capacity through the interconnection points and metered values, in MW. The intended exchanges of active capacity at the HETS interconnection points do not include voluntary exchanges of active capacity pursuant to Article 50 of Regulation (EU) 2017/2195.
- $k\Delta f_t$  The HETS frequency control error, in MW, for the Imbalance Clearance Period  $t$ , that is, the product of the frequency deviation from the nominal value by the factor  $k$  (in mW/Hz) as defined in Article 156 (2) of Regulation (EU) 2017/1485.
- $AE_t$  The total activated energy in MW, corresponding to aFRR Dispatch Instructions for the Imbalance Settlement Period  $t$ , mFRR Dispatch Instructions, Test mFRR Dispatch Instructions, Dispatch Instructions for commitment, de-commitment or transition, and the Instructions for activation of mFRR Energy Offers for purposes other than balancing for a Balancing Settlement Period  $t$ .

2. In the above formula, export-related active capacity exchanges and upward activated energy are taken into account with a positive sign. By contrast, import-related active capacity exchanges and downward activated energy are taken into account with a negative sign.

3. In the above formula, the total activated energy also includes the energy corresponding to the Injection Curtailment Instructions for the Imbalance Settlement Period  $t$ , denoted as  $CURT_t$  (in MW), which is always calculated with a negative sign and is equal to:

$$CURT_t = \sum_e \min(INST_{e,t}^{curt} - BL_{e,t}; 0)$$

where:

$INST_{e,t}^{curt}$  is the Injection Curtailment Instruction in MW issued to RES Unit Portfolio  $e$  for the Imbalance Settlement Period  $t$ .

$BL_{e,t}$  is the Baseline Load in MW of the RES Unit Portfolio  $e$  that received an Injection Curtailment Instruction for the Imbalance Settlement Period  $t$ .

2.—The Baseline Load of RES Unit Portfolio  $e$  is calculated as the sum of the Baseline Loads of the RES Units within the portfolio that received Injection Curtailment Instructions, in accordance with the “Baseline Load Calculation Methodology”, and the measured injection of the remaining RES Units in the portfolio.

### Article 19.6 Calculation of the Imbalance Price

1. If the System Imbalance  $SI_t$ , is less than -25MW or greater than +25MW, the Imbalance Price  $IP_t$  shall be calculated as follows:

$$IP_t = \begin{cases} \max\{MP_{WAE,t}^{aFRR}, BEP_{mFRR,t}^{up}, VOAA_t^{up}, VOAA_t^{dn}\}, \text{όταν } SI_t < -25MW \\ \min\{MP_{WAE,t}^{aFRR}, BEP_{mFRR,t}^{dn}, VOAA_t^{up}, VOAA_t^{dn}\}, \text{όταν } SI_t > 25MW \end{cases}$$

Where:

$MP_{WAE,t}^{aFRR}$  The weighted average price of the AGC cycle aFRR clearing prices in €/MWh for the Imbalance Settlement Period  $t$  in accordance with paragraphs 2, 3 and 4 of this Article.

$BEP_{z,t}^{up}$	The upward mFRR clearing price in €/MWh for the Imbalance Settlement Period $t$ .
$BEP_{z,t}^{dn}$	The downward mFRR clearing price in €/MWh for the Imbalance Settlement Period $t$ .
$VOAA_t^{up}$	The value of avoided activation of Balancing Energy in the upward direction, which is equal to the lower value of the upward Balancing Energy Offer for either mFRR or aFRR for the specific Imbalance Clearance Period $t$ .
$VOAA_t^{dn}$	The value of avoided activation of Balancing Energy in the downward direction, which is equal to the higher value of the downward Balancing Energy Offer for either mFRR or aFRR for the specific Imbalance Clearance Period $t$ .

2. For the Imbalance Settlement Periods during which the HETS Operator remains connected to the European Platform for Balancing Energy (aFRR), the weighted average price of the clearing prices for aFRR in the AGC cycle  $MP_{WAE,t}^{aFRR}$ , for a Balancing Settlement Period  $t$  shall be calculated in accordance with the following:

$$MP_{WAE,t}^{aFRR} = \frac{\sum_{c \in t} (abs(SD_c^{aFRR}) \times MP_c^{aFRR})}{\sum_{c \in t} (abs(SD_c^{aFRR}))}$$

Where:

$c$	The AGC cycle.
$MP_c^{aFRR}$	The Cross-Border aFRR Settlement Price in €/MWh dispatched by the European aFRR Platform for each execution cycle of the aFRR Process preceding the AGC cycle $c$ within the Imbalance Settlement Period $t$ .
$SD_c^{aFRR}$	The demand for aFRR in MWh that has been met for each execution cycle of the aFRR Process preceding the AGC cycle $c$ within the Imbalance Settlement Period $t$ .

3. For the Imbalance Settlement Periods during which the HETS Operator remains disconnected from the European Platform for Balancing Energy (aFRR), the weighted average price of the clearing prices for aFRR in the AGC cycle  $MP_{WAE,t}^{aFRR}$ , for a Balancing Settlement Period  $t$  shall be calculated in accordance with the following:

- a) If the System Imbalance,  $SI_t$  is less than -25MW:

$$MP_{WAE,t}^{aFRR} = \frac{\sum_{c \in t} (SD_c^{aFRR,up} \times MP_c^{aFRR,up})}{\sum_{c \in t} SD_c^{aFRR,up}}$$

Where:

$c$	The AGC cycle.
$MP_c^{aFRR,up}$	The upward aFRR clearing price of the AGC cycle in €/MWh, which corresponds to the maximum price of all upward aFRR Balancing Energy Offers activated from the local aFRR merit order list, for each AGC cycle $c$ .
$SD_c^{aFRR,up}$	The upward demand for aFRR in MWh met for each AGC cycle $c$ , with a positive value.

- b) If the System Imbalance  $SI_t$  is greater than 25MW:

$$MP_{WAE,t}^{aFRR} = \frac{\sum_{c \in t} (SD_c^{aFRR,dn} \times MP_c^{aFRR,dn})}{\sum_{c \in t} SD_c^{aFRR,dn}}$$

Where:

- $c$  The AGC cycle.
- $MP_c^{aFRR,dn}$  The downward aFRR clearing price of the AGC cycle in €/MWh, which corresponds to the minimum price of all downward aFRR Balancing Energy Offers activated from the local aFRR merit order list, for each AGC cycle  $c$ .
- $SD_c^{aFRR,dn}$  The downward demand for aFRR in MWh met for each AGC cycle  $c$ , with a positive value.

4. For cases where, during an Imbalance Settlement Period  $t$ , the HETS Operator remains connected to the European aFRR platform for part of the time and disconnected for the remainder of the period, then the weighted average of the aFRR settlement prices in the AGC cycle is used, derived from: a) paragraphs 2 and 3(a) for System Imbalances less than -25 MW, and b) paragraphs 2 and 3(b) for System Imbalances greater than 25 MW. The above values shall be weighted in relation to the respective time intervals.
5. In the case that the calculated System Imbalance  $SI_t$ , falls within the range [-25 MW, +25 MW], the Imbalance Price is taken to be equal to the value of the avoided activation of Balancing Energy, and is calculated as the average price of the following:
  - a) the lowest price of the upward Balancing Energy Offer for either mFRR or aFRR, which is available for local activation, for the specific Imbalance Settlement Period; and
  - b) the highest price of the downward Balancing Energy Offer for either mFRR or aFRR, which is available for local activation, for the specific Imbalance Settlement Period.
6. Details regarding calculation of System Imbalance and Imbalance Pricing are described in the 'Balancing Market Price Calculation Methodology'.
7. If the calculation of the Imbalance Prices is impossible, in particular due to an Emergency Situation, or failure of the Balancing Market System or of the other electronic systems of the HETS Operator, the HETS Operator shall apply the procedure provided for in the "Rules for settlement in case of suspension of market activities".

### Article 19.7 Calculation of Debits and Credits from the Imbalance Settlement

1. Imbalance Settlement is the procedure whereby the Balance Responsible Parties are debited or credited for the imbalances they cause. The Imbalance Settlement shall be initially performed per Balance Responsible Entity and then per Balance Responsible Party.
2. If the System Imbalance is non-zero, the Imbalance amount in € for an Imbalance Settlement Period  $t$  and a Balancing Service Entity or a Balance Responsible Entity  $e$  shall be calculated as the Final Imbalance  $FIMB_{e,t}$ , in MWh, calculated in accordance with [Article 19.1](#), multiplied by the relative price in €/MWh as follows:

$$IMBC_{e,t} = FIMB_{e,t} \times IP_t$$

3. When the amount calculated for an Imbalance is found to be negative, the Balance Responsible Entity is required to pay that amount. When the amount calculated for an Imbalance is found to be positive, the Balance Responsible Entity is entitled to collect that amount.

4. The Imbalance amount calculated for RES Units Portfolio without Market Participation Obligation shall be debited/ credited to DAPEEP.
5. By way of derogation from paragraph 2 of this Article, the amount of Imbalance in € for each Imbalance Settlement Period  $t$  shall be calculated as the product of the Imbalance,  $FIMB_{e,t}$  in MWh, with the Day-Ahead Market clearing price in €/MWh for the respective Market Time Unit, in the following cases:
  - a) For pre-registered entities subject to Prequalification Acceptance Tests in accordance with Chapter 3 of this Rulebook,
  - b) For RES Units performing Operation Tests in the context of their connection to Transmission or Distribution System.

The above derogation is valid for a maximum period of six (6) months from the date of placement of each entity under Operation Tests regime.

### **Article 19.8 Calculation of Imbalance Adjustment for RES Unit Portfolios when Injection Curtailment Instructions are Issued**

1. For Imbalance Settlement Periods  $t$  during which an Injection Curtailment Instruction has been issued, the provisions of this Article shall apply for the calculation of the Final Imbalance of RES Unit Portfolios that include RES Units subject to such Instruction, instead of the provisions of Article 19.1 of the present Rulebook.

2. The Imposed Energy of a RES Unit Portfolio  $e$ , denoted as  $INST_{e,t}^{\square}$  in MWh, is calculated as follows:

$$INST_{e,t}^{\square} = INST_{e,t}^{curt} + ABE_{e,t}^{mFRR,up} + ABE_{e,t}^{mFRR,dn} + AOE_{e,t}^{mFRR,up} + AOE_{e,t}^{mFRR,dn}$$

όπου:

$e$  refers to the RES Unit Portfolio for which at least one of its RES Units  $i$  has received an Injection Curtailment Instruction.

$INST_{e,t}^{curt}$  is the Injection Curtailment Instruction for RES Unit Portfolio  $e$  for Imbalance Settlement Period  $t$ .

$ABE_{e,t}^{mFRR,up}$  is the upward Activated Balancing Energy (mFRR) awarded to RES Unit Portfolio  $e$  for Imbalance Settlement Period  $t$ , which is considered with a positive sign.

$ABE_{e,t}^{mFRR,dn}$  is the downward Activated Balancing Energy (mFRR) awarded to RES Unit Portfolio  $e$  for Imbalance Settlement Period  $t$ , which is considered with a negative sign.

$AOE_{e,t}^{mFRR,up}$  is the upward Activated Non-Balancing Energy (mFRR) awarded to RES Unit Portfolio  $e$  for non-balancing purposes for Imbalance Settlement Period  $t$ , which is considered with a positive sign.

$AOE_{e,t}^{mFRR,dn}$  is the downward Activated Non-Balancing Energy (mFRR) awarded to RES Unit Portfolio  $e$  for non-balancing purposes for Imbalance Settlement Period  $t$ , which is considered with a negative sign.

3. The Injection Curtailment Instruction of the RES Unit Portfolio  $e$  for Imbalance Settlement Period  $t$ , denoted as  $INST_{e,t}^{curt}$ , takes into account all Injection Curtailment Instructions issued to the RES Units within the portfolio. For those RES Units in portfolio  $e$  that have not received an Injection Curtailment Instruction, the measured energy shall be used.

4. The activated energy of RES Unit Portfolio e corresponding to the Injection Curtailment Instruction for Imbalance Settlement Period t, denoted as  $CURT_{e,t}^{\square}$  (in MWh), is always calculated with a negative sign and is equal to:

$$CURT_{e,t}^{\square} = \min(INST_{e,t}^{curt} - BL_{corr,e,t}^{\square}; 0)$$

where:

$BL_{corr,e,t}^{\square}$  the corrected Baseline Load, in MWh, of RES Unit Portfolio e that includes RES Units, for Imbalance Settlement Period t.

5. The corrected Baseline Load of RES Unit Portfolio e, denoted as  $BL_{corr,e,t}^{\square}$ , is calculated for each Imbalance Settlement Period during which a real-time Injection Curtailment Instruction was issued to any RES Unit within Portfolio e.

$$BL_{corr,e,t}^{\square} = \min(BL_{e,t}^{\square}; MS_{e,t}^{\square})$$

where:

$BL_{e,t}^{\square}$  The Baseline Load of RES Unit Portfolio e, in MWh, for Imbalance Settlement Period t, is calculated as the sum of the Baselines of the RES Units within the portfolio that received Injection Curtailment Instructions, in accordance with the “Baseline Calculation Methodology”, and the measured injection of the remaining RES Units in the portfolio.

$MS_{e,t}^{\square}$  The Market Schedule of RES Unit Portfolio e, in MWh, for Imbalance Settlement Period t.

6. The Imbalance of a RES Unit Portfolio e for an Imbalance Settlement Period t is equal to the difference between the energy quantity derived from the certified metering data of the portfolio,  $MQ_{e,t}$  and the Market Schedule of the portfolio,  $MS_{e,t}$  ~~όπως αποδίδεται παρακάτω~~, as given below:

$$IMB_{e,t}^{\square} = MQ_{e,t}^{\square} - MS_{e,t}^{\square}$$

7. The Imbalance Adjustment of a RES Unit Portfolio e for an Imbalance Settlement Period t is defined by the following expressions:

$$IMBADJ_{e,t}^{\square} = CURT_{e,t}^{\square} + ABE_{e,t}^{mFRR,up} + ABE_{e,t}^{mFRR,dn} + AOE_{e,t}^{mFRR,up} + AOE_{e,t}^{mFRR,dn}$$

8. The Final Imbalance of a RES Unit Portfolio e for an Imbalance Settlement Period t is equal to the difference between the Imbalance and the Imbalance Adjustment, as given below:

$$FIMB_{e,t}^{\square} = MQ_{e,t}^{\square} - MS_{e,t}^{\square} - IMBADJ_{e,t}^{\square}$$

9. For Imbalance Settlement Periods during which a RES Unit Portfolio is under **Test Commissioning** Operation, undergoing Acceptance Testing, or performing Prequalification Tests, the Activated Balancing Energy is considered equal to zero, and the Imbalance Adjustment is equal to the activated energy corresponding to the Injection Curtailment Instruction.

10. Dispatch Instructions issued under the aFRR process using the Automatic Generation Control (AGC) function and sent to a RES Unit Portfolio during time periods in which Injection Curtailment Instructions have been issued to RES Units within the portfolio shall be considered as non-issued and shall not be taken into account in the Balancing Market Settlement.

## CHAPTER 20. BALANCING CAPACITY SETTLEMENT

### Article 20.1 Calculation of the supplied quantity of Balancing Capacity

1. The Balancing Capacity Settlement Period is set to be equal to the Imbalance Settlement Period. In order to ensure that the ISP Dispatch Period corresponds with the Imbalance Settlement Periods, the half-hourly results for ISP Balancing Capacity shall be divided into two (2) equivalent 15-minute results.
2. For each Balancing Service Entity and for each Imbalance Settlement Period, the upward and downward Balancing Capacity supplied for FCR, aFRR and mFRR shall be calculated taking into account:
  - 1) The segments of the individual steps of the Balancing Capacity Offer that have been validated on the basis of the last ISP execution, whose solution timeframe shall include that specific Imbalance Settlement Period.
  - 2) the availability in MW of the Balancing Service Entity for the provision of the service in real time.
  - 3) the percentage of a time period within an Imbalance Settlement Period when the Balancing Service Entity was available for the provision of FCR in real time.
3. The upward and downward Balancing Capacity provided for FCR by a Balancing Service Entity  $e$  for an Imbalance Settlement Period  $t$  shall be calculated as follows:

$$FCRQ_{e,t}^{up} = \sum_s \sum_{as} (FCRQ_{e,as,t}^{up}) \times T_{e,t}^{FCR,up}$$

$$FCRQ_{e,t}^{dn} = \sum_s \sum_{as} (FCRQ_{e,as,t}^{dn}) \times T_{e,t}^{FCR,dn}$$

where:

$FCRQ_{e,t}^{up}$  the upward FCR Balancing Capacity, in MW, supplied by the Balancing Services Entity  $e$  for the Imbalance Settlement Period  $t$ .

$FCRQ_{e,as,t}^{up}$  the segment,  $as$ , of step,  $s$ , in MW of the upward FCR Balancing Capacity Offer validated by the Balancing Services Entity,  $e$ , for the Dispatch Period which includes the Imbalance Settlement Period,  $t$ , based on the latest execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period  $t$ .

$T_{e,t}^{FCR,up}$  the percentage of a time period within an Imbalance Settlement Period  $t$  when the Balancing Service Entity  $e$  was available for the provision of upward FCR in real time.

$FCRQ_{e,t}^{dn}$  the upward Balancing Capacity for FCR, in MW, supplied by the Balancing Services Entity  $e$  for the Imbalance Settlement Period  $t$ ,

$FCRQ_{e,as,t}^{dn}$  the segment,  $as$ , of step,  $s$ , in MW of the upward FCR Balancing Capacity Offer validated by the Balancing Services Entity,  $e$ , for the Dispatch Period which includes the Imbalance Settlement Period,  $t$ , based on the latest execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period  $t$ .

$T_{e,t}^{FCR,dn}$  the percentage of time in an Imbalance Settlement Period  $t$  during which the Balancing Service Entity  $e$  was available for the provision of downward FCR in real time.

4. The upward and downward Balancing Capacities for mFRR supplied by a Balancing Service Entity  $e$  for an Imbalance Settlement Period  $t$  shall be calculated as follows:

$$mFRRQ_{e,t}^{up} = \sum_s^{\square} \sum_{as}^{\square} (mFRRQ_{e,as,t}^{up}) \times T_{e,t}^{mFRR,up}$$

$$mFRRQ_{e,t}^{dn} = \sum_s^{\square} \sum_{as}^{\square} (mFRRQ_{e,as,t}^{dn}) \times T_{e,t}^{mFRR,dn}$$

where:

$mFRRQ_{e,t}^{up}$  the upward Balancing Capacity for mFRR, in MW, supplied by the Balancing Services Entity  $e$  in real time, for the Imbalance Settlement Period  $t$ .

$mFRRQ_{e,as,t}^{up}$  the segment,  $as$ , of step,  $s$ , in MW of the upward mFRR Balancing Capacity Offer validated by the Balancing Services Entity,  $e$ , for the Dispatch Period which includes the Imbalance Settlement Period,  $t$ , based on the latest execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period  $t$ .

$T_{e,t}^{mFRR,up}$  the percentage of time within an Imbalance Settlement Period  $t$  when the Balancing Service Entity  $e$  was available for the provision of upward mFRR in real time.

$mFRRQ_{e,t}^{dn}$  the downward Balancing Capacity for mFRR in MW, supplied by the Balancing Services Entity,  $e$ , in real time, for the Imbalance Settlement Period  $t$ .

$mFRRQ_{e,as,t}^{dn}$  the segment,  $as$ , of step,  $s$ , in MW of the downward mFRR Balancing Capacity Offer validated by the Balancing Services Entity  $e$ , for the Dispatch Period which includes the Imbalance Settlement Period  $t$ , based on the latest execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period  $t$ .

$T_{e,t}^{mFRR,dn}$  the percentage of time in an Imbalance Settlement Period  $t$ , during which the Balancing Services Entity  $e$  was available for the provision of downward mFRR in real-time.

5. The upward and downward Balancing Capacity for aFRR, in MW, supplied by a Balancing Service Entity  $e$ , for an Imbalance Settlement Period  $t$ , shall be calculated as follows:

$$aFRRQ_{e,t}^{up} = \sum_s^{\square} \sum_{as}^{\square} (aFRRQ_{e,as,t}^{up}) \times T_{e,t}^{aFRR,up}$$

$$aFRRQ_{e,t}^{dn} = \sum_s^{\square} \sum_{as}^{\square} (aFRRQ_{e,as,t}^{dn}) \times T_{e,t}^{aFRR,dn}$$

where:

$aFRRQ_{e,t}^{up}$  the upward Balancing Capacity for aFRR, in MW, supplied by the

	Balancing Services Entity $e$ in real time, for the Imbalance Settlement Period $t$ .
$aFRRQ_{e,as,t}^{up}$	the segment, $as$ , of step, $s$ , in MW of the upward aFRR Balancing Capacity Offer validated by the Balancing Services Entity, $e$ , for the Dispatch Period which includes the Imbalance Settlement Period $t$ , based on the latest execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period $t$ .
$T_{e,t}^{aFRR,up}$	the percentage of time within an Imbalance Settlement Period $t$ when the Balancing Service Entity $e$ was available for the provision of upward aFRR in real time.
$aFRRQ_{e,t}^{dn}$	the downward Balancing Capacity for aFRR in MW, supplied by the Balancing Services Entity $e$ , in real time, for the Imbalance Settlement Period $t$ .
$aFRRQ_{e,as,t}^{dn}$	the segment, $as$ , of step, $s$ , in MW of the downward aFRR Balancing Capacity Offer validated by the Balancing Services Entity $e$ , for the Dispatch Period which includes the Imbalance Settlement Period $t$ , based on the latest execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period $t$ .
$T_{e,t}^{aFRR,dn}$	$T_{e,t}^{aFRR,dn}$ the percentage of time in an Imbalance Settlement Period $t$ , during which the Balancing Services Entity $e$ , was available for the provision of downward mFRR in real-time.

## Article 20.2 Calculation of Balancing Capacity Remuneration

- For each Balancing Service Entity and for each Imbalance Settlement Period, remuneration for the upward and downward Balancing Capacity supplied for FCR, aFRR and mFRR shall be calculated taking into account upward or downward Balancing Capacity supplied together with the price of the respective Balancing Capacity Offer steps that were validated on the basis of the last execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period.
- The remuneration of a Balancing Service Entity  $e$ , for Balancing Capacity supplied for upward and downward FCR, aFRR, and mFRR in an Imbalance Settlement Period  $t$ , shall be similarly calculated as follows:

$$FCRC_{e,t}^{up} = \frac{1}{4} \times \sum_s \sum_{as} (FCRQ_{e,as,t}^{up} \times OP_{e,s,t}^{FCR,up}) \times T_{e,t}^{FCR,up}$$

$$FCRC_{e,t}^{dn} = \frac{1}{4} \times \sum_s \sum_{as} (FCRQ_{e,as,t}^{dn} \times OP_{e,s,t}^{FCR,dn}) \times T_{e,t}^{FCR,dn}$$

$$mFRRC_{e,t}^{up} = \frac{1}{4} \times \sum_s \sum_{as} (mFRRQ_{e,as,t}^{up} \times OP_{e,s,t}^{mFRR,up}) \times T_{e,t}^{mFRR,up}$$

$$mFRRC_{e,t}^{dn} = \frac{1}{4} \times \sum_s \sum_{as} (mFRRQ_{e,as,t}^{dn} \times OP_{e,s,t}^{mFRR,dn}) \times T_{e,t}^{mFRR,dn}$$

$$aFRRC_{e,t}^{up} = \frac{1}{4} \times \sum_s \sum_{as} (aFRRQ_{e,as,t}^{up} \times OP_{e,s,t}^{aFRR,up}) \times T_{e,t}^{aFRR,up}$$

$$aFRRC_{e,t}^{dn} = \frac{1}{4} \times \sum_s \sum_{as} (aFRRQ_{e,as,t}^{dn} \times OP_{e,s,t}^{aFRR,dn}) \times T_{e,t}^{aFRR,dn}$$

where:

$FCRC_{e,t}^{up}$  the remuneration in € of a Balancing Services Entity  $e$  for upward FCR Balancing Capacity supplied in the Imbalance Settlement Period  $t$ .

$FCRC_{e,t}^{dn}$  the remuneration in € of a Balancing Services Entity  $e$  for downward FCR Balancing Capacity supplied during the Imbalance Settlement Period  $t$ .

$T_{e,t}^{FCR,up}$  the percentage of a time period within an Imbalance Settlement Period  $t$  when the Balancing Service Entity  $e$  was available for the provision of upward FCR in real time.

$T_{e,t}^{FCR,dn}$  the percentage of time in an Imbalance Settlement Period  $t$  during which the Balancing Service Entity  $e$  was available for the provision of downward FCR in real time.

$mFRRC_{e,t}^{up}$  the remuneration in € of a Balancing Services Entity  $e$  for upward mFRR Balancing Capacity supplied in the Imbalance Settlement Period  $t$ .

$mFRRC_{e,t}^{dn}$  the remuneration in € of a Balancing Services Entity  $e$  for downward mFRR Balancing Capacity supplied during the Imbalance Settlement Period  $t$ .

$T_{e,t}^{mFRR,up}$  the percentage of time within an Imbalance Settlement Period  $t$  when the Balancing Service Entity  $e$  was available for the provision of upward mFRR in real time.

$T_{e,t}^{mFRR,dn}$  the percentage of time in an Imbalance Settlement Period  $t$ , during which the Balancing Services Entity  $e$  was available for the provision of downward mFRR in real-time.

$aFRRC_{e,t}^{up}$  the remuneration in € of the Balancing Services Entity  $e$  for upward aFRR Balancing Capacity supplied in the Imbalance Settlement Period  $t$ .

$aFRRC_{e,t}^{dn}$  the remuneration in € of the Balancing Services Entity  $e$  for downward aFRR Balancing Capacity supplied in the Imbalance Settlement Period  $t$ .

$T_{e,t}^{aFRR,up}$  the percentage of time within an Imbalance Settlement Period  $t$  when the Balancing Service Entity  $e$  was available for the provision of upward aFRR in real time.

$T_{e,t}^{aFRR,dn}$   $T_{e,t}^{aFRR,dn}$  the percentage of time in an Imbalance Settlement Period  $t$ , during which the Balancing Services Entity  $e$ , was available for the provision of downward mFRR in real-time.

$OP_{e,s,t}^{FCR,up}$  the price in €/MW-hour of step  $s$  of the upward Balancing Capacity Offer for FCR of a Balancing Service Entity  $e$  that has been validated on the basis of the last execution of the ISP, whose solution timeframe shall include that specific Imbalance Settlement Period  $t$ ,

- $OP_{e,s,t}^{FCR,dn}$  the price in €/MW-hour of step  $s$  of the downward Balancing Capacity Offer for FCR of a Balancing Service Entity  $e$  that has been validated on the basis of the last execution of the ISP, whose solution timeframe shall include that specific Imbalance Settlement Period  $t$ .
- $OP_{e,s,t}^{aFRR,up}$  the price in €/MW-hour of step  $s$  of an upward Balancing Capacity Offer for aFRR from a Balancing Service Entity  $e$  validated on the basis of the last execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period  $t$ .
- $OP_{e,s,t}^{aFRR,dn}$  the price in €/MW-hour of step  $s$  of a downward Balancing Capacity Offer for aFRR from a Balancing Service Entity  $e$  validated on the basis of the last execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period  $t$ .
- $OP_{e,s,t}^{mFRR,up}$  the price in €/MW-hour of the step  $s$  of an upward Balancing Capacity Offer for mFRR from a Balancing Service Entity  $e$  validated on the basis of the last execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period  $t$ .
- $OP_{e,s,t}^{mFRR,dn}$  the price in €/MW-hour of step  $s$  of a downward Balancing Capacity Offer for mFRR from a Balancing Service Entity  $e$  validated on the basis of the last execution of the ISP, the resolution time horizon of which includes the specific Imbalance Settlement Period  $t$ .

3. The total remuneration of all Balancing Service Entities  $e$  for the Balancing Capacity supplied for upward and downward FCR, aFRR, and mFRR during an Imbalance Settlement Period  $t$ , shall be calculated as follows:

$$\begin{aligned}
 BALCAP_t = & \sum_e FCRC_{e,t}^{up} + \sum_e FCRC_{e,t}^{dn} + \sum_e mFRRC_{e,t}^{up} + \sum_e mFRRC_{e,t}^{dn} + \sum_e aFRRC_{e,t}^{up} \\
 & + \sum_e aFRRC_{e,t}^{dn}
 \end{aligned}$$

where:

$BALCAP_t$  The total remuneration of all Balancing Service Entities  $e$  for the Balancing Capacity supplied for upward and downward FCR, aFRR, and mFRR in an Imbalance Settlement Period  $t$ .

4. If calculation of the Balancing Energy Prices proves impossible, in particular due to an Emergency Situation, or the failure of the Balancing Market System or other electronic systems of the HETS Operator, the HETS Operator shall apply the procedure provided for in the 'Rules for settlement in case of suspension of market activities', duly approved by the RAEWW on the recommendation of the HETS Operator in accordance with the provisions laid down in paragraph 4 of Article 18 of Law 4425/2016.

## CHAPTER 21. UPLIFT ACCOUNTS

### Article 21.1 HETS Operator Uplift Account

The Uplift Account shall include the following individual accounts:

- 1) UA-1: HETS Losses Uplift Account
- 2) UA-2: Balancing Capacity Uplift Account
- 3) UA-3: Financial Neutrality Uplift Account

### Article 21.2 UA-1 HETS Losses Uplift Account

1. The UA-1 System Losses Uplift Account shall be used to allocate the cost of HETS Losses, which is calculated as the sum of the amounts resulting from the Day-Ahead Market settlement, the Intra-Day Market settlement and the Imbalance Settlement for these Losses.
2. The cost of HETS Operator losses is charged to and allocated among the Balance Responsible Parties in proportion to the metered absorption of their Offtake Facilities in the Interconnected System during each Imbalance Settlement Period  $t$ , as follows:

$$UPLIFT1_{p,t} = LOSSES_t \times \frac{MQ_{p,t}}{\sum_p MQ_{p,t}}$$

where:

$LOSSES_t$  the total cost of HETS Operator Losses, in €, as this arises after settlement of the Day-Ahead Market, the Intra-Day Market, and the Imbalance Settlement for these losses in the Imbalance Settlement Period  $t$ ,

$MQ_{p,t}$  the offtake (calculated at the Transmission System - Distribution Network Limit) in MWh that corresponds to the Offtake Facilities of the Interconnected System, per Balance Responsible Party  $p$  for an Imbalance Settlement Period  $t$ . The aforementioned absorption does not include the Electricity Supply Volume via Direct Line supplied to Demand Facilities with a Parallel Connection via Direct Lines, since this volume is calculated pursuant to [Article 18.4](#) of this Rulebook.

### Article 21.3 UA-2 Balancing Capacity Uplift Account

1. The UA-2 Balancing Capacity Uplift Account shall be used to allocate the cost of the Balancing Capacity supplied by the Balancing Service Providers.
2. The cost of Balancing Capacity supply in each Imbalance Settlement Period  $t$ ,  $BALCAP_t$ , shall be charged to and allocated among the Balance Responsible Parties in proportion to the metered consumption of their Offtake Facilities in the Interconnected System in each Imbalance Settlement Period  $t$ , as follows:

$$UPLIFT2_{p,t} = BALCAP_t \times \frac{MQ_{p,t}}{\sum_p MQ_{p,t}}$$

where:

$BALCAP_t$  The total remuneration of all Balancing Service Entities  $e$  for the Balancing Capacity supplied for upward and downward FCR, aFRR, and mFRR during an Imbalance Settlement Period  $t$ .

$MQ_{p,t}$  the offtake (calculated at the Transmission System - Distribution Network Limit) in MWh that corresponds to the Offtake Facilities of the Interconnected System per Balance Responsible Party  $p$  for an Imbalance Settlement Period  $t$ .

### Article 21.4 UA-3 Financial Neutrality Uplift Account

1. The UA-3 Financial Neutrality Uplift Account shall be used to allocate any remaining balance to Balance Responsible Parties after calculation of debits and credits by the HETS Operator for the Balancing Energy activated for mFRR and aFRR, as well as energy activated for purposes other than balancing and Imbalance Settlement purposes. The above account shall include income or costs resulting from the intended exchanges of energy pursuant to Article 50 of Regulation (EU) 2017/2195 and the unintended exchanges of energy pursuant to Article 51 of Regulation (EU) 2017/2195.
2. The UA-3 Financial Neutrality Uplift Account shall include the amount corresponding to any deficit or surplus in the coupled markets in relation to Cross-Border Physical Deliveries that correspond to imports and exports per coupled interconnection in the context of the Single Day-Ahead Market Coupling, Intraday Auctions, and Continuous Intraday Trading, as calculated in the respective market results.
3. The amount ensuring the financial neutrality of the HETS Operator in each Imbalance Settlement Period  $t$ ,  $NEUTR_t$ , shall be calculated as follows:

$$\begin{aligned}
 NEUTR_t = & \sum_e ABEC_{e,t}^{mFRR,up} + \sum_e ABEC_{e,t}^{aFRR,up} + \sum_e AOEC_{e,t}^{mFRR,up} \\
 & + \sum_e ABEC_{e,t}^{mFRR,dn} + \sum_e ABEC_{e,t}^{aFRR,dn} + \sum_e AOEC_{e,t}^{mFRR,dn} + \sum_p IMBC_{p,t} \\
 & + \sum IDEV_t + UDEV_t + SAgC_t
 \end{aligned}$$

where:

$NEUTR_t$	the amount ensuring the financial neutrality of the HETS Operator for the Imbalance Settlement Period $t$ ,
$ABEC_{e,t}^{mFRR,up}$	the charging or crediting of the Balancing Services Entity $e$ , for the Imbalance Settlement Period $t$ , for activated upward mFRR Balancing Energy.
$ABEC_{e,t}^{aFRR,up}$	the charging or crediting of the Balancing Services Entity $e$ , for the Imbalances Settlement Period $t$ , for activated upward aFRR Balancing Energy.
$AOEC_{e,t}^{mFRR,up}$	the charging or crediting of the Balancing Services Entity $e$ , for the Imbalance Settlement Period $t$ , for activated upward energy supplied for purposes other than balancing.
$ABEC_{e,t}^{mFRR,dn}$	the charging or crediting of the Balancing Services Entity $e$ , for the Imbalance Settlement Period $t$ , for activated downward mFRR Balancing Energy.
$ABEC_{e,t}^{aFRR,dn}$	the charging or crediting of the Balancing Services Entity $e$ , for the Imbalance Settlement Period $t$ , for activated downward aFRR Balancing Energy.
$AOEC_{e,t}^{mFRR,dn}$	the charging or crediting of the Balancing Services Entity $e$ , for the Imbalance Settlement Period $t$ , for activated downward energy supplied for purposes other than balancing.

- $IMBC_{p,t}$  the debit or credit to a Balance Responsible Entity,  $p$ , for its Imbalances in an Imbalance Settlement Period,  $t$ . The Imbalances for the HETS Losses are included.
- $IDEV_t$  the debit or credit for intended exchanges of energy pursuant to Article 50 of Regulation (EU) 2017/2195 for an Imbalance Settlement Period  $t$ .
- $UDEV_t$  the debit or credit for unintended exchanges of energy pursuant to Article 51 of Regulation (EU) 2017/2195 for an Imbalance Settlement Period  $t$ .
- $SAGC_t$  the credit or charge for any deficit or surplus arising in relation to the Cross-Border Physical Deliveries that correspond to imports and exports per coupled interconnection in the context of Single Day-Ahead Market Coupling, Intra-Day Auctions, and Continuous Intra-Day Trading, conducted after execution of the provisions regarding deficit or surplus management by the HETS Operator, in accordance with the provisions of  $SAGC_t$  this Rulebook, for the Imbalance Settlement Period  $t$ .
4. The cost for ensuring the financial neutrality of the HETS Operator,  $NEUTR_t$ , for each Imbalance Settlement Period  $t$ , shall be allocated to and borne by the Balance Responsible Parties  $p$ , in accordance with the metered consumption of their Offtake Facilities in the Interconnected System in each Imbalance Settlement Period  $t$ , as follows:

$$UPLIFT_{p,t} = NEUTR_t \times \frac{MQ_{p,t}}{\sum_p MQ_{p,t}}$$

where:

- $NEUTR_t$  the amount ensuring the financial neutrality of the HETS Operator in each Imbalance Settlement Period  $t$ .
- $MQ_{p,t}$  the offtake (calculated at the Transmission System - Distribution Network Limit) in MWh that corresponds to the Offtake Facilities of the Interconnected System per Balance Responsible Party  $p$  for an Imbalance Settlement Period  $t$ . The aforementioned offtake does not include the Electricity Supply Volume via Direct Line supplied to Demand Facilities with a Parallel Connection via Direct Lines, as this volume is calculated pursuant to ~~Article 18.4~~ [Article 18.4](#) of this Rulebook.

## CHAPTER 22. NON-COMPLIANCE CHARGES

### Article 22.1 Consequences of non-timely commitment

1. In the event that a delay of more than 30 minutes is detected by the HETS Operator during the commitment of a Balancing Service Entity,  $e$ , after receiving a relevant Dispatch Instruction, the HETS Operator shall impose a charge,  $NCDS_{e,m}$  on the respective Balancing Service Provider. For purposes of calculating the above charge, a Balancing Service Entity shall be deemed to be committed when its generation is at least equal to the Entity's Technically Minimum Generation for at least two consecutive Balancing Service Periods, taking into account a tolerance limit,  $TOL_{commit}$ . The delay in commitment is calculated based on the synchronization time, the soak time declared in the Registered Characteristics and the thermal state of the Entity.

2. In case the commitment delay is longer than 30 minutes, the monthly  $NCDS_{e,m}$  charge to the Balancing Service Entity, e, for month m is calculated as follows:

$$NCDS_{e,m} = \sum_{n=1}^N [UNCDS_{\square} \times NCAP_e \times (NP_e)^{k_{NP}} \times k_{BC}]$$

where:

$UNCDS_{\square}$  the unitary Non-Compliance Charge for non-timely commitment in €/MW,

$NCAP_e$  value in MW, corresponding to (a) the Maximum Net Capacity of Dispatchable Generation Units and (b) the dispatchable capacity of Dispatchable Controlled Generation RES Units Portfolios,

$NP_e$  the integer number of Imbalance Settlement Periods, rounded upwards, corresponding to the entity's commitment delay time per Dispatch Instruction. The coefficient  $NP_e$  can be assigned a maximum value of 16,

$k_{NP}$  exponential coefficient,

$k_{BC}$  an increment factor greater than one, which depends on whether the Balancing Service Entity provides Balancing Capacity within the Dispatch Day, according to the results of the ISP, for the operation cycle after the synchronization being tested; and

$N$  the number of violations for the Entity during month m.

3. The numerical values of the unitary charge  $UNCDS_{\square}$ , the coefficients  $k_{NP}$  and  $k_{BC}$  the tolerance limit  $TOL_{commit}$  are determined by decision of the RAEWW, subsequent to the recommendations of the HETS Operator. This decision shall be published at least two months prior to the implementation of the new values of the above parameters.

### Article 22.2 Consequences of a significant deviation from the activation profile

1. In the event of deviations from the permitted activation profile, the HETS Operator shall impose a charge, on the respective Balancing Services Provider for the Imbalance Settlement Period  $t$ , which shall be equal to  $NCNPAP_{e,t}^{\square}$  and calculated as follows:

$$NCNPAP_{e,t}^{\square} = UNCNPAP_{\square}^{\square} \times |DEVAP_{e,t}|$$

where:

$UNCNPAP_{\square}^{\square}$  the unitary Non-Compliance Charge for significant deviation from the permitted activation profile in €/MWh,

$DEVAP_{e,t}$  the energy in MWh corresponding to the deviation from the permitted activation profile throughout the Imbalance Settlement Period  $t$ ,

2. The numerical value the unitary charge  $UNCNPAP_{\square}^{\square}$ , shall be determined by decision of the RAEWW, on the recommendations of HETS Operator. This decision shall be published at least two months prior to the implementation of the new values of the above parameters.

### Article 22.3 Consequences of non-compliance with manual FRR Test Instructions

1. In the event of a significant deviation during performance of a mFRR Test Instruction by a Balancing Service Entity  $e$ , that is, if the energy supplied by the Balancing Service Entity  $e$  diverges significantly from the mFRR Test Instruction, the HETS Operator shall impose on the Balancing Service Entity  $e$  for the Imbalance Settlement Period, a  $t$ , monthly charge, which shall equal  $NCTDINST_{e,m}^{\square}$ .
2. A significant deviation is considered to be a deviation from the Test Dispatch Instruction for mFRR, taking into account the tolerance limits  $TOLUD_{TDINST}$  and  $TOLOD_{TDINST}$ . The deviation  $TDIDEV_{e,t}$  is calculated as follows:

- 1) For Dispatchable Generation Units and Non-Intermittent Dispatchable RES Units Portfolios:

- If the Test Instruction involves activation of the Maximum Available Capacity or the awarded Balancing Capacity for upward mFRR, then:

$$TDIDEV_{e,t} = TDINST_{e,t} - MQ_{e,t}$$

- If the Test Instruction involves activation of the Minimum Available Capacity or the awarded Balancing Capacity for downward mFRR, then:

$$TDIDEV_{e,t} = MQ_{e,t} - TDINST_{e,t}$$

- 2) For Dispatchable Load Portfolios:

- If the Test Instruction involves activation of the allocated Balancing Capacity for upward mFRR:

$$TDIDEV_{e,t} = |TDINST_{e,t}| - (bl_{e,t} - MQ_{e,t})$$

- If the Test Instruction involves activation of the allocated Balancing Capacity for downward mFRR:

$$TDIDEV_{e,t} = |TDINST_{e,t}| - (MQ_{e,t} - bl_{e,t})$$

- 3) For Dispatchable Intermittent RES Units Portfolios:

- If the Test Instruction involves activation of the allocated Balancing Capacity for upward mFRR:

$$TDIDEV_{e,t} = |TDINST_{e,t}| - (MQ_{e,t} - bl_{e,t})$$

- If the Test Instruction involves activation of the allocated Balancing Capacity for downward mFRR:

$$TDIDEV_{e,t} = |TDINST_{e,t}| - (bl_{e,t} - MQ_{e,t})$$

3. The monthly charge to the Balancing Service Entity,  $e$ , for month  $m$  shall be calculated as follows:

If  $TDIDEV_{e,t} > 0$  κατ'  $|TDIDEV_{e,t}| > TOLUD_{TDINST} \times TDINST_{e,t}$ , or

If  $TDIDEV_{e,t} < 0$  κατ'  $|TDIDEV_{e,t}| > TOLOD_{TDINST} \times TDINST_{e,t}$  then:

$$NCTDINST_{e,m} = \sum_{t \in m}^{\square} A_{TDI} \times B_{TDI} \times [|TDIDEV_{e,t}| \times UNCTDINST]$$

where,

- |                  |   |
|------------------|---|
| $TDINST_{e,t}$   | the mFRR Test Dispatch Instruction received by the Balancing Service Entity $e$ for an Imbalance Settlement Period $t$ ,  |
| $bl_{e,t}$       | the Baseline Load for each Imbalance Settlement Period $t$ , for Dispatchable Load Portfolios and Dispatchable Intermittent RES Units Portfolios,   |
| $MQ_{e,t}$       | the metered energy of the Balancing Service Entity $e$ reported at the Transmission System/ Distribution Network Boundary for an Imbalance Settlement Period $t$ ,  |
| $TDIDEV_{e,t}$   | the deviation from the mFRR Test Dispatch Instruction received by the Balancing Service Entity $e$ for an Imbalance Settlement Period $t$ ,   |
| $TOLUD_{TDINST}$ | the tolerance limit for imposing Non-Compliance Charges on Balancing Service Providers for non-compliance with a mFRR Test Dispatch Instruction, in the event of a positive deviation $TDIDEV_{e,t}$ , as a percentage (%). The above limit may vary per Balancing Service Entity technology, |
| $TOLOD_{TDINST}$ | the tolerance limit for imposing Non-Compliance Charges on Balancing Service Providers for non-compliance with a mFRR Test Dispatch Instruction, in the event of a negative deviation $TDIDEV_{e,t}$ , as a percentage (%). The above limit may vary per Balancing Service Entity technology, |
| $UNCTDINST$      | the unitary Non-Compliance Charge for non-compliance with mFRR Test Dispatch Instructions, in €/MWh,  |
| $A_{TDI}$        | an increment factor, the value of which depends on the number of Test Instructions in which a significant imbalance was found within the last six months,   |
| $B_{TDI}$        | coefficient, the value of which depends on whether the Balancing Service Entity $e$ has awarded Balancing Capacity for the Imbalance Settlement Period, $t$ ,   |
4. The numerical values of the unitary charge  $UNCTDINST$ , the coefficients  $A_{TDI}$  and  $B_{TDI}$  and the tolerance limits  $TOLUD_{TDINST}$  and  $TOLOD_{TDINST}$  are determined by decision of the RAEWW, subsequent to a recommendation from the HETS Operator. This decision shall be published at least two months prior to the implementation of the new values of the above parameters.

#### Article 22.4 Consequences of significant deviation from the Dispatch Instructions

- In the event of a significant deviation from a Dispatch Instruction for upward or downward Balancing Energy or Energy for purposes other than balancing when this is executed by a Balancing Service Entity  $e$ , that is, if the energy supplied by the Balancing Service Entity  $e$  diverges significantly from the Dispatch Instruction, the HETS Operator shall impose a charge on the respective Balancing Service Provider for the Imbalance Settlement Period  $t$ , which shall be equal to  $NCNPBE_{e,t}^{\square}$  and shall be calculated as follows:

If  $|DINST_{e,t} - MQ_{e,t}| > \frac{1}{4} \times TOL_{BE,e}^{\square} \times NCAP_{e,t}$  then:

$$NCNPBE_{e,t}^{\square} = UNCNPBE_{e,t}^{\square} \times A_{NPBE} \times |DINST_{e,t} - MQ_{e,t}|$$

where:

- $UNCNPBE_{BE}$  the unitary Non-Compliance Charge for significant imbalance in the supply of Upward or Downward Balancing Energy or Energy for Non-Balancing purposes by a Balancing Services Entity they represent in €/MWh,
- $A_{NPBE}$  a coefficient, the value of which depends on the number of Imbalance Settlement Periods  $t$ , in which the significant deviation was observed, within the calendar month,
- $MQ_{e,t}$  the metered energy of the Balancing Services Entity  $e$  for an Imbalance Settlement Period  $t$ , reported at the Transmission System/ Distribution Network Boundary, in MWh,
- $TOL_{BE}$  the margin of tolerance for imposing Non-Compliance Charges on Balancing Service Providers for a significant deviation during the supply of upward or downward Balancing Energy or Energy for purposes other than balancing, expressed as a percentage (%). The above tolerance margin may vary by Balancing Service Entity,
- $NCAP_{e,t}$  value, in MW, corresponding to (a) the Maximum Net Capacity of Dispatchable Generation Units and (b) the dispatchable capacity in respect of Dispatchable RES Unit Portfolios and Dispatchable Load Portfolios. If the Balancing Service Entity is a Multi-Shaft Combined Cycle Generating Unit, the Maximum Net Capacity corresponding to the operating configuration running during the Imbalance Settlement Period  $t$  shall be taken into account,
- $DINST_{e,t}$  the Dispatch Instruction received by the Balancing Services Entity  $e$  for an Imbalance Settlement Period  $t$ .

2. A significant deviation is considered to be a deviation exceeding the applicable tolerance margin  $TOL_{BE}$ .
3. The numerical values of the unit charge  $UNCNPBE_{BE}$ , the coefficient  $A_{NPBE}$  and the tolerance margin  $TOL_{BE}$ , shall be determined by decision of the RAEWW, subsequent to a recommendation from the HETS Operator. This decision shall be published at least two months prior to the implementation of the new values of the above parameters.

### Article 22.5 Consequences of significant systematic demand imbalances

1. If during a month  $m$ , significant imbalances between the amount of energy measured at the energy meters represented by a Supplier  $p$  as a whole within a Market Time Unit and the corresponding Market Schedules of the same Supplier occur systematically, the HETS Operator shall impose a charge on the Supplier, which shall be equal to  $NBAL_{p,m}$  and shall be calculated on the basis of the total absolute deviation within month  $m$  and the RMS value of deviations within month  $m$ .
2. A significant imbalance is considered to be the normalized absolute deviation in month  $m$ , which exceeds the tolerance margin  $TOL_{ld,ADEV}$  or the normalized RMS value of deviations in month  $m$ , which exceeds the tolerance margin  $TOL_{ld,RMSDEV}$ .
3. The deviation  $DEV_{p,t}$  in each Market Time Unit  $t$ , the monthly absolute deviation  $ADEV_{p,m}$  in month  $m$ , the normalized absolute deviation  $NADEV_{p,m}$  in month  $m$ , the monthly RMS value of deviations  $RMSDEV_{p,m}$  and the normalized RMS value in month  $m$   $NRMSDEV_{p,m}$ , for Supplier  $p$  shall be determined as follows:

$$DEV_{p,t} = MS_{p,t} - MQ_{p,t}$$

$$ADEV_{p,m} = \sum_{t \in m} |DEV_{p,t}|$$

$$NADEV_{p,m} = \frac{ADEV_{p,m}}{\sum_{t \in m} MQ_{p,t}}$$

$$RMSDEV_{p,m} = \sqrt{\sum_{t \in m} DEV_{p,t}^2}$$

$$NRMSDEV_{p,m} = \frac{RMSDEV_{p,m}}{\sqrt{\sum_{t \in m} [MQ_{p,t}]^2}}$$

where:

$DEV_{p,t}$  the deviation of the metered offtake from the Market Schedule, for the Supplier  $p$  for the Market Time Unit  $t$ ,

$MS_{p,t}$  the Market Schedule of Supplier  $p$  for the Market Time Unit  $t$ ,

$MQ_{p,t}$  the offtake (calculated at the Transmission System/ Distribution Network Boundary) in MWh which corresponds to the Offtake Facilities of the Interconnected System per Supplier  $p$  for the Market Time Unit  $t$ .

4. The monthly charge to the Supplier  $p$  for the month  $m$  shall be calculated as the maximum amount of sanctions resulting from the monthly absolute deviation and the RMS values of deviations:

$$NCBAL_{p,m} = \max \left\{ \begin{array}{l} (UNCBAL_{ADEV} * ADEV_{p,m}) * (NADEV_{p,m} - TOL_{ld,ADEV}), \\ (UNCBAL_{RMSDEV} * RMSDEV_{p,m}) * (NRMSDEV_{p,m} - TOL_{ld,RMSDEV}) \\ 0 \end{array} \right.$$

where:

$UNCBAL_{ADEV}$  the unitary charge corresponding to non-Compliance Charges to Suppliers for the normalized monthly absolute deviation,

$UNCBAL_{RMSDEV}$  the unitary charge corresponding to non-Compliance Charges to Suppliers for the normalized monthly RMS value of deviations,

$TOL_{ld,ADEV}$  the tolerance margin for imposing non-Compliance Charges on Suppliers for the normalized monthly absolute deviation, and

$TOL_{ld,RMSDEV}$  the tolerance margin for imposing non-Compliance Charges on Suppliers for the normalized monthly RMS value of deviations.

5. The numerical values of the unitary charges  $UNCBAL_{ADEV}$  and  $UNCBAL_{RMSDEV}$ , and the tolerance limits  $TOL_{ld,ADEV}$  and  $TOL_{ld,RMSDEV}$ , shall be determined by decision of the RAEWW, subject to a recommendation from the HETS Operator. The above tolerance limits may be expressed on the basis of the offtake  $MQ_{p,t}$  (calculated at the Transmission System/Distribution Network Boundary) in MWh corresponding to the Offtake Facilities of the Interconnected System per Supplier  $p$  for the Market Time Unit  $t$ . This decision shall be published at least two months prior to the implementation of the new values of the above parameters.

6. Non-Compliance Charges shall not be imposed on the Last Resort Provider and the Default Provider for significant systematic imbalances in demand and only for the demand they represent in this capacity.
7. The Market Time Units corresponding to Imbalance Settlement Periods during which a Dispatch Instruction was issued for Balancing Energy supply from a Dispatchable Load Portfolio shall be excluded from the above calculation, with the exception of Dispatchable Load Portfolios with pumped storage capability.

### Article 22.6 Consequences of significant systematic imbalances in the production of RES Units Portfolios

1. If significant imbalances occur in a Market Time Unit of month  $m$  between the amount of energy generated by Non-Dispatchable RES Units Portfolios and  $NCBALR_{p,m}$  Dispatchable Intermittent RES Units Portfolios and the corresponding Market Schedule of the Balance Responsible Party  $p$ , the HETS Operator shall impose a charge, which shall be equal to .
2. A significant imbalance is considered to have occurred in month  $m$  when the normalized absolute deviation of RES Units Portfolios in normal operation exceeds the tolerance margin  $TOL_{r,ADEV}$  or the normalized RMS value of deviations of RES Units Portfolios in normal operation exceeds the tolerance margin  $TOL_{r,RMSDEV}$  or the absolute normalized deviation of RES Units Portfolios in normal operation exceeds the tolerance margin  $TOL_{r,DEV\_NORM}$ .
3. The calculation of the monthly charge presupposes the definition of the following quantities:

$$DEV_{p,t}^{NORM} = MQ_{p,t}^{NORM} - MS_{p,t}^{NORM}$$

$$ADEV_{p,m}^{NORM} = \sum_{t \in m} |DEV_{p,t}^{NORM}|$$

$$NADEV_{p,m}^{NORM} = \frac{ADEV_{p,m}^{NORM}}{\sum_{t \in m} MQ_{p,t}^{NORM}}$$

$$RMSDEV_{p,m}^{NORM} = \sqrt{\sum_{t \in m} [(DEV_{p,t}^{NORM})^2]}$$

$$NRMSDEV_{p,m}^{NORM} = \frac{RMSDEV_{p,m}^{NORM}}{\sqrt{\sum_{t \in m} [(MQ_{p,t}^{NORM})^2]}}$$

$$DEV_{p,m}^{NORM} = \left| \sum_{t \in m} DEV_{p,t}^{NORM} \right|$$

$$ANDEV_{p,m}^{NORM} = \frac{DEV_{p,m}^{NORM}}{\sum_{t \in m} MQ_{p,t}^{NORM}}$$

where:

$DEV_{p,t}^{NORM}$  the deviation from the Market Schedule of Portfolios of RES Units in normal operation represented by the Balance Responsible Party  $p$  for Market Time Unit  $t$ ,

- $MS_{p,t}^{NORM}$  the Market Schedule of Portfolios of RES Units in normal operation represented by the Balance Responsible Party  $p$  for Market Time Unit  $t$ ,
- $MQ_{p,t}^{NORM}$  the metered energy produced for Portfolios of RES Units in normal operation represented by the Balance Responsible Party  $p$  for Imbalance Settlement Period  $t$ ,
- $ADEV_{p,m}^{NORM}$  the monthly absolute deviation of Portfolios of RES Units in normal operation represented by the Balance Responsible Party  $p$ , for month  $m$ ,
- $DEV_{p,m}^{NORM}$  the absolute monthly deviation of Portfolios of RES Units in normal operation represented by the Balance Responsible Party  $p$  for month  $m$ ,
- $NADEV_{p,m}^{NORM}$  the normalized monthly absolute deviation of RES Units Portfolios in normal operation represented by the Balance Responsible Party  $p$  for month  $m$ ,
- $RMSDEV_{p,m}^{NORM}$  the monthly RMS value of deviations of RES Units Portfolios in normal operation represented by the Balance Responsible Party  $p$  for month  $m$ ,
- $NRMSDEV_{p,m}^{NORM}$  the normalized monthly RMS value of deviations of RES Units Portfolios in normal operation represented by the Balance Responsible Party  $p$  for month  $m$  and
- $ANDEV_{p,m}^{NORM}$  the normalised absolute monthly deviation of Portfolios of RES Units in normal operation represented by the Balance Responsible Party  $p$  for month  $m$ ,
4. The monthly charge,  $NCBALR_{p,m}$ , corresponding to the Balance Responsible Party  $p$  for month  $m$  is calculated as follows:

$$NCBALR_{p,m} = NCBALR\_C1_{p,m}^{NORM} + NCBALR\_C2_{p,m}^{NORM}$$

$$NCBALR\_C1_{p,m}^{NORM} = \max \left\{ \begin{array}{l} (UNCBALR_{ADEV} * ADEV_{p,m}^{NORM}) * (NADEV_{p,m}^{NORM} - TOL_{r,ADEV}), \\ (UNCBALR_{RMSDEV} * RMSDEV_{p,m}^{NORM}) * (NRMSDEV_{p,m}^{NORM} - TOL_{r,RMSDEV}), \\ 0 \end{array} \right\}$$

$$NCBALR\_C2_{p,m}^{NORM} = \left\{ \begin{array}{l} ((UNCBALR_{DEV} * DEV_{p,m}^{NORM}) \times (1 - TOL_{r,DEV\_NORM}) \text{ \acute{e}\alpha\upsilon } ANDEV_{p,m}^{NORM} > TOL_{r,DEV\_NORM}) \\ 0 \text{ \acute{e}\alpha\upsilon } ANDEV_{p,m}^{NORM} \leq TOL_{r,DEV\_NORM} \end{array} \right\}$$

where:

$UNCBALR_{ADEV}$  the unitary charge corresponding to non-Compliance Charges to the RES Units Portfolios in normal operation for the normalized monthly absolute deviation,

$UNCBALR_{RMSDEV}$  the unitary charge corresponding to non-Compliance Charges to the RES Units Portfolios in normal operation for the normalized monthly RMS value of deviations,

$UNCBALR_{DEV}$  the unitary charge corresponding to non-Compliance Charges to the RES Units Portfolios for the normalized absolute monthly deviation,

- $TOL_{r,ADEV}$  the tolerance margin for imposing non-Compliance Charges to the RES Units Portfolios in normal operation for the normalized monthly absolute deviation,
- $TOL_{r,RMSDEV}$  the tolerance margin for imposing non-Compliance Charges to the RES Units Portfolios in normal operation for the normalized monthly RMS value of deviations, and
- $TOL_{r,DEV\_NORM}$  the tolerance limit for imposing Non-Compliance Charges on the Portfolios of RES Units in normal operation for the normalised absolute monthly deviation,
5. The numerical values of the unitary charges  $UNCBALR_{ADEV}$ ,  $UNCBALR_{RMSDEV}$  and  $UNCBALR_{DEV}$ , as well as the numerical values of the tolerance limits  $TOL_{r,ADEV}$ ,  $TOL_{r,RMSDEV}$ , and  $TOL_{r,DEV\_NORM}$  shall be determined by decision of the RAEWW, following a proposal by the HETS Operator and public consultation. The application of these values becomes effective two (2) months after the publication of the relevant RAEWW decision, unless otherwise stated therein.
  6. For the Market Time Units that include Imbalance Settlement Periods during which a Dispatch Instruction was issued for Balancing Energy supply from Dispatchable Intermittent RES Units Portfolios, those Dispatchable Intermittent RES Units Portfolios shall be excluded from the calculation of Non-Compliance Charges for the corresponding Balance Responsible Party  $p$ .
  7. No Non-Compliance Charges shall be imposed under this Article for production imbalances of RES Units Portfolios in Test Commissioning Operation or Test Operating Status or RES Units Portfolios without Market Participation Obligation represented in the Market by the Operator of Renewable Energy Sources & Guarantees of Origin (DAPEEP).
  8. Until the date specified in the first paragraph of Article 2 of Ministerial Decision Ref. No YPEN/DAPEEK/25512/883 (Government Gazette, Series II, No 1020/27.03.2019), Non-Compliance Charges under this Article shall not be imposed on the Last Resort Aggregator exclusively for the RES Units it represents in this capacity.

### Article 22.7 Consequences of systematic failure to attain a feasible Market Schedule

1. In the event of systematic failure to attain a feasible Market Schedule, the HETS Operator shall impose a charge on the respective Participant for each Balancing Service Entity it represents, which shall be equal to  $NCNAMS_{e,m}$  and shall be calculated as follows:

$$NCNAMS_{e,m} = (1 + A_{NAMS}) \times \sum_r \sum_{d \in m} (UNCNAMS_r \times VQ_{e,r,d})$$

where:

- $UNCNAMS_r$  the unitary non-Compliance Charge for infeasible Market Schedule in €/MWh, which may vary depending on the cause of the infringement,  $r$ .
- $A_{NAMS}$  a premium coefficient for the charge, which depends on the number of days within a month, when an infeasible Market Schedule is observed.
- $VQ_{e,r,d}$  the quantity corresponding to the said infringement by the Balancing Service Entity,  $e$ , in MWh, the reason for the infringement,  $r$ , and the Dispatch Day  $d$  of the month  $m$ .

2. When calculating the quantity of the infringement,  $VQ_{e,r,d}$ , tolerance margins may be

- applied,  $TOL_{r,e}$ , which may vary depending on the cause of the infringement and the Balancing Service Entity category.
3. The numerical values of the unitary charges  $UNCNAMS_r$ , the charge increase adjustment factor  $A_{NAMs}$  and the tolerance limits,  $TOL_{r,e}$ , shall be determined by decision of the RAEWW, subject to a recommendation from the HETS Operator. This decision shall be published at least two months prior to the implementation of the new values of the above parameters.
  4. Details regarding the calculation of the infringement quantity  $VQ_{e,r,d}$  for each Dispatch Day  $d$  are described in the "Infeasible Market Schedule Calculation Methodology".

### Article 22.8 Management of the amount of non-Compliance Charges

1. The balance of the Non-Compliance Charges Account, the proceeds of which are derived from the imposition of Non-Compliance Charges in accordance with this ~~CHAPTER 22~~ CHAPTER 22 Rulebook, is made available in accordance with the provisions of the HETS Grid Code and this Article, ~~Article 18.7~~ Article 18.7, ~~CHAPTER 23~~, and ~~CHAPTER 24~~ CHAPTER 24 of this Rulebook ~~CHAPTER 23~~ CHAPTER 23 and the Rulebook on the Clearing of Balancing Market Positions or, where there is no Clearing House operating on the Balancing Market, in accordance with this Article, ~~Article 18.7~~ Article 18.7, ~~CHAPTER 21~~ CHAPTER 21, and ~~CHAPTER 27 of the present Rulebook~~, shall be used in order to cover:
  - a) any arrears of Clearing Members in accordance with paragraph 2 of this Article,
  - b) any deficit in coupled markets in relation to Cross-Border Physical Deliveries that correspond to imports and exports per coupled interconnection under the Single Day-Ahead Market Coupling, Intra-Day Auctions and Continuous Intra-Day Trading, as such deficit has been calculated in the results of the Single Day-Ahead Market Coupling, Intra-Day Auctions and Continuous Intra-Day Trading respectively, pursuant to paragraph 6 of this Article, and
  - c) any defaults of entities registered with the HETS Operator Registry in accordance to subsection 11.6 of the HETS Grid Code.
2. The part of the non-Compliance Charges Account that is used to cover Clearing Member defaults shall be the Pre-Funded Financial Resources, as defined in Article 14(3) of Law 4425/2016 and the Clearing Rulebook for Balancing Market Positions. The initial amount of Pre-Funded Financial Resources is set as a percentage ( $\alpha\%$ ) of the available balance of the non-Compliance Charges Account and recalculated on a quarterly basis or ad hoc in cases where the resources have been used due to a Clearing Member's default. At the time of recalculation, the Pre-Funded Financial Resources shall be increased by  $\alpha\%$  of the total non-Compliance Charges which have been collected during the period since the previous calculation, taking also into account any income or costs for their management as well as any debits or credits arising from the management of the Clearing Member's default. The Pre-Funded Financial Resources as calculated above cannot be less than  $\alpha\%$  of the available balance of the non-Compliance Charges Account as the latter stands on the second (2nd) business day prior to the day of calculation. If they are less, the Pre-Funded Financial Resources shall be set at  $\alpha\%$  of the funds available on the non-Compliance Charges Account. The HETS Operator shall notify the Clearing House of the available balance of the non-Compliance Charges Account one (1) day prior to the day of recalculation. The Prefunded Financial Resources, as recalculated each time, shall be at the disposal of the Clearing House and shall be kept in an account held by the Clearing House with the Bank of Greece, with the HETS Operator named as beneficiary.

3. The percentage a% shall be initially set at 50%, which may be updated annually by decision of the RAEWW following a recommendation from the Clearing House and the HETS Operator.
4. The above shall apply accordingly even when no Clearing House operates in the Balancing Market.
5. Part of the non-Compliance Charges Account, which is defined as a percentage (b%) of the available balance of the non-Compliance Charges Account, is used to cover any deficit in coupled markets in relation to the Cross-Border Physical Deliveries that correspond to the imports and exports per coupled interconnection in the context of the Single Day-Ahead Market Coupling, the Intra-Day Auctions, and the Continuous Intra-Day Trading, as such deficit has been calculated in the results of the Single Day-Ahead Market Coupling, Intra-Day Auctions and Continuous Intra-Day Trading respectively, provided that any deficit cannot be sufficiently covered by the credit arising by any remuneration due to a failure of obligation fulfilment, as set out in the contract between the Shipping Agent and the HETS Operator, and the credit arising from the remaining balance in the Non-Compliance Charges Account held by the Energy Exchange, in accordance with the Day-Ahead & Intra-Day Markets Trading Rulebook. This percentage is re-calculated on a quarterly basis, or on an ad hoc basis, if it is used to cover any deficit. During re-calculation, the part of the non-Compliance Charges Account used to cover the aforementioned deficit may be increased by b% of the total non-Compliance Charges collected during the time period following the previous calculation, and possible income or management costs, as well as possible charges or credits arising from any imbalance management, are also taken into account.
6. Any surplus arising in accordance with the provisions of ~~Article 18.7~~ [Article 18.7](#), paragraph 2 of this Rulebook is also considered Revenue attributable to the Non-Compliance Charges Account.
7. The percentage b% is initially set at 20%, and may be updated by decision of the RAEWW, subject to a recommendation from the HETS Operator and the Shipping Agent.
8. The remaining amount after the deduction of the a% and b% mentioned above is used to cover any defaults of entities registered with the HETS Operator Registry in accordance with subsection 11.6 of the HETS Grid Code.

## CHAPTER 23. BALANCING MARKET SETTLEMENT PROCEDURE

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### Article 23.1 Balancing Market Settlement Procedure

1. The Balancing Market Settlement Procedure shall be implemented on a weekly basis. The Settlement Week W shall be defined as the time period between Monday, at 00:00 CET and the following Monday at 00:00 CET.
2. The Initial Settlement for Settlement Week W shall be carried out according to the following timeline:
  - a) By Thursday of week W+1, at 12:00 EET, the HETS Operator shall notify the Participants and Participants Subject to Deletion, as well as the Clearing House, regarding performance of their responsibilities pursuant to ~~Article 18.5~~ [Article 18.5](#) of this Rulebook and Part 10 of Chapter 2 of the Rulebook on the Clearing of Balancing Market Positions, regarding the detailed results of the Initial Settlement.

- b) In cases where the Thursday referred to in point (a) of this paragraph is not the fourth business day of week W+1, the Participants and Participants subject to Deletion and the Clearing House shall be informed on the fourth business day.
3. The Corrective Settlement for Settlement Week W shall be carried out according to the following timeline:
  - a) By Monday of week W+8, at 12:00 CET, the HETS Operator shall inform the Participants and Participants Subject to Deletion of the results of the Corrective Settlement.
  - b) The Participants and the Participants Subject to Deletion shall send any reasoned objections to the results of the Corrective Settlement to the HETS Operator within two working days of the date of their notification under point a).
  - c) By Thursday of week W+8, at 12:00 EET, the HETS Operator shall inform the Participants, Participants Subject to Deletion and the Clearing House regarding the performance of their responsibilities pursuant to ~~Article 18.5~~ [Article 18.5](#) of this Rulebook and Part 10 of Chapter 2 of the Rulebook on the Clearing of Balancing Market Positions, of the results of the Corrective Settlement, having taken into account the objections raised by the Participants and the Participants Subject to Deletion, and having made the necessary corrections.
  - d) In cases where the Thursday referred to in point (c) of this paragraph is not the fourth business day of week W+8, the Participants and Participants subject to Deletion and the Clearing House shall be informed, every time, on the fourth business day.
4. For the purposes of the Final Settlement, each year Y shall be divided into two “Half-Year Settlement Periods” as follows: The first Settlement Semester shall consist of twenty-six (26) Settlement Weeks starting from the first Monday, 00:00 CET, of year Y. The second Settlement Semester shall consist of the Settlement Weeks starting from the twenty-seventh (27th) Monday, 00:00 CET of year Y until the last Sunday of year Y, in the event that December 31 of year Y is a Sunday or the first Sunday of year Y+1, in the remaining cases 24:00 CET of year Y.
5. The Final Settlement for the twenty-six (26) Settlement Weeks of the first Settlement Semester of Year Y shall be conducted in accordance with the following schedule:
  - a) By the twenty-sixth (26th) Tuesday of year Y+3, the Network Operators shall submit the final metered readings for Low Voltage Offtake Facilities and any corrections in metered readings for Medium Voltage Offtake Facilities they may have for the first Settlement Semester of year Y to the HETS Operator.
  - b) Between the twenty-seventh (27th) Thursday and the thirty-ninth (39th) Thursday of year Y+3, the HETS Operator shall notify the Participants and Participants Subject to Deletion of the Final Settlement results for the two Settlement Weeks of the first Settlement Semester of year Y, as appropriate.
  - c) Within five (5) working days of the date of dispatch of the Final Settlement results specified in point (b) of this paragraph, the Participants and Participants Subject to Deletion shall send any reasoned objections to the Final Settlement for the Settlement Weeks of the first Settlement Semester of year Y for which it has been notified, to the HETS Operator in accordance with point (b) of this paragraph.
  - d) From the twenty-ninth (29th) Thursday until the forty-second (42nd) Thursday of year Y+3, at 12:00 EET, the HETS Operator shall inform the Participants, the Participants Subject to Deletion, and the Clearing House regarding the performance of their responsibilities pursuant to ~~Article 18.5~~ [Article 18.5](#) of this Rulebook and Part 10 of

Chapter 2 of the Rulebook on the Clearing of Balancing Market Positions, of the results of the Final Settlement for the two Settlement Weeks of the first Settlement Semester of year Y as appropriate, after taking into account the objections of the Participants and the Participants Subject to Deletion and having made the necessary corrections.

- e) In cases where the Thursday referred to in point (d) of this paragraph is not the fourth business day of the week, the Participants and Participants subject to Deletion and the Clearing House shall be informed on the fourth business day.
6. The Final Settlement for the twenty-six (26) or, if applicable, twenty-seven (27) Settlement Weeks of the second Settlement Semester of year Y, shall be conducted in accordance with the following schedule:
- a) By the fifty-second (52nd) Tuesday of year Y+3, the Network Operators shall submit the final metered readings for Low Voltage Offtake Facilities and any corrections in metered readings for Medium Voltage Offtake Facilities they may have for the second Settlement Semester of year Y to the HETS Operator.
  - b) From the second (2nd) Thursday to the fourteenth (14th) Thursday of year Y+4, the HETS Operator shall inform the Participants and Participants Subject to Deletion of the Final Settlement results for the two Settlement Weeks of the second Settlement Semester of year Y as appropriate. In cases where the second Settlement Semester of year Y consists of twenty-seven (27) Settlement Weeks, on the fifteenth (15th) Thursday of year Y+4, the HETS Operator shall notify the Participants and the Participants Subject to Deletion of the results of the Final Settlement of the twenty-seventh (27th) Settlement Week of the second Settlement Semester of year Y.
  - c) Within five (5) working days from the dates of dispatch of the Final Settlement results specified in point (b) of this paragraph, the Participants and Participants subject to Deletion shall send to the HETS Operator any reasoned objections to the Final Settlement for the Settlement Weeks of the second Settlement Semester of year Y for which it has been notified in accordance with point (b) of this paragraph.
  - d) From the fourth (4th) Thursday until the sixteenth (16th) Thursday of year Y+4, at 12:00 EET, the HETS Operator shall inform the Participants and Participants subject to Deletion and the Clearing House about the execution of their responsibilities pursuant to ~~Article 18.5~~ [Article 18.5](#) of this Rulebook and Part 10 of Chapter 2 of the Rulebook on the Clearing of Balancing Market Positions, of the results of the Final Settlement for two Settlement Weeks of the second Settlement Semester of year Y as appropriate, after taking into account the objections of the Participants and the Participants Subject to Deletion and having made the necessary corrections.

In cases where the second Settlement Semester of year Y consists of twenty seven (27) Settlement Weeks, on the seventeenth (17th) Thursday of year Y+4, the HETS Operator shall inform the Participants, the Participants Subject to Deletion and the Clearing House regarding the performance of their responsibilities pursuant to ~~Article 18.5~~ [Article 18.5](#) of this Rulebook and Part 10 of Chapter 2 of the Rulebook on the Clearing of Balancing Market Positions, of the results of the Final Settlement of the twenty-seventh (27th) Settlement Week of the second Settlement Semester of year Y, after taking into account the objections of the Participants and the Participants Subject to Deletion, and having made the necessary corrections.

- e) In cases where the Thursday referred to in point (d) of this paragraph is not the fourth business day of the week, the Participants and Participants subject to Deletion and the Clearing House shall be informed on the fourth business day.

7. As part of the performance of Supplementary Settlements, the HETS Operator shall:
  - a) make any necessary adjustment to or revision of the measurement data,
  - b) make any necessary adjustment to or revision of the data resulting from any Dispute settlement,
  - c) use updated or revised data submitted by the Energy Exchange or the Distribution Network Operators,
  - d) use revised Balancing Service data.
8. After the Final Settlement has been performed pursuant to the timetable of paragraphs 5 and 6 of this Article, corrections to settlement data or results may only be made if this is demanded for the purpose of enforcing a judicial decision or an arbitration award.
9. Execution of a Corrective Settlement for a period and on a date not provided for in the time schedule of this Article, or in any case before the execution of the Final Settlement, or execution of another Settlement after the Final Settlement has been conducted, may only be carried out following a decision of the RAEWW subject to a duly justified application from a Participant or Participant Subject to Deletion, or Participants or Participants Subject to Deletion with a legitimate interest, if it is demonstrated that non-execution of the additional Corrective Settlement threatens the viability of the applicant. The request shall be submitted to the RAEWW and settlement shall be reiterated only after a decision is reached, and it shall be subject to the terms of thereof.
10. In the cases referred to in paragraph 9 of this Article and if any amounts for debits or credits to persons who are no longer registered in the HETS Operator Registry arise, either as Participants or as Participants Subject to Deletion, then these amounts shall be allocated to the Balance Responsible Parties and Participants Subject to Deletion according to their former status as Balance Responsible Parties, depending on the metered absorption of their Offtake Facilities in the Interconnected System for Settlement Weeks W-11 to W-8 as of the Settlement Week when this settlement takes place:

$$CHARGE_p = AMOUNT \times \frac{MQ_{p,WS}}{\sum_p(MQ_{p,WS})}$$

where:

*WS* The period between W-11 and W-8 starting from the Settlement Week when the settlement of these amounts takes place

*AMOUNT* the amount of debits or credits to persons who are no longer registered in the HETS Operator Registry, either as Participants or as Participants subject to Deletion

*MQ<sub>p,WS</sub>* the absorption (calculated at the Transmission System/Distribution System Boundary) in MWh corresponding to the Offtake Facilities of the Interconnected System per Balance Responsible Party or Participant Subject to Deletion in their former capacity as a Balance Responsible Party, *p*, for period *WS*

No corrections shall be made to the monetary sums allocated to the Balancing Responsible Parties and Participants Subject to Deletion in their former capacity as Balance Responsible Parties by reason of any revised data regarding the metered consumption *MQ<sub>p,WS</sub>* of their Offtake Facilities which was calculated in the execution of Final Settlements.

11. Where amounts of debits or credits arise due to corrective settlements for voluntary energy exchanges under Article 50 of Regulation (EU) 2017/2195 and/or for involuntary energy exchanges under Article 51 of Regulation (EU) 2017/2195 for a period and on a date not provided for in the timeline of this Article, then the amounts of debits or credits shall be taken into account in the determination of the Required Balancing Market Revenue of the following calendar years.
12. The time schedules referred to in this Article may be amended by way of exception in the event of a technical problem in the Balancing Market System or in the event of the unavailability of the necessary data as described in [Article 18.4](#)~~Article 18.4~~. The HETS Operator shall inform the Participants of the updated timeline in a timely and appropriate manner.

### **Article 23.2 Procedure for Settlement of Non-Compliance Charges**

1. Settlement of Non-Compliance Charges shall be carried out monthly. The Settlement months correspond to calendar months M, starting from the first day of the calendar month at 00:00 CET until the first day of the following calendar month at 00:00 CET.
2. The initial Settlement of month M shall be carried out according to the following timeline:
  - a) Within one week from the issuance of the Corrective Settlement for all weeks of month M, the HETS Operator shall inform the Participants and the Participants subject to Deletion of the non-Compliance Charges.
  - b) Within the deadline of two (2) working days from the publication of the results of the non-Compliance Charges by the HETS Operator, the Participants and the Participants subject to Deletion shall submit to the HETS Operator any reasoned objections.
  - c) Within five (5) working days following the submission of objections as of item (b), the HETS Operator shall inform the Participants and the Participants Subject to Deletion of the Settlement results for Non-Compliance Charges, having taken into account the objections raised by the Participants or Participants Subject to Deletion and having made the necessary corrections.
3. The final Settlement of month M is realized in accordance with the following timeline:
  - a) Within one week from the end of the corrective clearing of all weeks of month M, the HETS Operator shall inform the participants registered in the HETS Operator's Registry and the Participants subject to Deletion of the Balancing Market Fee,
  - b) The Participants and the Participants subject to Deletion shall send to the HETS Operator any justified objections within a period of two (2) working days from the notification of the Balancing Market Fee results by the HETS Operator.
  - c) Within five (5) working days following the submission of objections as of item (b), the HETS Operator shall inform the Participants and the Participants Subject to Deletion of the Settlement results for Non-Compliance Charges, having taken into account the objections raised by the Participants or Participants subject to Deletion and having made the necessary corrections.
4. The time schedules referred to in this Article may be amended by way of exception in the event of a technical problem in the Balancing Market System or in the event of the unavailability of the necessary data as described in [Article 18.4](#)~~Article 18.4~~. The HETS Operator shall inform the Participants of the updated timeline in a timely and appropriate manner.

### Article 23.3 Balancing Market Fee Settlement Procedure

1. Settlement of the Balancing Market Fee is carried out on a monthly basis. Settlement months correspond to calendar months from the first day of the calendar month at 00:00 CET until the first day of the following calendar month at 00:00 CET.
2. The initial Settlement of month M shall be carried out according to the following timeline:
  - a) Within one week following the final Settlement of all weeks of month M, the HETS of Operator shall inform the registered Participants in the HETS registry as well as the participants under Deletion with regards to the Balancing Market Fee.
  - b) Within the deadline of two (2) working days following the publication of the results with regards to the Balancing Market Fee from the HETS Operator the Participants and the Participants subject to Deletion shall submit to the HETS Operator any reasoned objections.
  - c) Until the Thursday following the second item, the HETS shall inform the Participants, the Participants subject to Deletion and the Clearing House of the results of the Settlement of the Balancing Market Fee after having taken into account the objections of the Participants or the Participants subject to Deletion and has made the necessary corrections.
  - d) The above results of the Settlement for each Participant and Participant subject to Deletion shall include the following:
    - i. Amount corresponding to the Balancing Market Fee transactions relating to month M+2, which is equal to the settlement amount resulting for month M.
    - ii. The difference of the following:
      - o The amount settled for the Balancing Market Fee relating to month M, as calculated on the Thursday of month M+2 in point (c) of this paragraph; and
      - o The amount corresponding to the transactions of the Balancing Market Fee for month M, which was included in the Settlement Results issued in month M for the transactions of month M-2 in accordance to the timeline in items (a) to (c) of this paragraph.

In cases where the Thursday referred to in point (c) of this paragraph is not the fourth business day of the week, the Participants and Participants subject to Deletion and the Clearing House shall be informed on the fourth business day, pursuant to the Clearing Rulebook for Balancing Market Positions.

3. The final Settlement of month M is realized in accordance with the following timeline:
  - a) Within one week of the end of the Final Settlement of all weeks of month M, the HETS Operator shall notify the Participants registered in the HETS Operator's Registry and the Participants subject to Deletion regarding the Balancing Market Fee,
  - b) Within a deadline of two (2) working days following the publication of the results regarding the Balancing Market Fee by the HETS Operator, the Participants and the Participants Subject to Deletion shall submit any duly justified objections to the HETS Operator.
  - c) Until the Thursday following item (b), the HETS Operator shall inform the Participants, the Participants subject to Deletion as well as the Clearing House of

the Settlement results for the Balancing Market Fee, taking into account the objections raised by the Participants or Participants subject to Deletion and having made the necessary corrections.

4. The time schedules referred to in this Article may be amended by way of exception in the event of a technical problem in the Balancing Market System or in the event of the unavailability of the necessary data as described in ~~Article 18.4~~ [Article 18.4](#). The HETS Operator shall inform the Participants of the updated timeline in a timely and appropriate manner.

#### **Article 23.4 Content of Settlement results notified to the Participants**

1. Settlement results notified to the Balancing Service Providers and the Participants subject to Deletion shall include, where applicable, the following information:
  - a) The ID of the Balancing Service Provider,
  - b) The Market Schedules of each Balancing Service Entity,
  - c) The Baseline for each Dispatchable Load Portfolio in case a Dispatch Instruction is issued for the provision of Balancing Energy,
  - d) The Baseline for each Dispatchable Intermittent RES Units Portfolio in case a Dispatch Instruction is issued for the provision of Balancing Energy,
  - e) The Dispatch Instruction for each Balancing Service Entity per mFRR Unit of Time,
  - f) The metered amount of energy of the Balancing Service Entity per Imbalance Settlement Period,
  - g) The activated Balancing Energy for aFRR and mFRR of the Balancing Service Entity per Imbalance Settlement Period,
  - h) The Balancing Capacity supplied by the Balancing Service Entity per Imbalance Settlement Period and per Balancing Capacity Type,
  - i) The Imbalance and Imbalance Adjustment Quantities for the Balancing Service Entity per Imbalance Settlement Period,
  - j) The debit or credit for Balancing Energy and Balancing Capacity to the Balancing Service Provider for the Balancing Service Entity per Imbalance Settlement Period,
  - k) The debit or credit to the Balancing Service Provider for Imbalances of the Balancing Service Entity per Imbalance Settlement Period,
  - l) Any non-compliance Charge imposed on the Balancing Service Provider per sanction type and Imbalance Settlement Period.
2. The Settlement results notified to the Balance Responsible Parties shall include the following details:
  - a) The ID of the Balance Responsible Party,
  - b) The Market Schedule of each Balance Responsible Entity represented by the Participant per Imbalance Settlement Period,
  - c) The total amount of metered energy for all Balance Responsible Entities represented by the Balance Responsible Party per Imbalance Settlement Period,
  - d) The Imbalance quantity of all Balance Responsible Entities represented by the Balance Responsible Party per Imbalance Settlement Period, and

- e) The debit or credit to the Balance Responsible Party for each Imbalance Settlement Period.

### Article 23.5 Pricing of non-Compliance Charges

1. The HETS Operator shall issue Participants and Participants Subject to Deletion with the necessary supporting invoice statements based on the results of Non-Compliance Charge Settlements for each month M, in accordance with ~~1212~~ paragraph 2(c) and paragraph 3(c) of this Rulebook. The documents shall become overdue five (5) calendar days after the expiry of the deadline for their issue.
2. In the event that a Participant or a Participant subject to Deletion defaults on its cash obligations for non-Compliance Charges, the HETS Operator shall take any action needed to collect the due payment with interest.
3. Unless it is part of its responsibilities under this Article, the HETS Operator shall not be liable to the Participants, the Clearing Members or the Clearing House for covering any deficit in the non-Compliance Charges Account that is created due to a defaulting Participant or Participant subject to Deletion.

## CHAPTER 24. DEFAULT MANAGEMENT

### Article 24.1 Actions of the HETS Operator and the Clearing House in case of default

1. In the event of default of Clearing Members on their cash obligations pursuant to this Rulebook, the provisions of this Chapter and the Clearing Rulebook for Balancing Market Positions shall apply.
2. If a Clearing Member defaults on the performance of its cash obligations pursuant to this Rulebook:
  - a) the Clearing House shall be obliged to notify the HETS Operator immediately.
  - b) If the losses caused by the default are in excess of the collaterals provided for the relevant Clearing Account, of the share of the defaulting Clearing Member in the Clearing Capital and even of those of the other Clearing Members according to the Clearing Rulebook for Balancing Market Positions, the Clearing House shall notify the HETS Operator of the remaining portion of the loss and shall cover the said amount by using the balance in the Prefunded Financial Resources account, as specified in the Clearing Rulebook for Balancing Market Positions.
  - c) If the balance of the Prefunded Financial Resources is insufficient to cover the loss, the Clearing House shall notify the HETS Operator immediately. The remaining portion of the loss shall be borne by the Balance Responsible Parties and to Participants Subject to Deletion in their former capacity as Balance Responsible Parties ( $p$ ) prior to becoming subject to Deletion and allocated among them according to the metered consumption of their Offtake Facilities from the Interconnected System for Settlement Weeks W-11 to W-8 starting from the Settlement Week when the default was ascertained by the Clearing House:

$$CHARGE\_DEFAULT_{p,WS}^{\square} = DEFAULT_W \times \frac{MQ_{p,WS}}{\sum_p MQ_{p,WS}}$$

where:

<i>WS</i>	The period between W-11 and W-8 starting from Settlement Week W when the default was ascertained by the Clearing House
<i>DEFAULT<sub>W</sub></i>	the remaining portion of loss for Settlement Week W when the default was ascertained by the Clearing House
<i>MQ<sub>p,ws</sub></i>	the absorption (calculated at the Transmission System/Distribution System Boundary) in MWh corresponding to the Offtake Facilities of the Interconnected System per Balance Responsible Party or Participant Subject to Deletion in their former capacity as a Balance Responsible Party <i>p</i> , for period WS

No corrections shall be made to the cash amounts burdening and allocated to Balancing Responsible Parties and Participants Subject to Deletion in their former capacity as Balance Responsible Parties by reason of any revised data regarding metered consumption  $MQ_{p,ws}$  by their Offtake Facilities which were calculated in the Final Settlements after default, with the exception of any corrections made by the Clearing House regarding the remainder of the loss.

- d) The HETS Operator shall notify the Clearing House of the amount apportioned to each Balancing Responsible Party and to each Participant subject to Deletion in their capacity prior to becoming Participants subject to Deletion as Balance Responsible Parties, so that the Clearing House can proceed with the Cash Settlement according to the provisions of the Clearing Rulebook for Balancing Market Positions.
- e) If the amounts of money settled by the Clearing House pursuant to item (c) of this paragraph are insufficient due to non-payment by the Balance Responsible Parties so obliged on the basis of the aforementioned apportionment or Participants subject to Deletion in their capacity prior to their capacity prior to becoming Participants subject to Deletion as Balance Responsible Parties, a recalculation shall be made as many times as necessary until the loss is fully covered by the Balance Responsible Parties and the Participants subject to Deletion in their capacity prior to becoming Participants subject to Deletion as Balance Responsible Parties who are up-to-date with their obligations, the procedure under item (c) being followed in all other cases. The Clearing House shall notify the HETS Operator of the relevant default and the defaulting Balancing Responsible Parties, in each apportionment cycle process and the Participants subject to Deletion in their capacity prior to becoming Participants subject to Deletion as Balance Responsible Parties, so that the HETS Operator can activate the subsequent cycle of the apportionment process as set out in paragraph 2 of this Article.
- f) The collection of the relevant cash obligations of the defaulting Clearing Member shall be carried out on the basis of the Vouchers/Invoices issued by the Clearing House, which serve as proof in favour of beneficiary Clearing Members and Participants and against the defaulting Clearing Member or Participant. The above Vouchers/Invoices, including the initial Invoice shall not serve as proof, neither in favour nor against the Clearing House or the HETS Operator. Details regarding the above Vouchers/Invoices are provided in the Clearing Rulebook for Balancing Market Positions.
- g) The Balancing Responsible Parties or the Participants subject to Deletion in their capacity prior to becoming Participants subject to Deletion as Balance Responsible Parties that have paid the cash amounts apportioned to them in accordance with the procedures specified in items (e) and (f), paragraph 1, section 4.6 of the Clearing Rulebook for Balancing Market Positions may, by virtue of the Apportionment Procedure Non-Collection Voucher of item c), paragraph 2, section 4.6 of the Clearing

Rulebook for Balancing Market Positions demand a return of the cash amounts paid in proportion to their percentage of participation in the relevant apportionment by instructing the HETS Operator to exercise their respective rights as their representative. Court costs of all kinds as well as other related expenses and expenses for the assignment of a third-party legal advisor shall be charged to the beneficiary Balancing Responsible Parties or Participants subject to Deletion in their capacity prior to becoming Participants subject to Deletion as Balance Responsible Parties in proportion to their percentage of participation in the relevant apportionment cycle process and covered by them according to their relevant apportionment by the HETS Operator during the cash settlement procedure of the Clearing House. The HETS Operator shall assume no risk whatsoever with respect to either the assignment in accordance with the above or the positive outcome of the above demands.

- h) The HETS Operator shall terminate the Balancing Service Contract and/or the Balance Responsible Party Contract of the Participants who are in default on their financial obligations in the framework of the Balancing Market.
3. In particular, as regards covering a Clearing Member defaulting on amounts owed for supplementary settlements from a previous period prior to the default of the Clearing Member, but calculated after the default:
- a) If the balance of collateral or the share account balance of the defaulting Clearing Member that may have been withheld by the Clearing House in accordance with the provisions of the Clearing Rulebook for Balancing Market Positions is not sufficient to cover any Supplementary Settlements that may arise in respect of the Positions of the above defaulting party or if no such balance exists, the Clearing House shall notify the HETS Operator of the remaining portion of loss and shall cover it from the balance of the Pre-Funded Financial Resources as specified in the Clearing Rulebook for Balancing Market Positions.
  - b) If the balance of the Prefunded Financial Resources is insufficient to cover the above loss, the Clearing House shall notify the HETS Operator immediately. In this case, the process of allocations and reallocations for cases (c), (d), and (e) of paragraph 2 of this Article shall be activated until these are fully addressed.
4. The HETS Operator shall not be exposed to any credit risk for the cash transactions pertaining to this Rulebook and the HETS Grid Code, and shall not be liable to the Participants, the Participant subject to Deletion or the Clearing Members or the Clearing House for covering any remaining loss that is created against the Participants due to default of another Participant or Participant subject to Deletion registered with the HETS Operator Registry or another Clearing Member, over and above the performance of its duties, in accordance to this Chapter and the Clearing Rulebook for Balancing Market Positions. This also applies to the Clearing House.
5. The funds from the Non-Compliance Charges Account, including the Pre-Funded Financial Resources, which were used by the HETS Operator or the Clearing House to cover defaults, shall be restored only if the amount due and covered by the Account is collected from the debtor in default. The HETS Operator and the Clearing House shall immediately notify the RAEWW of instances of default, as well as of the measures and the scheduled times for enforcement of said measures taken in order to ensure the uninterrupted operation of the Balancing Market.

## CHAPTER 25. SPECIAL PROVISIONS FOR THE BALANCING MARKET SETTLEMENT IF NO CLEARING HOUSE OPERATES

### Article 25.1 Application of Special Provisions

In the event that no Clearing House operates, for any reason, in the Balancing Market, according to Article 12 of Law 4425/2016, special provisions shall apply in accordance with [CHAPTER 25](#)~~CHAPTER 24~~.

### Article 25.2 HETS Operator Accounts

The HETS Operator shall keep accounts for accounting purposes in accordance with [Article 18.3](#)~~Article 18.3~~ of this Rulebook.

### Article 25.3 Invoicing and Settlement

The HETS Operator and the Participants and Participants subject to Deletion shall issue the necessary documents on the basis of the Settlement Results for each month M until the 7th business day of month M+2. For each month M, the payments to the HETS Operator shall be made by the 9th business day of month M+2 and the payments to the Participants and Participants subject to Deletion by the 10th business day of month M+2.

### Article 25.4 Actions of the Operator in case of Participant default

1. If a Participant or Participant subject to Deletion defaults on its cash obligations deriving from this Rulebook, the HETS Operator shall take the following action:
  - a) Take all necessary steps to satisfy the amounts due by the defaulting Participant or Participant subject to Deletion through the guarantees it has provided in accordance with [Article 25.5](#)~~Article 25.5~~ of this Rulebook. If the guarantees are insufficient to fully cover the amounts due by the defaulting Participant, the HETS Operator shall cover them by using the guarantees on a pro rata basis.
  - b) If the guarantees are insufficient to fully cover the amounts due by the defaulting Participant or Participant subject to Deletion, the HETS Operator shall cover the deficit by using the non-Compliance Charges Account, up to a percentage ( $\alpha\%$ ) of the balance on the non-Compliance Charges Account, in accordance with [Article 22.8](#)~~Article 22.8~~ of this Rulebook.
  - c) If the guarantees and the Non-Compliance Charges Account balance are insufficient to fully cover the amounts due from the defaulting Participant in accordance with items (a) and (b) of this paragraph, the HETS Operator shall allocate the remaining portion of the loss to the Balance Responsible Parties and to the Participants Subject to Deletion in their former capacity as Balance Responsible Parties,  $p$ , in proportion to the metered consumption of their Offtake Facilities from the Interconnected System for Settlement Months M-3 to M-2 from the Settlement Month when the default was ascertained by the HETS Operator:

$$CHARGE\_DEFAULT_{p,MS}^{\square} = DEFAULT_M \times \frac{MQ_{p,MS}}{\sum_p MQ_{p,MS}}$$

where:

$MS$  The period between M-3 and M-2 starting from Settlement Month M

when the default was ascertained by HETS Operator

$DEFAULT_M$  the remaining portion of loss for Settlement Month M when the default was ascertained by HETS Operator

$MQ_{p,MS}$  the absorption (calculated at the Transmission System/Distribution System Boundary) in MWh corresponding to the Offtake Facilities of the Interconnected System per Balance Responsible Party or Participant Subject to Deletion in their former capacity as a Balance Responsible Party,  $p$ , for period MS

No corrections shall be made to the cash amounts burdening and allocated to Balancing Responsible Parties or Participants Subject to Deletion in their former capacity as Balance Responsible Parties by reason of any revised data regarding metered consumption  $MQ_{p,MS}$  of their Offtake Facilities which were calculated in the Final Settlements after default, with the exception of any corrections made by the HETS Operator regarding the remainder of the loss.

- d) If the amounts of money settled pursuant to item (c) of this paragraph are insufficient due to non-payment by the Balance Responsible Parties so obliged on the basis of the aforementioned apportionment or Participants subject to Deletion in their capacity prior to their capacity prior to becoming Participants subject to Deletion as Balance Responsible Parties, a recalculation shall be made as many times as necessary until the loss is fully covered by the Balance Responsible Parties or the Participants subject to Deletion in their capacity prior to becoming Participants subject to Deletion as Balance Responsible Parties who are up-to-date with their obligations, the procedure under item (c).
- e) The collection of the relevant financial obligations of the defaulting Participant or the Participant subject to Deletion and/or the defaulting Participants or the Participants subject to Deletion shall be carried out on the basis of the Vouchers/Invoices issued by the HETS Operator, which serve as proof in favor of beneficiary Participants or Participants subject to Deletion and against the defaulting Participant or Participant subject to Deletion. The above Vouchers/Invoices, including the initial Invoice shall not serve as proof, neither in favour nor against the HETS Operator.
- f) The Balancing Responsible Parties or Participants subject to Deletion that have paid the cash amounts apportioned to them in accordance with the procedures specified in items (c) and (d) of this paragraph may, by virtue of the Apportionment Procedure Non-Collection Voucher of item (e) of this paragraph, demand a return of the cash amounts paid in proportion to their percentage of participation in the relevant apportionment by instructing the HETS Operator to exercise their respective rights as their representative. Court costs of all kinds as well as other related expenses and expenses for the assignment of a third-party legal advisor shall be charged to the beneficiary Balancing Responsible Parties or Participants subject to Deletion in proportion to their percentage of participation in the relevant apportionment cycle process and covered by them according to their relevant apportionment by the HETS Operator during the procedure for settlement of their claims and obligations in accordance with [Article 25.3](#) of this Rulebook. The HETS Operator shall assume no risk whatsoever with respect to either the assignment in accordance with the above or the positive outcome of the above demands.
- g) The HETS Operator shall terminate the Balancing Service Contract and/or the Balance Responsible Party Contract of the Participants who are in default on their financial obligations in the framework of the Balancing Market.

2. In particular, as regards covering a Participant or Participant subject to Deletion defaulting on amounts owed for Supplementary Settlements from a previous period prior to the default of the Participant or Participant subject to Deletion, but calculated after the default:
  - a) If the balance of the guarantees in accordance with ~~Article 25.5~~ **Article 25.5** of this Rulebook that may have been withheld by the HETS Operator is insufficient to cover the amounts due as a result of Supplementary Settlements or if no such balance exists, the HETS Operator shall cover it from the balance of the Non-Compliance Charges Account, as specified in paragraph 1(b) of this Article.
  - b) If the balance of the non-Compliance Charges Account, as specified in item (a) of this paragraph is not sufficient to cover the above loss, the HETS Operator shall activate the apportionment and reapportionment processes of items (c) and (d) of par. 1 of this Article, until the loss is fully covered.
3. The HETS Operator shall not be exposed to any credit risk for the cash transactions pertaining to this Rulebook, and shall not be liable to the Participants or for covering any remaining loss that is created for the Participants or Participants subject to Deletion due to default of another Participant or Participant subject to Deletion, over and above the performance of its duties according to this Chapter.
4. The funds from the Non-Compliance Charges Account that were used by the HETS Operator to cover defaults shall only be restored if the amount due and covered by the Account is collected from the debtor in default.
5. The HETS Operator shall immediately notify the RAEWW of instances of default, as well as of the measures and the scheduled times for enforcement of said measures taken in order to ensure the uninterrupted operation of the Balancing Market.

### **Article 25.5 Provision of Guarantees**

1. Each Participant is required, during the term of the Balancing Service Contract and/or the Balance Responsible Party Contract, to offer full guarantees for compliance with all its obligations arising from its participation in the Balancing Market. Each Participant subject to Deletion shall be required to offer full guarantees for compliance with all its obligations arising from the settlements provided for in this Rulebook and relating to the period of its active participation.
2. The obligation to provide full guarantee shall be fulfilled by submitting a letter of guarantee or by depositing an amount into a special account held by the HETS Operator, or in any other lawful manner to which the HETS Operator has consented.
3. Especially for the Letters of Guarantee, the Participants and Participants subject to Deletion fulfill the above obligations only if they fully comply with the template published by the Operator on its website.
4. In case of late submission of the Participants' guarantees, a Non-Compliance Charge shall be imposed, the amount of which shall be determined taking into account, among other things, the days of late submission, in accordance with the specific provisions of the "Balancing Market Participation Guarantee Calculation Methodology".
5. In case of non-fulfilment of the guarantee obligation, the HETS Operator shall immediately and by all appropriate means inform the Balancing Service Provider or the Balance Responsible Party. In the event that the Balancing Service Provider or the Balance Responsible Party does not provide the required guarantees within five (5)

working days from the day on which it should have provided them, the HETS Operator shall terminate the Balancing Service Provider or Balance Responsible Party Service Contract, in accordance with the provisions of ~~Article 4.4~~ [Article 4.4](#), paragraph 4 of this Rulebook. The same applies in case of partial or total forfeiture of the letter of guarantee or its expiry and its non-renewal or non-replacement by the Balancing Service Provider or the Balance Responsible Party.

6. The methodology for determining the amount of guarantees and details on guarantees are provided for in the 'Methodology for Calculation of Balancing Market Participation Guarantees' , which is approved by the RAEWW following a proposal by the HETS Operator pursuant to the provisions of paragraph 4 of Article 18 of Law 4425/2016.

## SECTION VII TRANSITIONAL PROVISIONS

### CHAPTER 26. TRANSITIONAL PROVISIONS FOR RES

#### Article 26.1 Commencement of balancing obligations for RES Units with Market Participation Obligation under a Contract for Differential State Aid Support

1. The RES Units with Market Participation Obligation under a Contract for Differential State Aid Support (DSAS Contract), as set forth in Law 4414/2016, shall start having balancing obligations after the end of the transitional period. The transitional period shall end upon commencement of the Continuous Intra-Day Trading in coupling operation, as defined in accordance with the provisions of the Day-Ahead & Intra-Day Markets Trading Rulebook.
2. Until the end of the transitional period:
  - a) The Reversal of the Difference in Income shall be calculated as per [Article 26.3](#) and [Article 26.4](#) of this Rulebook.
  - b) For RES Units with Market Participation Obligation under a DSAS Contract [Article 22.6](#) of this Rulebook shall not apply.

#### Article 26.2 Explanation of symbols

For the purposes of Calculation of Production Imbalances for RES Units with Market Participation Obligation under a DSAS Contract, each non-Dispatchable RES Units Portfolio shall be generally symbolized as  $e_{rep,oper,z}$ , where:

- $rep$  the RES Units Portfolio representative. The non-Dispatchable RES Units Portfolios shall be represented by a RES Producer, a RES Aggregator or by the Last Resort RES Aggregator.
- $oper$  the operational status, which corresponds to normal operation under a DSAS contract or Testing Operation under a DSAS contract.
- $z$  the HETS Bidding Zones.

#### Article 26.3 Calculation of Production Imbalances for RES Units with Market Participation Obligation under a DSAS Contract

1. The Final Imbalance of a non-Dispatchable RES Units Portfolio under a DSAS Contract,  $e_{rep,oper,z}$ , for an Imbalance Settlement Period shall be equal to the difference between the quantity of energy that results on the basis of the Entity's certified measurement data and the Entity's Market Schedule as given below:

$$FIMB_{e_{rep,oper,z,t}} = MQ_{e_{rep,oper,z,t}} - MS_{e_{rep,oper,z,t}}$$

Where:

$FIMB_{e_{rep,oper,z,t}}$  the quantity of the Final Imbalance in MWh for a non-Dispatchable RES Units Portfolio under a DSAS Contract  $e_{rep,oper,z}$  and the Imbalance Settlement Period  $t$ .

$MQ_{e_{rep,oper,z,t}}$  the amount of energy at the Connection Point with the HETS or the Distribution Network, in MWh, resulting from the certified metered

$MS_{e_{rep,oper,z,t}}$	<p>data of the non-Dispatchable RES Units Portfolio under a DSAS Contract <math>e_{rep,oper,z}</math> for the Imbalance Settlement Period <math>t</math></p> <p>The Market Schedule of the non-Dispatchable RES Units Portfolio under a DSAS Contract <math>e_{rep,oper,z}</math> for the Imbalance Settlement Period <math>t</math></p>
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#### Article 26.4 Calculation of Debits and Credits for RES Units with Market Participation Obligation under a DSAS Contract

1. For each Imbalance Settlement Period  $t$  the HETS Operator shall calculate the debit / credit  $IMBC\_A_{e_{rep,oper,z,t}}$  in € and the debit / credit  $IMBC\_B_{e_{rep,oper,z,t}}$  in € for each non-Dispatchable RES Units Portfolio under a DSAS Contract  $e$ , as follows:

$$IMBC\_A_{e_{rep,oper,z,t}} = FIMB_{e_{rep,oper,z,t}} \times DAMP_{z,t}$$

and

$$IMBC\_B_{e_{rep,oper,z,t}} = FIMB_{e_{rep,oper,z,t}} \times (IP_t - DAMP_{z,t})$$

Where:

$FIMB_{e_{rep,oper,z,t}}$  the quantity of the Final Imbalance, in MWh, for the non-Dispatchable RES Units Portfolio  $e_{rep,oper,z}$  for the Imbalance Settlement Period  $t$ .

$DAMP_{z,t}$  the price of the Day-Ahead Market in MWh for each Bidding Zone  $z$  for the Market Time Unit.

2. The above debits / credits shall be collected or allocated by the Clearing House as follows:
  - 1) For a non-Dispatchable RES Units Portfolio  $e_{rep,oper,z}$  which is represented by a RES Producer or RES Aggregator in normal operation or Testing Operation and belongs to the Bidding Zone  $z$ ,
    - i. when the amount  $IMBC\_A_{e_{rep,oper,z,t}}$  is found to be negative, the RES Producer or RES Aggregator must pay the calculated amount, whereas when the amount  $IMBC\_A_{e_{rep,oper,z,t}}$  is found to be positive, the RES Producer or RES Aggregator is entitled to collect the calculated amount,
    - ii. when the amount  $IMBC\_B_{e_{rep,oper,z,t}}$  is found to be negative, the calculated amount is charged to DAPEEP, whereas when the amount  $IMBC\_B_{e_{rep,oper,z,t}}$  is found to be positive, the calculated amount is credited to DAPEEP.
  - 2) For a non-Dispatchable RES Units Portfolio  $e_{rep,oper,z}$  which is represented by the Last Resort RES Aggregator in normal operation or Testing Operation and belongs to the Bidding Zone  $z$ ,
    - i. when the amounts  $IMBC\_A_{e_{rep,oper,z,t}}$  and  $IMBC\_B_{e_{rep,oper,z,t}}$  are found to be negative, they are charged to the Last Resort RES Aggregator,
    - ii. when the amounts  $IMBC\_A_{e_{rep,oper,z,t}}$  and  $IMBC\_B_{e_{rep,oper,z,t}}$  are found to be positive, they are credited to the Last Resort RES Aggregator.

Details regarding the Settlement of Imbalances of RES Units Portfolios are provided in the

Technical Decision "Balancing Market Settlement".

## CHAPTER 27. TRANSITIONAL PROVISIONS ON THE BALANCING MARKET

### **Article 27.1 ~~Submission of Balancing Energy Offers to the Balancing Energy Market~~ Calculation of System Imbalance**

1. ~~The provisions of paragraph 2(f) of Article 18.6, paragraph 3(f) of Article 18.6, paragraph 3 of Article 19.5, and Article 19.8 shall enter into force upon confirmation by RAEW of the technical readiness of the Hellenic Transmission System Operator and the Hellenic Electricity Distribution Network Operator, following relevant recommendations by the respective Operators and the publication of the effective date on the official website of RAEW. Article 67(1) of this Rulebook shall enter into force sixteen (16) months after the launch of the Day-Ahead, Intra-Day and Balancing Markets of Law 4425/2016, as in force.~~
2. ~~Until the confirmation of technical readiness referred to in paragraph 1 of this Article, during Imbalance Settlement Periods in which Injection Curtailment Instructions have been issued, for the purpose of calculating the Imbalance Price pursuant to Article 19.6, the System Imbalance shall be deemed greater than +25 MWAs regards the submission of Balancing Energy Offers to the Balancing Market during the transitional period of sixteen (16) months from the launch of the Day-Ahead, Intra-Day and Balancing Markets of Law 4425/2016, as in force, paragraphs 3 and 4 of this Article shall apply.~~
3. ~~The calculations referred to in paragraph 2 of this Article shall be included in the Settlement results as provided in Article 21.3, following an announcement on the official website of the Operator regarding its readiness to apply the provisions of paragraph 2 of this Article. The Balancing Energy Offers for manual and automatic FRR for the manual FRR Time Units, which are included in a Dispatch Period, are identical, i.e. they are the same in terms of form, of quantities and of Balancing Energy Offer prices.~~
4. ~~Balancing Energy Offers for manual and automatic FRR may be submitted for each Dispatch Period no later than the Expiration of the Deadline for the Submission of Balancing Energy Market Offers. The Expiration of the Deadline for the Submission of Balancing Energy Market Offers is fifteen (15) minutes prior to each Dispatch Period.~~
5. ~~For the calculation of non-Compliance Charges set out in Article 22.1, during the transitional period as per paragraph 1 of this Article, without prejudice to the provisions of Article 113, the coefficients and the parameters shall be applied per Dispatch Period and not per manual FRR Time Unit. Upon expiration of the transitional period, the coefficients and the parameters shall be applied per manual FRR Time Unit, as specified in Article 22.1.~~

### **Article 27.2 ~~Submission of Balancing Energy Offers in the Balancing Energy Market~~ Submission of Balancing Energy Offers to the Balancing Market for the period until the constraint in the Peloponnese System is lifted**

1. ~~In addition to the provisions set out above, a numerical value is established for the Minimum Balancing Energy Offer Price, set at -50 €/MWh, which shall apply for a period of one year from the effective date of Decision E-96/2025 of the Energy Directorate of RAEW. The effective date of the present decision shall be fifteen (15) days after its publication in the Government Gazette. Apart from the above provisions, the submission of Balancing Energy Offers with negative prices by the Balancing Service Providers shall~~

~~be suspended until the current constraint due to congestion in the Peloponnese System is lifted.~~

- ~~2. The constraint in question shall be deemed to have been lifted with the issuance of an act by the RAEWW for the commissioning into operation of the Megalopolis System 400kV Transmission Line.~~

### Article 27.3 Calculation of the Balancing Market Fee

1. Pending the approval by RAEWW of the Methodology for determining revenue required by the HETS Operator for operation of the Markets in accordance with the provisions of ~~Article 6.1~~ [Article 6.1](#), paragraph 1 of this Rulebook, as well as the accounting separation rules to which the HETS Operator is subject, in accordance with the provisions of Article 141 of Law 4001/2011, the approval of the Balancing Market Fee is based on the HETS Operator's own estimates of Revenue Required for the operation of the Markets with the possibility of corrective settlement after adoption of the aforementioned decisions of the RAEWW.

### Article 27.4 Temporary Refund Mechanism of a portion of Revenue of Day-Ahead Market

1. By way of derogation from paragraph 5 of ~~Article 19.7~~ [Article 19.7](#), and for as long the Temporary Refund Mechanism of a portion of Revenue of Day Ahead Market remains effective, the Imbalance amount in € in each Imbalance Settlement Period  $t$  for the pre-registered entities subject to Commissioning Operation, as well as for the entities which are under Pre-Qualification Tests in accordance with Chapter 3 of this Rulebook, is calculated as the product of the Imbalance  $FIMBe,t$  in MWh, with the minimum of the relevant applicable Regulated Producer Revenue Price and the Day-Ahead Market Clearing Price in €/MWh for the respective Market Time Unit.
2. By way of derogation from paragraph 2 of ~~Article 19.7~~ [Article 19.7](#), with the implementation of Cross-Border Intraday Continuous Trading and for as long the Temporary Refund Mechanism for a portion of Revenue of Day Ahead Market remains effective, the Imbalance amount in € in each Imbalance Settlement Period  $t$ , is calculated for the RES Units under Commissioning Operation in the context of their connection to the Transmission System or the Distribution System, as the product of the Imbalance  $FIMBe,t$  in MWh, with the minimum value being between the corresponding Regulated Producer Revenue and the clearing price of the Day-Ahead Market in €/MWh for the respective Market Time Unit.

### Article 27.5 Calculation of Balancing Energy and Imbalances in operation under AGC

1. The provisions of paragraph 8 of ~~Article 19.1~~ [Article 19.1](#) of this Rulebook shall enter into force on 16 September 2024.

## CHAPTER 28. TRANSITIONAL PROVISIONS RELATING TO THE OPERATION OF THE ELECTRICITY MARKET OF CRETE FROM THE DATE OF THE FIRST PHASE OF THE INTERCONNECTION UNTIL THE DATE OF THE SECOND PHASE OF THE INTERCONNECTION OF CRETE WITH THE HETS

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### **Article 28.1 Validity of provisions for the operation of the Electricity Market of Crete from the Date of Completion of Phase A until the Date of Completion of Phase B of the Interconnection of Crete with the HETS**

The provisions of this Chapter shall apply as of the date of completion of Phase A of the electrical interconnection of the Small Interconnected System (SIS) of Crete with the HETS, pursuant to par. 2 of Article 108C of Law 4001/2011, until the date of completion of Phase B of the electrical interconnection of the SIS of Crete with the HETS, pursuant to par. 3 of Article 108C of Law 4001/2011.

### **Article 28.2 Operation of the SIS Market of Crete from the Date of Completion of Phase A until the Date of Completion of Phase B of the Interconnection of Crete with the HETS**

1. The Crete-Peloponnese electricity interconnection is considered as a virtual Balance Responsible Entity which can absorb energy from the HETS and inject energy into the HETS. The virtual entity is connected to the HETS on the HV side of the substation of Chania (Chania I), which is the boundary of the HETS and the Small Interconnected System (SIS) of Crete. The above Balance Responsible Entity 'Crete' shall be automatically registered in the Registries kept by the HETS Operator when this Article enters into force. The virtual Balance Responsible Entity "Crete" is assigned the meter of the Peloponnese-Crete interconnection installed at the HV substation in Chania.
2. The Load Representatives operating in Crete, if not already registered, shall be registered in the HETS Operator's Registry, in accordance with the specific provisions of this Rulebook.
3. The HETS Operator shall prepare, until 09:00 CET of calendar day D-1, the following forecasts for each Market Time Unit of the Physical Delivery Fulfillment Day D:
  - a) the load forecast of the SIS of Crete,
  - b) the forecast for the injection of RES Units of the SIS of Crete,
  - c) the available capacity of the Peloponnese-Crete interconnection, and
  - d) the upward and downward active power reserve requirements of the SIS of Crete.
4. The HETS Operator shall execute, by 10:00 EET of calendar day D-1, a Dispatch Schedule for the SIS of Crete for each Market Time Unit of the Physical Delivery Fulfillment Day D, taking into account the provisions of paragraph 3 of this Article, the availability of the Thermal Generating Units of the SIS of Crete, any available historical data, as well as the economic viability of the available alternative resources to cover all the load of the SIS of Crete.
5. The results of the Dispatch Schedule for the SIS of Crete shall include, for each Market Time Unit of the Physical Delivery Fulfillment Day D, the following:
  - a) an indicative absorption/injection schedule of the virtual Balance Responsible Entity "Crete",

- b) an indicative operating schedule of the thermal Generating Units of the SIS of Crete,
  - c) the upward and downward active power reserves allocated to the thermal Generating Units of the SIS of Crete.
6. Until 10:00 EET of calendar day D-1, the HETS Operator shall publish on its website the following information for each Market Time Unit of the Physical Delivery Fulfillment Day D:
  - a) the load forecast of the SIS of Crete,
  - b) the forecast for the injection of RES Units of the SIS of Crete,
  - c) the availability of the thermal Generating Units of the SIS of Crete,
  - d) an indicative absorption/injection schedule of the virtual Balance Responsible Entity "Crete",
  - e) the indicative operating schedule of the thermal Generating Units of the SIS of Crete, and
  - f) the upward and downward active power reserves allocated to the thermal Generating Units of the SIS of Crete.
7. Until 10:00 EET of calendar day D-1, the HETS Operator shall transmit to the Energy Exchange the following information for each Market Time Unit of the Physical Delivery Fulfillment Day D:
  - a) the load forecast of the SIS of Crete corresponding to each Load Representative operating in Crete on the basis of the monthly ex-ante estimated representation rates of the Offtake Facilities of Crete sent by HEDNO pursuant to paragraph 9 of [Article 28.3](#) this Rulebook,
  - b) an indicative absorption/injection schedule of the virtual Balance Responsible Entity "Crete",
  - c) an indicative operating schedule of the thermal Generating Units of the SIS of Crete.
8. Until 10:00 EET of calendar day D-1, the HETS Operator shall transmit to DAPEEP for each Market Time Unit of the Physical Delivery Fulfillment Day D, the forecast of the injection of RES Units of the SIS of Crete.
9. The Energy Exchange shall transmit the Market Schedule for the virtual Balance Responsible entity 'Crete' to the HETS Operator no later than 30 minutes after the last Offer Submission Deadline in the Intra-Day Market Auctions.
10. The Energy Exchange shall transmit on the day following the Dispatch Day D to the HETS Operator, for each Balance Responsible Party p, and for each Market Time Unit t, of each Dispatch Day, the Market Schedule of the virtual Balance Responsible Entity "Crete",  $MS_{p,t}^{K\rho\acute{\iota}\tau\eta}$ , as it has resulted from the resolution of the relevant markets as follows:
  - a) For the Market Time Units t, for which the Market Schedule for the virtual Balance Responsible Entity "Crete" corresponds to energy absorption from HETS, the Energy Exchange shall transmit to the HETS Operator the above Market Schedule divided per Load Representative p, for each Market Time Unit. The aforementioned Market Schedule,  $MS_{p,t}^{K\rho\acute{\iota}\tau\eta}$ , for each Load Representative shall be transmitted by the Energy Exchange separately from the corresponding Market Schedule of the

same Load Representative corresponding to the Offtake Facilities it represents in the HETS.

- b) For the Market Time Units, for which the Market Schedule for the virtual Balance Responsible Entity "Crete" corresponds to injection to the HETS, the Energy Exchange shall transmit to the HETS Operator the above Market Schedule for each Market Time Unit by assigning it to DAPEEP. The aforementioned Market Schedule corresponding to DAPEEP,  $MS_{p,t}^{K\rho\eta\tau\eta}$ , is transmitted by the Energy Exchange separately from the corresponding Market Schedule of the DAPEEP for the RES units it represents in the HETS.
11. The TSO Operator may execute the Dispatch Plan for the SIS of Crete at any time, for all or for certain Market Time Units, within calendar day D-1 and/or calendar day D ("on-demand Dispatch Schedule"), in the event of an event that significantly affects the planned injection/absorption schedule of the virtual Balance Responsible Entity "Crete". The HETS Operator shall publish the information provided for in paragraphs 6, 7 and 8 of this Article on its website and shall forward it to the Energy Exchange and the Operator of Renewable Energy Sources & Guarantees of Origin (DAPEEP) as soon as possible.
  12. Details regarding the preparation of the Dispatch Schedule of the SIS of Crete are provided in the Technical Decision "Dispatch Schedule of the SIS of Crete".

### **Article 28.3 Settlement of the virtual Balance Responsible Entity "Crete" from the Date of Completion of Phase A until the Date of Completion of Phase B of the Interconnection of Crete with the HETS**

1. For each Balancing Settlement Period  $t$ , the energy absorption from the HETS measured by the meter of the Peloponnese-Crete interconnection shall be allocated to the Load Representatives operating in Crete based on the representation percentages calculated and sent out by the Hellenic Electricity Distribution Network Operator (HEDNO) in accordance with paragraph 9 of this Article. The quantity corresponding to each Load Representative for energy absorption from the virtual Balance Responsible Entity 'Crete',  $MQ_{p,t}^{K\rho\eta\tau\eta}$ , shall be assigned to a separate portfolio from the energy absorbed by the other Offtake Facilities in the HETS represented by the same Load Representative.
2. For each Imbalance Settlement Period  $t$ , the energy injection into the HETS measured by the meter of the Peloponnese-Crete interconnection shall be assigned to DAPEEP. The above energy injection assigned to DAPEEP,  $MQ_{p,t}^{K\rho\eta\tau\eta}$ , is part of a separate portfolio from the injection of the RES Units without Market Participation Obligation represented by DAPEEP in the HETS.
3. For each Imbalance Settlement Period  $t$ , the Imbalance is calculated for each Load Representative operating in Crete,  $p$ , and for the virtual Balance Responsible Entity 'Crete', as the difference between the energy absorption,  $MQ_{p,t}^{K\rho\eta\tau\eta}$ , as determined in accordance with paragraph 1 of this Article, and the relevant Market Schedule,  $MS_{p,t}^{K\rho\eta\tau\eta}$ , as follows:

$$IMB_{p,t}^{K\rho\eta\tau\eta} = MS_{p,t}^{K\rho\eta\tau\eta} - MQ_{p,t}^{K\rho\eta\tau\eta}$$

4. For each Imbalance Settlement Period  $t$ , the Imbalance of DAPEEP,  $p$ , for the virtual Balance Responsible Entity "Crete" is calculated as the difference between the energy injection,  $MQ_{p,t}^{K\rho\eta\tau\eta}$ , resulting from the measurement data obtained from the meter of the Peloponnese-Crete interconnection, and the relevant Market Schedule,  $MS_{p,t}^{K\rho\eta\tau\eta}$ , as follows:

$$IMB_{p,t}^{K\rho\eta\tau\eta} = MQ_{p,t}^{K\rho\eta\tau\eta} - MS_{p,t}^{K\rho\eta\tau\eta}$$

5. The HETS Operator shall calculate the Imbalance amount, in €, for each Discharge Settlement Period for the Load Representatives operating in Crete and for DAPEEP in accordance with the provisions of Article 89 of this Rulebook.
6. The calculation of the amounts corresponding to the Balance Responsible Parties for the Uplift Accounts in accordance with CHAPTER 20 of this Rulebook shall be made for the total offtake, i.e. the sum of offtake corresponding to HETS Offtake Facilities and the absorption corresponding to the virtual Balance Responsible Entity 'Crete'.
7. The quantities corresponding to the virtual Balance Responsible Entity 'Crete' and calculated in accordance with paragraphs 1 and 2 of this Article and the corresponding Market Schedules shall not be taken into account for the purpose of calculating Non-Compliance Charges in accordance with ~~CHAPTER 22~~ CHAPTER 22 of this Rulebook.
8. When performing the Initial and Corrective Settlements provided for in ~~Article 23.1~~ Article 23.1 of this Rulebook, the monthly ex-ante estimated representation rates per Load Representative sent by HEDNO in accordance with paragraph 9 of this Article shall be taken into account. During the execution of the Final Settlements or additional Corrective Settlements executed following a respective decision of the RAEWW pursuant to ~~Article 23.1~~ Article 23.1 paragraph 8 of this Rulebook, revised representation percentages per Load Representative operating in Crete shall be taken into account, and shall be sent by HEDNO in accordance with paragraph 9 of this Article.
9. Two days before the first day of each month M, at 12:00 EET, HEDNO shall send the monthly ex-ante estimated representation rates of the Offtake Facilities in Crete for each Load Representative operating in Crete for month M. The revised representation rates per Load Representative of Crete shall be sent by HEDNO in accordance with the schedule set out in ~~Article 23.1~~ Article 23.1 of this Rulebook.
10. The Settlement results provided for in ~~CHAPTER 23~~ CHAPTER 23 shall be communicated to the Balance Responsible Parties separately for the virtual Balance Responsible Entity 'Crete'.
11. Otherwise, the settlement procedure for the energy injected or absorbed through the Peloponnese-Crete interconnection from the day of completion of Phase A of the interconnection until the day of completion of Phase B of the interconnection of Crete with the HETS shall be carried out in accordance with the provisions of Article 108C of Law 4001/2011, as in force and in ~~CHAPTER 23~~ CHAPTER 23 of this Rulebook.

## ANNEX I

## LIST OF TECHNICAL DECISIONS

No.	Name of Technical Decision	Content of Decision
1	Procedures for registration with the HETS Operator Registry	Detailed description of the application, submission, and registration procedures for the HETS Operator Registry.
2	Dispatch Instructions	Procedure for issuing and sending Dispatch Instructions
3	Manual FRR	Details on the execution of the manual FRR process
4	Automatic FRR	Details on the execution of the automatic FRR process
5	Balancing Market Settlement	Details and examples of calculations for the settlement of the Balancing Energy Market
6	Integrated Scheduling Process	Details on the Integrated Scheduling Process
7	Technical limits on bidding and clearing prices in the Balancing Market	Determination of Maximum and Minimum Price Limits in the Balancing Energy and Balancing Capacity Offers and in the clearing prices.
8	Dispatch Schedule for the SIS of Crete	Details on the preparation of the Dispatch Schedule for the SIS of Crete
9	Process and Pre-Qualification Tests	Description of the process and pre-qualification tests for Balancing Service Entities
10	Rules for the conversion of Balancing Energy Offers into Standardized Merit Order List Products	Details regarding conversion of Automatic FRR Balancing Energy Offers submitted by Balancing Service Providers into Standard Local Merit Order List Products

## ANNEX II

## LIST OF METHODOLOGIES AND SPECIAL APPROVALS

No.	Name of Methodology & Special Approval	Content of Methodology & Special Approval
1	Methodology of Determination of Zonal/Systemic Balancing Capacity Needs	The Methodology for the Determination of the zonal and systemic Balancing Capacity needs for (a) Frequency Containment Reserve, (b) automatic Frequency Restoration Reserve and (c) manual Frequency Restoration Reserve.
2	Baseline Calculation Methodology	Baseline Calculation Methodology for Dispatchable Load Portfolios and for Dispatchable Intermittent RES Units Portfolios for their settlement
3	Offsetting methodology	The offsetting methodology for the allocation of cost due to defaulting participants, in the event that no Clearing House operates in the market.
4	Balancing Market Participation Guarantee Calculation Methodology	The Methodology for the Calculation of guarantees in the event that no Clearing House operates in the market.
5	Activated Energy Calculation Methodology	Methodology for Calculating Activated mFRR and aFRR Balancing Energy and energy required for purposes other than balancing and Adjusted Dispatch Instructions.
6	Variable Cost Parameters for Thermal Generating Units Calculation Methodology	The Methodology for the Calculation of Variable Cost Parameters for thermal Generating Units on the basis of Techno-Economic data
7	HETS Losses Calculation Methodology	The Methodology on the basis of which the HETS Losses are estimated.
8	Terms and Conditions for Balancing Service Providers	Terms and Conditions according to Article 18 of Commission Regulation (EU) 2017/2195. Detailed description of Balancing Service Provider Pre-qualification procedures.
9	Terms and Conditions for Balance Responsible Parties	The Terms and Conditions in accordance with Article 18 of Commission Regulation (EU) 2017/2195.
10	Rules for suspension and restoration of market activities	The Rules for the suspension and restoration of market activities in accordance with Article 36 of Commission Regulation (EU) 2017/2196
11	Settlement rules in the event of market activity suspension	The Settlement rules in the event of suspension of market activities in accordance with Article 39 of Commission Regulation (EU) 2017/2196
12	Infeasible Market Schedule Calculation Methodology	The Methodology for the Calculation of an Infeasible Market Schedule

13	Methodology for determining the HETS Operator's Required Revenue for the operation of the Markets	Details on the calculation and the procedure for the preparation of the HETS Operator's Required Revenue for the operation of the Electricity Markets under Law 4425/2016
14	Balancing Market Price Calculation Methodology	Details regarding the calculation of the clearing prices of mFRR and aFRR and the calculation of the Imbalance Price

**ANNEX III**
**LIST OF ACRONYMS**

RES	Renewable Energy Sources
aFRR	Automatic FRR
AGC	Automatic Generation Control
DAPEEP	RES and Guarantee of Origin Operator
HEDNO	Hellenic Electricity Distribution Network Operator
ISP	Integrated Scheduling Process
DESFA	National Natural Gas System Operator
FRR	Frequency Restoration Reserve
FCR	Frequency Containment Reserve
EIC	Energy Identification Code
HETSO	Hellenic Electricity Transmission System Operator
ESFA	National Natural Gas System
RAEWW	Regulatory Authority for Energy, Waste and Water
CHP	High Performance Combined Heat and Power Generation
Aggregator	Aggregator
Last Resort Aggregator	Last Resort Aggregator
mFRR	Manual FRR
CET	Central European Time
EET	Eastern European Time
SCADA	Supervisory Control and Data Acquisition System