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*Official Gazette dated 26/11/2017, numbered 30252*

## **ELECTRICITY MARKET ANCILLARY SERVICES REGULATION**

### **CHAPTER ONE**

#### **Objective, Scope, Legal Basis, Definitions and Definitions**

##### **Purpose**

**ARTICLE 1** – (1) The purpose of this Regulation is to regulate the commercial procedures and principles regarding the supply of services provided within the scope of ancillary services in the electricity market.

##### **Scope**

**ARTICLE 2** – (1) This Regulation covers the duties, powers and obligations of the parties regarding the supply of services provided within the scope of ancillary services in the electricity market, as well as the procedures and principles regarding the supply method of these services, the payment to be made to the parties providing these services, and the sanctions to be imposed on parties that do not provide these services.

##### **Legal Basis**

**ARTICLE 3** – (1) This Regulation has been prepared based on the Electricity Market Law numbered 6446 and dated 14/03/2013.

##### **Definitions and abbreviations**

**ARTICLE 4** – (1) The following definitions shall be ascribed to the terms used in this Regulation;

a) Instant demand control relay: Equipment that gives opening command to breakers for load shedding in order to provide instant demand control service in case frequency falls below the pre-determined operating values;

b)<sup>1</sup> Instant demand control reserve: The amount of load that is bidden by the consumption facilities if they so prefer, and that can be cut automatically by means of instantaneous demand control relays in order to prevent the system frequency from falling to a critical level within the scope of the emergency measures defined under the Electricity Network Regulation published in the Official Gazette dated 28/5/2014 and numbered 29013;

c)<sup>2</sup> Over-alerted operation: Increasing the alerting currents of synchronous compensators and /or generators in case the system voltage falls below the operating values set forth under the Electricity Network Code or the voltage setting values designated by TEİAŞ;

ç) Ministry: The Ministry of Energy and Natural Resources;

d) Chairman: Chairman of the Energy Market Regulatory Board;

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<sup>1</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>2</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

e)<sup>3</sup> Regional capacity lease: Leasing of capacities of new generation facilities and/or capacities to existing generation facilities via tenders organized by TEİAŞ, in order to maintain system reliability and to meet regional system needs that may arise due to insufficient capacity;

f) Regional load dispatch center (RLDC): The control center within TEİAŞ that monitors the generation, transmission and consumption activities pertaining to a certain region of the transmission system, and conducts the coordination and command of the operating maneuvers;

g) Distribution system operator: The distribution license holder legal entity responsible for operating of the distribution system within the boundaries of its distribution region;

ğ) Balancing: Activities carried out to keep the electricity supply and demand in balance;

h)<sup>4</sup> Balancing unit: A generation or consumption facility or part of a generation or consumption facility, which can participate in the balancing, as defined in the Electricity Market Balancing and Settlement Regulation, Published in the Official Gazette No. 27200 dated 14/4/2009;

ı) Balancing power market: Organized electricity wholesale market operated by the system operator, where the purchase and sale of the ancillary capacity obtained by way of output power change, which can be effectuated within 15 minutes, is carried out to serve the purpose of balancing supply and demand in real time;

i)<sup>5</sup> Balancing mechanism: Activities consisting of day-ahead market, intraday market and real-time balancing that are complementary to bilateral agreements and the power futures market;

j) Activation time: The duration for a generation facility to commence electricity generation by becoming synchronized with the system upon instruction;

k) Low-alerted operation: Reduction of alerting currents of synchronous compensators and/or generators in case the system voltage exceeds the operating values set forth under the Electricity Network Regulation or the voltage setting values designated by TEİAŞ;

l)<sup>6</sup> Energy deficit: The situation where the total of the purchases made within the scope of the power futures market, the day-ahead market, the intraday market and bilateral agreements, the load-shedding bid s, imports and the total amount of electricity given to the system for settlement purposes by market participants on a settlement period basis is less than the total of the sales made within the scope of the power futures market, the day-ahead market, the intraday market and bilateral agreements, the load-shedding bid s, the exports and the amount of electricity drawn from the system for settlement purposes by market participants on a settlement period basis;

m) Energy imbalance: Energy deficit or energy surplus pertaining to a market participant that is calculated based on a settlement period;

n)<sup>7</sup> Electricity storage facility: A facility that can store electricity and transmit the stored electricity to the system;

o)<sup>8</sup> Energy surplus: The situation where the total of the purchases made within the scope of the power futures market, the day-ahead market, the intraday market and bilateral agreements, the load-shedding bid s, imports and the total amount of electricity given to the system for settlement purposes by market participants on a settlement period basis is more than the total of the sales made within the scope of the power futures market, the day-ahead market, the intraday market and

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<sup>3</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>4</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>5</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>6</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>7</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>8</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

bilateral agreements, the load-shedding bids, the exports and the amount of electricity drawn from the system for settlement purposes by market participants on a settlement period basis;

ö) Energy Markets Operator Company of Turkey (EPIAŞ): The market operator that carries out the transactions pertaining to the organized electricity wholesale markets that falls within the scope of its market operating license;

p) Energy settlement: Calculation of the receivable and debt amounts arising in relation to the balancing mechanism and/or energy imbalance, and preparation of the relevant receivable-debt notifications;

r) Billing period: The period that starts at 00:00 on the first day of a calendar month and ends at 24:00 on the last day of the same month;

s) Frequency: The number of cycles per second of the alternating current in the system in Hertz;

ş) Real-time balancing: Activities carried out by the system operator via primary frequency control, secondary frequency control, balancing power market and emergency measures in order for balancing the active electricity supply and demand in real time;

t) Voltage regulator: Equipment that adjusts the output voltage of generators;

u) Intraday market: Organized electricity wholesale market where electricity is traded until the intraday market closing time;

ü) Day-ahead market: Organized electricity wholesale market operated by EPIAŞ, established for electricity purchase and sale transactions on a settlement period basis to be delivered one day later;

v) Bilateral agreements: Commercial agreements governed by private law provisions, executed between individuals and legal entities for the sale and purchase of electricity and/or capacity that are not subject to Board approval;

y) Transmission system operator: The System operator;

z)<sup>9</sup> Applicable legislation: The Laws, Presidential decrees, President's decisions, regulations, communiqués, circulars and Board regarding the electricity market;

aa) Operating reserve: Additional generation capacity that can be obtained from active units and/or inactive units that can be activated quickly and the reserves defined under the Electricity Network Regulation, in order to contribute to the correction of deviations experienced in the system frequency and maintaining the system stability;

bb)<sup>10</sup>

cc) Law: The Electricity Market Law numbered 6446;

çç) Finalized day-ahead generation/consumption program (KGÜP): The generation or consumption values of an ancillary service unit notified to the system operator;

dd) Board: Energy Market Regulatory Board;

ee) Authority: Energy Market Regulatory Authority;

ff)<sup>11</sup> National load dispatch center (NLDC): The central unit within TEİAŞ responsible for real-time balancing of electricity supply and demand and the operation of the electricity interconnected transmission system;

gg)<sup>12</sup> Organized electricity wholesale markets: The day-ahead market, the intraday market and other electricity markets, which are organized and operated by a central intermediary legal entity holding a market operating license, where electricity, capacity or retail sale and purchase

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<sup>9</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>10</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>11</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>12</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

transactions are carried out, markets operated by Borsa İstanbul Anonim Şirketi where standardized electricity contracts as capital market instruments, and derivative products based on electricity and/or capacity are traded; and electricity markets such as the balancing power market and the ancillary services market organized and operated by the TEİAŞ;

ğğ) Automatic generation control (AGC) system/interface: Equipment that enable active power output of generation facilities to be increased and decreased by automated signals sent by a central system;

hh) Recovery of an obstructed system: Energizing the transmission system through generation facilities that can be activated without the need for an external energy resource in case the transmission system is partly or fully obstructed, supplying electricity to customers, and re-activating other generation facilities;

ıı)<sup>13</sup> Payment notifications: Notifications that include detail information on payments to be made to legal entities that provide ancillary services and fees to accrue on non-performance, which form the basis of the invoices to be prepared within this scope, and made to relevant legal entities;

ii) Sampling: The process of making general judgments about the main population by examining a sample that is randomly selected from a main population, which contains less units than the main population;

jj) Performance tests: Tests performed to determine the capacities of generation and consumption facilities to provide ancillary services in accordance with the provisions of the Electricity Network Regulation;

kk)<sup>14</sup>

ll) Market participant: License holder legal entities that are defined under the relevant legislation regulating balancing and settlement procedures;

mm) Primary frequency control: Bringing of the system frequency to a new equilibrium point by automatically increasing or decreasing the active output power of the ancillary service unit in response to a decrease or increase in the system frequency;

nn) Primary frequency control reserve capacity: The entire reserve amount determined as a result of the performance tests carried out within the scope of the Electricity Network Regulation and included in the primary frequency control process supply agreements, which should be activated by the relevant ancillary service unit if a frequency deviation of  $\pm 200$  mHz occurs in the system frequency;

oo) Primary frequency control reserve amount: The reserve amount that will be provided as a primary frequency control response in line with the deviations in the system frequency of the generation facilities registered in the name of legal entities that are ancillary service market participants;

öö) Primary frequency control response: Automatic increase or decrease in the active output power of the ancillary service unit within the scope of the primary frequency control service defined under the Electricity Network Regulation, in case the system frequency increases or decreases;

pp) Primary frequency control reserve: The portion of the operating reserve that is used to keep the system frequency at normal operating values, as deemed adequate for the said operation;

rr) Reactive power control: Supply of reactive power to the system or withdrawal of reactive power from the system whilst the units are operating as a generator or synchronous compensator;

ss) Secondary frequency control module: Software components pertaining to secondary frequency control service of ASMMS;

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<sup>13</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>14</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

şş) Secondary frequency control reserve capacity: Half of the active output power amount that should be activated within the minimum and maximum limits by the relevant ancillary service unit as a result of the signals sent from the automated generation control system, which is determined as a result of the performance tests carried out within the scope of the Electricity Network Regulation and included in the participation agreements;

tt) Secondary frequency control reserve amount: Excluding the capacity reserved as primary frequency control reserve amount by the ancillary service units registered in the name of legal entities that are ancillary services market participants, the reserve amount they will provide as a secondary frequency control response;

uu) Secondary frequency control response: Automatic increase or decrease in the active output power of the ancillary service unit by signals sent from the automatic generation control system, in case the system frequency increases or decreases, within the scope of the secondary frequency control service;

üü) Secondary frequency control: Increasing or decreasing the active power output of the ancillary service units participating in this service within the scope of the Electricity Network Regulation, to the nominal value of the system frequency and the programmed value of the total electricity exchange with neighboring electricity networks, by automated signals sent by the NLDC;

vv) Secondary frequency control reserve: The portion of the operating reserve that is utilized via the automatic generation control system, as deemed adequate for the release of the primary frequency control reserve used for frequency control, return of the frequency to its nominal value and keeping the total electricity exchange with neighboring electricity networks at the programmed level;

yy) Synchronous compensation: Generation or consumption of reactive power by adjusting the alerting currents of synchronous machines that are in operation to keep the power factor in the system at the desired level;

zz) System: All user systems, including the electricity transmission system and distribution system;

aaa) System operator: Turkish Electricity Transmission Corporation;

bbb) System obstruction: The situation where the electrical system is unintentionally de-energized in full or in part;

ccc) Demand: The amount of active and reactive power to be consumed;

ççç) TEİAŞ: Turkish Electricity Transmission Corporation;

ddd) Maximum bid price: The price limit designating the highest unit price that can be bid in tenders organized for procurement of instant demand control service;

eee) Facility: The facility and/or equipment established to fulfill the functions of electricity generation, consumption, storage, transmission or distribution;

fff)<sup>15</sup>

ggg) Recovery capability: Activation of a generation facility by its own means without external supply and energization of part of the system in line with the instructions of TEİAŞ, in case of a system obstruction;

ğğğ) TÜRKAK: Turkish Accreditation Agency;

hhh) Settlement period: Each hour within a billing period;

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<sup>15</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

iii) Unit: Each generation group that can independently take and shed load, for combined cycle power plants each gas turbine and generator and the share of the steam turbine and generator that will work in tandem with the gas turbine and generator;

iii) Generation: Transformation of energy resources into electricity in generation facilities;

jjj) Legal entity engaged in generation activity: Legal entities holding electricity generation and OIZ electricity generation licenses;

kkk) Generation facility: Facilities where electricity is generated;

lll)<sup>16</sup> Ancillary services: Services that are provided in accordance with this Regulation by relevant legal entities that are connected to the transmission system or a distribution system to ensure reliable operation of the transmission or distribution system, and supply of electricity that comply with the necessary quality requirements, as set out in detail under this Regulation and the Electricity Network Regulation;

mmm)<sup>17</sup> Ancillary service agreements: Agreements specifying the ancillary services to be provided to TEİAŞ by generation companies, distribution companies, electricity storage facilities or consumers that are connected to the transmission and/or distribution system, ancillary service fees, terms and conditions, in accordance with the Electricity Network Regulation;

nnn)<sup>18</sup> Ancillary service unit: A generation, consumption or electricity storage facility or a part of a generation, consumption or electricity storage facility to be registered before ASMMS to provide ancillary services;

ooo) Ancillary service certificates: Documents issued by authorized independent companies, evidencing that facilities providing ancillary services are entitled to provide services in accordance with the provisions of the Electricity Network Regulation and this Regulation;

ööö) Ancillary services monitoring: Activities related to monitoring, observing and examining data regarding facilities and/or related equipment in order to control the commitments under ancillary service agreements;

ppp)<sup>19</sup> Ancillary service market participant: Legal entities holding generation or OIZ generation licenses that have completed the legal entity registration processes to participate in the balancing power market and legal entities that have completed the legal entity registration processes by applying to the system operator to take part in the procurement process of the ancillary services defined within the scope of this Regulation that are the owner or operator of an electricity storage facility, and legal entities who are the owner of a consumption facility;

rrr)<sup>20</sup> Ancillary Services Market Management System (ASMMS): Web-based applications that are used to carry out transactions related to the ancillary services market;

sss) Ancillary services settlement: Calculation of the receivables and debts accrued during the performance of this service for ancillary service market participants that supply ancillary services, and preparation of the relevant receivable-debt notifications;

şşş) UpReg: The situation where a balancing unit sells energy to the system by increasing its generation or decreasing its consumption, in line with the instructions given by the NLDC;

ttt) UpReg order: Notifications made to the relevant market participants by NLDC in order for market participants that participate in the balancing power market to increase load;

uuu) UpReg bid price: Unit prices demanded by market participants participating in the balancing power market to increase load;

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<sup>16</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>17</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>18</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>19</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>20</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

üüü) UpReg bid volume: Amount of increase in the generation level or decrease in the consumption level offered to be made by market participants that participate in the balancing power market with respect to the relevant balancing unit;

vvv) UpReg bid: Bids made by market participants that participate in the balancing power market in order to increase load, which include information such as price, volume and when they are applicable;

yyy) DownReg: The situation where a balancing unit offtakes energy from the system by reducing its generation or increasing its consumption, in line with the instructions given by the NLDC;

zzz) DownReg Order: Notifications made to the relevant market participants by NLDC in order for market participants that participate in the balancing power market for DownReg;

aaaa) DownReg bid price: Unit prices demanded by market participants that participate in the balancing power market for DownReg;

bbbb) DownReg bid volume: Amount of decrease in the generation or increase in the consumption offered to be made by market participants that participate in the balancing power market with respect to the relevant balancing unit;

cccc) DownReg bid : Bids made by market participants that participate in the balancing power market in order to shed load, which include information as price, volume and when they are applicable;

çççç) Loading rate: Change of output power that a generation facility can effectuate per unit time;

dddd)<sup>21</sup> Emergency: Situations that pose a threat in terms of system stability and safety within the framework of the Electricity Network Regulation and other provisions of the relevant legislation;

eeee)<sup>22</sup> Life line unit: The unit, which is specific to hydraulic power plants with reservoirs and regulators, established to obtain electricity from the life line water that needs to be released into the stream bed, which has to operate at a certain flow rate due to the purpose of the installation and cannot change its output power due to its function;

ffff)<sup>23</sup> Available capacity (AC): Maximum amount of power that can be technically given to the system, including emergencies, by a settlement delivery unit;

gggg)<sup>24</sup> EÜAŞ: Electricity Generation Corporation;

ğğğğ)<sup>25</sup> MAXC: Operating upper limit value in the automatic production control program of the auxiliary service units participating in the secondary frequency control service;

hhhh)<sup>26</sup> MINC: Operating lower limit value in the automatic production control program of the auxiliary service units participating in the secondary frequency control service;

iii)<sup>27</sup> Minimum stable production level (MSPL): The minimum active power level at which a settlement feed in feed out unit can operate continuously;

iiii)<sup>28</sup> Bidding period: The period subject to service procurement, set forth under the tender announcement announced by the system operator in the procurement processes of ancillary services;

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<sup>21</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>22</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>23</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>24</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>25</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>26</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>27</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>28</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

jjjj)<sup>29</sup> Demand-side reserve: The amount of consumption procured within the scope of the demand-side reserve service, which can be changed in line with the instructions of the system operator;

kkkk)<sup>30</sup> Demand side reserve service: Services provided by changing the consumption amount of consumption facilities that are commissioned in line with the instructions of the System Operator;

llll)<sup>31</sup> Demand-side reserve service conformity certificate: The certificate to be issued for the relevant consumption facility if it is determined according to the principles to be designated by TEİAŞ that a consumption facility wishing to participate in the procurement process for the demand-side reserve service by registering with ASMMS as an auxiliary service unit has the necessary control, measurement, monitoring, verification and communication infrastructures to provide the service;

mmmm)<sup>32</sup> Ancillary services market: The organized electricity market operated by the system operator, where ancillary services defined in this Regulation are procured;

nnnn)<sup>33</sup> Transfer of obligation by special order: The transfer of the reserve obligations undertaken by the ancillary service market participants selected as a result of the procurement process of the frequency control services defined within the scope of this Regulation; via the transfer platform through a special agreement with the transferring and transfer recipients;

oooo)<sup>34</sup> Obligation transfer platform: Internet-based interface that is operated by the system operator within the scope of ASMMS and enables market participants participating in frequency control service to transfer their obligations within the limits set forth under this Regulation.

(2) Other expressions and abbreviations used but not defined under this Regulation shall have the meanings and scope attributed to them under the relevant legislation.

## CHAPTER TWO

### General Principles Regarding Supply of Ancillary Services and Registration Rules

#### Ancillary services and supply of ancillary services

**ARTICLE 5** – (1) Ancillary services comprise of the services used by the system operator and defined under the Electricity Network Regulation in order to ensure the operational safety and integrity of the system.

(2)<sup>35</sup> Supply of ancillary services covers provision of ancillary services required by the system operator to TEİAŞ by legal entities that are ancillary service market participants capable of providing such services, determination by TEİAŞ of the facilities and/or legal entities from which such services will be procured, execution of ancillary service agreements where necessary, as well as the activities carried out by TEİAŞ for execution of the receivable and debt transactions arising out of these transactions and the administrative procedures required for these activities.

#### General principles regarding the supply of ancillary services

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<sup>29</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>30</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>31</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>32</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>33</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>34</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>35</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.



**ARTICLE 6<sup>36</sup>** –1) TEİAŞ shall provide the ancillary services to ensure the operation of the transmission system in line with the criteria set forth under the Electricity Network Regulation regarding supply quality and operating conditions, and by taking into consideration the technical requirements, transmission system constraints and regional requirements, in a manner that will ensure the operational safety and integrity of the system, minimize the costs related to the supply of ancillary services and without discrimination among equal parties.

#### **Duties, powers and obligations of the parties**

**ARTICLE 7<sup>37</sup>** – (1) TEİAŞ shall carry out the following duties within the framework of its powers and obligations regarding the supply of ancillary services:

a) Identifying the ancillary service needs that will ensure the operation of the system in line with the supply quality and operating conditions set forth under the Electricity Network Regulation, while maintaining the operational safety and integrity of the system;

b) Fulfillment of the required duties in order to procure the ancillary services identified to be necessary in accordance with the provisions of this Regulation;

c) Participation in the performance tests of the facilities that will provide ancillary services for supervision and inspection purposes;

ç) Monitoring by TEİAŞ the ancillary services provided by legal entities according to the provisions of this Regulation;

d) Calculation and payment of debt amounts in relation to ancillary services provided by legal entities;

e) Implementing the required sanctions within the framework of the provisions of this Regulation against individual/legal entities who have the obligation to provide ancillary services but do not fulfill this obligation, and ensuring that the said situation is reported to the Authority;

f) Preparing and publishing reports to be requested by the Authority regarding the ancillary services procured.

(2) Legal entities that have the obligation to provide ancillary services in accordance with the relevant legislation and/or the ancillary service agreement they executed with TEİAŞ, shall carry out the following duties regarding the supply of ancillary services:

a) Fulfillment of ancillary services in accordance with the provisions of the relevant legislation and ancillary service agreements;

b) Ensuring that the performance tests regarding the ancillary service to be offered, excluding the secondary frequency control service, are carried out by authorized independent companies, and the secondary frequency control performance tests are carried out by the relevant unit of TEİAŞ;

c) Procuring the equipment required for the monitoring of ancillary services and making them operational;

ç) Providing the data, information and documents to be requested by TEİAŞ regarding the provision of ancillary services;

d) In case of failure to fulfill the obligations related to provision of ancillary services, paying the non-performance penalties in full and on time.

#### **Principles regarding certification of ancillary services**

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<sup>36</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>37</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

**ARTICLE 8<sup>38</sup>** – (1) Legal entities that have undertaken the obligation to provide ancillary services within the scope of ancillary service agreements or as a result of the procurement process, or that assume such obligation by way of transfer from legal entities tasked with such service, or that wish to provide such service, shall certify with a certificate to be submitted to TEİAŞ that their facilities, where they intend to provide ancillary services other than secondary frequency control service and regional capacity leasing service, are capable of providing the relevant ancillary service,. Legal entities shall certify that their facilities, where they intend to provide secondary frequency control service, are capable of providing this service, with a standard secondary frequency control performance test report approved by TEİAŞ as a result of the performance tests to be carried out by the relevant unit of TEİAŞ.

(2) Legal entities participating in the ancillary service market shall submit to TEİAŞ the ancillary service certificates prepared for the active ancillary service units, the secondary frequency control performance test report, before they start supplying the relevant ancillary service, at the stage of the procurement process for the relevant ancillary service as specified under this Regulation or within the framework of the terms of the ancillary service agreement.

(3) If it is determined, as a result of the monitoring or controls performed by TEİAŞ, that a facility providing ancillary services does not provide the relevant service within the framework of the principles set forth under the ancillary services agreement, TEİAŞ may request the renewal of the ancillary service certificate and/or the secondary frequency control performance test report pertaining to the relevant facility together with payment of the non-performance penalty. If requested by TEİAŞ, individuals/legal entities must renew the certificate and/or the secondary frequency control performance test report with respect to provision of the relevant ancillary service within 2 months. An existing ancillary service certificate and/or secondary frequency control performance test report shall be deemed invalid and the relevant ancillary service cannot be procured from such facility, throughout the period starting from TEİAŞ's request to renew the secondary frequency control performance test report and/or the ancillary service certificate, until the date that the legal entity participating in the ancillary service market submits the renewed secondary frequency control performance test report and/or ancillary service certificate to TEİAŞ.

(4) Legal entities providing ancillary services may request their ancillary service performance tests to be updated before their ancillary service certificate and/or the secondary frequency control performance test report expires. In this case, the unit parameters obtained as a result of the updated performance tests and the unit parameters obtained as a result of other ancillary service tests must be compatible. Otherwise, TEİAŞ may request that certificates regarding other ancillary services and/or the secondary frequency control performance test report of the relevant facility to be renewed.

(5) Ancillary service certificates and secondary frequency control performance test report shall be based on the performance tests regulated under the Electricity Network Regulation. The service parameters determined as a result of the performance tests related to the relevant ancillary service unit intending to provide ancillary service shall be set forth under the relevant ancillary service certificate or in the secondary frequency control performance test report.

(6) Ancillary service certificates shall be issued by companies that have obtained a certificate of conformity to perform ancillary services performance tests from TÜRKAK or accreditation agencies that have a mutual recognition agreement in place with TÜRKAK, and are accredited as a Type A inspection institution in accordance with TS EN ISO IEC 17020 standard. The generation or electricity storage facilities certified by inspection institutions and the information, including

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<sup>38</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

but not limited to, the technical features set forth under these facilities' certificates, shall also be notified to TEİAŞ by the said inspection institution within 30 days from the issuance of the certificate.

(7) Legal entities intending to provide ancillary service is responsible for the execution of the performance tests related to the relevant ancillary service through accredited companies and the secondary frequency control performance test related to the secondary frequency control service through the relevant unit of TEİAŞ, as well as the submission of the said ancillary service certificate and/or secondary frequency control performance test report to TEİAŞ. Performance tests related to the relevant ancillary service shall be carried out under the supervision of TEİAŞ.

### **Monitoring, control and examination of ancillary services**

**ARTICLE 9**<sup>39</sup> – (1) TEİAŞ shall be obliged to monitor and control the ancillary services provided in accordance with the Electricity Network Regulation. Monitoring and control of ancillary services provided by legal entities shall be carried out by TEİAŞ in line with the technical requirements set forth under the Electricity Network Regulation and within the framework of the procedures and principles set forth under this Regulation.

(2) The facilities intending to provide ancillary service shall be monitorable in a manner that complies with the features defined under the Electricity Network Regulation for the relevant service. Legal entities providing ancillary services shall be obliged to procure the software and hardware required for establishing a connection in order to exchange data with TEİAŞ's monitoring system.

### **Legal entity registration application of ancillary service market participants**

**ARTICLE 10** – (1) If legal entities that hold a generation or OIZ generation license have completed the legal entity registration procedures to participate to the balancing power market, it is deemed sufficient in terms of becoming an ancillary service market participant.

(2)<sup>40</sup> Legal entities that own and/or operate an electricity storage facility and legal entities that owns a consumption facility can register as an ancillary service market participant by applying to the system operator together with the documents set forth under the third paragraph.

(3) Legal entities set forth under the second paragraph shall apply for legal entity registration by hand delivering the following documents to the Market Operator together with a cover letter, after entering the information pertaining to their legal entities into ASMMS for approval;

- a) Legal entity registration form;
- b)<sup>41</sup> Authorization documents and trade registry registration certificate of individuals that have signed the documents or their powers of attorney;
- c) Copy of the trade registry gazette evidencing the incorporation of the legal entity;
- ç) Document evidencing that they have executed a central settlement bank ancillary service market participant agreement.

(4) Ancillary service market participants shall enter the information regarding their legal entities into ASMMS for approval. Registration applications of market participants who do not have their legal entity information in ASMMS for approval shall not be processed and this situation shall be notified in writing to the relevant ancillary service market participant. The registration

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<sup>39</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>40</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>41</sup> Amended pursuant to the Regulation in the Official Gazette dated 1 April 2021 and numbered 31441.

process shall commence following the entry of the legal entity information of the market participants into ASMMS for approval.

#### **Ancillary service units and registration rules**

**ARTICLE 11** – (1)<sup>42</sup> Ancillary services market participants intending to participate in the supply of ancillary services shall define the ancillary service units they will use for this purpose and register them in their own name, following legal entity registration.

(2)<sup>43</sup> Each of the following, which can be independently measured on a settlement period basis with meters that are installed in line with the provisions of the relevant legislation or by other means approved by TEİAŞ, shall be entitled to register as an ancillary service unit:

a) Generation facilities registered as a balancing unit in accordance with the Electricity Market Balancing and Settlement Regulation with a total licensed installed capacity above 30 MW and that are connected to the transmission system or units pertaining to these generation facilities;

b) Consumption facilities whose electricity consumption is above the level set forth under the tender announcement and that can be automatically deactivated through instant demand control relays, whose participation is approved by the System Operator and consumer facilities whose electricity consumption is above the minimum limit designated by a Board decision and that have a certificate of conformity issued by TEİAŞ within the scope of demand-side reserve service;

c) Electricity storage facilities.

(3) Each ancillary service unit set forth under the first and second paragraphs can be registered in the ancillary service settlement account of only one ancillary service market participant. During the registration of ancillary service units, these units shall be registered in the name of an ancillary service market participant whose legal entity registration is already complete. Otherwise, the ancillary service unit shall not be registered.

### **CHAPTER THREE Primary Frequency Control**

#### **Principles regarding the supply of primary frequency control service**

**ARTICLE 12**<sup>44</sup> – (1) Primary frequency control reserve to be provided by ancillary service units certified in accordance with Article 8 shall either be provided directly as a result of the procurement process carried out by TEİAŞ and regulated under this Regulation or by the relevant ancillary service units as a result of assumption of obligations by way of transfer.

(2) Ancillary service market participants cannot offer the reserves they have reserved for primary frequency control set forth under the first paragraph to another market within the scope of the balancing mechanism or sell them via bilateral agreements. If it is determined that an ancillary service market participant who has an obligation within the scope of primary frequency control service, has offered the primary frequency control reserve it is obliged to separate from its available capacity to the balancing power market, via its settlement feed in feed out unit it has notified to TEİAŞ in order to provide service; the obligation shall be deemed non- fulfilled and a non- fulfillment fee as per Article 30 shall be applied to the relevant ancillary services market participant.

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<sup>42</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>43</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>44</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

(3) Capacity fee determined in accordance with the provisions of the Regulation shall be paid to the ancillary service market participants that provide primary frequency control service. The energy deficit or surplus that may arise due to provision of primary frequency control service shall be assessed within the scope of energy imbalance within the framework of the provisions of the Electricity Market Balancing and Settlement Regulation.

### **Procurement process of primary frequency control reserve**

**ARTICLE 13** – (1) The process by which the primary frequency control reserve volume is to be procured shall comprise of the following steps:

a) TEİAŞ shall announce the schedule for the procurement process.

b) TEİAŞ shall designate the range including the minimum and maximum volumes of primary frequency control reserve that the system is anticipated to require within the procurement period to be covered by the procurement process, within the framework of the principles set forth under the Electricity Network Regulation, and announce the same via ASMMS in accordance with the announced schedule.

c) Ancillary service market participant legal entities that have an ancillary service unit registration certified pursuant to Article 8 in the ancillary service settlement account and that have executed a participation agreement for the primary frequency control reserve procurement process, shall submit bids per the announcements to be published by TEİAŞ in accordance with the schedule for the relevant procurement period in order to provide primary frequency control service for the relevant procurement period as to which an announcement is made.

ç) In accordance with the announced process schedule, TEİAŞ shall select bids in the amount of the primary frequency control reserve amount anticipated to be required by the system for each settlement period within the supply period, in view of the order of bid prices, and shall notify all bidders accordingly.

d) Legal entity bidders that are selected as a result of the procurement process and notified accordingly shall be deemed to have undertaken to fulfill the primary frequency control reserve supply service in accordance with the participation agreements they have executed for the primary frequency control reserve procurement process.

e)<sup>45</sup> Ancillary service market participant legal entities that are selected as a result of the procurement process and that have executed a participation agreement for the primary frequency control reserve procurement process, shall inform the system operator via ASMMS at least one hour prior to the hour the reserve is to be provided, of the ancillary service units registered under their name by which they will provide the reserve they have undertaken to provide, and the primary frequency control reserve amount they will provide on an ancillary service unit basis.

f)<sup>46</sup> Legal entities selected as a result of the procurement process shall provide primary frequency control service within the framework of the terms specified in the Electricity Network Regulation, by keeping available the primary frequency control reserve amount that they have undertaken in the relevant procurement period. Selected legal entities shall be responsible to ensure that the ancillary service units notified by them to provide the primary frequency supply reserve amount are at the required operating level, and shall ensure that they maintain their operating level except for the load taking (YAL) and load shedding (YAT) instructions they have received within the scope of the balancing power market or the finalized daily generation schedule (KGÜP) changes.

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<sup>45</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>46</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

g) The bids submitted by legal entities participating in the ancillary service market, that have submitted bids to provide primary frequency control service but were not be selected, shall be deemed valid during the procurement period in which the service is to be provided, unless the bidder notifies TEİAŞ otherwise. Legal entities that fall within this scope shall also be deemed to have undertaken the primary frequency control reserve supply service to be notified to them in accordance with the paragraph below, in line with the participation agreements they have executed for the primary frequency control reserve procurement process.

ğ) In case a need for additional primary frequency control reserve volume arises, other than the primary frequency control reserves to be obtained from legal entities designated by the procurement process, in any settlement period within the relevant procurement period in which the primary frequency control service is to be procured, the following steps shall be followed for supplying the primary frequency control reserve to be procured from legal entities participating in the ancillary service market in accordance with sub-paragraph (g):

1)<sup>47</sup> TEİAŞ shall choose the additional primary frequency reserve control volume from among bidders whose bids are valid in accordance with subparagraph (g), which are listed in the price order in the primary frequency control capacity procurement process carried out for the relevant supply period, by taking into account the system constraints and by ensuring the lowest possible cost and shall notify the relevant bidders. It is the responsibility of the legal entities that are registered in the ancillary service settlement account of the relevant ancillary service unit to maintain the required level of operation of the ancillary service units and give a primary frequency control response in order to provide the primary frequency control reserve amount notified to them for the relevant settlement period.

2)<sup>48</sup> If the bidders, whose bids are listed in the order of prices during the primary frequency control capacity procurement process and whose bids are valid in accordance with subparagraph (g), wish to increase or decrease the offered primary frequency control reserve amount according to the condition of the operating level they are in, they shall do so at least 2 hours prior to the delivery time. In case the amount is increased, the reserve capacity shall be increased over the lowest of the participant's current primary reserve offer price levels. In case the amount is decreased, the reserve amount shall be reduced starting from the highest offer price level of the primary reserve capacity. An ancillary services market participant who has not updated or canceled its additional reserve offer and has a valid offer for the additional reserve procurement process, and although it is its turn to be selected by TEİAŞ in the additional reserve procurement process within the relevant hour; if additional reserve cannot be procured from it because the working level of the ancillary service units registered on its behalf are not suitable and/or the ancillary service units are disabled due to malfunction and similar reasons, it shall be deemed that the said market participant has not performed the service for the relevant hour, and sanctions shall be imposed upon it pursuant to Article 30.

h)<sup>49</sup> In case ancillary service market participant legal entities selected as a result of the procurement process are unable to meet or opt not to meet the primary frequency control reserve amount they shall provide via the ancillary service units registered in their name, the relevant legal entities may transfer their obligations within the framework of Article 17. Additional primary frequency control reserve obligations to be provided in accordance with the provisions of this Regulation are non-transferrable.

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<sup>47</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>48</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>49</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

1) The ancillary service market participants, that have assumed obligations as a result of the primary frequency control reserve procurement process or a transfer within the scope of Article 17, shall keep available a capacity in the primary frequency control reserve volume corresponding to the said obligation on the basis of the notified ancillary service unit, and shall participate in primary frequency control by providing a primary frequency control response in accordance with the relevant provisions of the Electricity Network Regulation.

(2) All transactions regarding the primary frequency control reserve procurement process shall be carried out through ASMMS.

(3) <sup>50</sup>In case all or a part of the additional primary frequency control reserve requirement cannot be procured following the additional reserve procurement process carried out by TEİAŞ in accordance with the sub-clause (2) of item (ğ) of the first paragraph; By announcing the required additional reserve amount on the Obligation Transfer Platform, TEİAŞ may procure the required amount via the platform, 2 (two) hours prior to the hour that reserve is to be provided at the earliest, in line with the Principles and Procedures for Operating the Obligation Transfer Platform.

### **The structure and content of bids for providing primary frequency control reserve**

**ARTICLE 14** – (1) Legal entities that are ancillary service market participants that are willing to provide primary frequency control reserve from the ancillary service units registered in their name, shall notify TEİAŞ through ASMMS on a legal entity basis, of their bids related to the primary frequency control reserve volumes they are willing to provide, which are to be valid for the following procurement period, in accordance with the procurement process set forth under Article 13.

(2) Legal entities participating in the ancillary service market shall submit their bids for the amounts they wish to supply as primary frequency control reserve, as hourly capacity fee in TL/MW.

(3) Technical requirements pertaining to the procurement process to be carried out for provision of primary frequency control reserve and other procedures and principles shall be announced by TEİAŞ on ASMMS in accordance with the procurement process schedule.

(4) Generation facilities that have the obligation to provide primary frequency control reserve within the framework of special agreements set forth under provisional Article 1 shall comply with the provisions to be published by TEİAŞ prior to the procurement process.

### **Evaluation of primary frequency control reserve bids**

**ARTICLE 15** – (1) Evaluation of primary frequency control reserve bids submitted as a part of the procurement process carried out pursuant to Article 13 shall be performed via ASMMS, from the cost resulting out of the procurement process, by taking into consideration the transmission system constraints, technical constraints related to generation facilities, and in a manner as to ensure operational security and system integrity and to minimize the primary frequency control cost,

### **Participation agreements for the primary frequency control reserve procurement process**

**ARTICLE 16** – (1) Ancillary service market participant legal entities intending to participate in the primary frequency control service procurement process shall apply to TEİAŞ before the first

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<sup>50</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

procurement process they wish to participate in, and execute the participation agreement for the primary frequency control reserve procurement process.

(2) The standard agreement regulating the obligations regarding participation in the primary frequency control service procurement process shall be prepared by the System Operator and submitted to the Authority for approval.

(3)<sup>51</sup> Primary frequency control reserve capacities of ancillary services market participants in MW, which are included in the primary frequency control ancillary service certificates of the ancillary service units registered in the settlement accounts of the ancillary service market participants and designated as a result of the primary frequency control performance tests, and the technical characteristics of these units shall be annotated to the primary frequency control reserve procurement process participation agreements the market participants execute with TEİAŞ.

### **Transfer of primary frequency control reserve obligation**

**ARTICLE 17 – (1)** <sup>52</sup> Legal entities participating in the ancillary service market as a result of the procurement process carried out by TEİAŞ may provide all or a part of the primary frequency control reserve they are obliged to provide from another ancillary services market participant that has a valid primary frequency control ancillary service certificate and have an ancillary service unit in line with the technical parameters set forth under its certificate. Obligation transfer shall be made via the Obligation Transfer Platform within the scope of ASMMS. The obligations towards TEİAŞ of the ancillary services market participant who transferred its obligations shall be fulfilled by the legal entity that has taken over the obligation.

(2) <sup>53</sup>

(3) <sup>54</sup>

(4)<sup>55</sup> Primary frequency control reserve obligations set forth under subparagraph (g) of first paragraph of Article 13 cannot be transferred.

(5)<sup>56</sup> Obligation transfer transactions must be completed no later than 90 (ninety) minutes prior to the time the reserve is to be provided.

(6)<sup>57</sup> The legal entity that has taken over a primary frequency control reserve obligation may transfer the primary frequency control reserve obligation that it has taken over.

(7)<sup>58</sup> Legal entities involved in an obligation transfer transaction by participating to the Obligation Transfer Platform shall be deemed to have accepted the Procedures and Principles for the Operation of the Obligation Transfer Platform and shall be obliged to comply with these Procedures and Principles.

### **Determination of primary frequency control capacity fee**

**ARTICLE 18 – (1)** <sup>59</sup> The highest bid price determined as a result of the procurement process conducted, shall be determined as the hourly capacity fee (TL/MW) to be paid to all ancillary

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<sup>51</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>52</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>53</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>54</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>55</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>56</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>57</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>58</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>59</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.



service market participant legal entities providing primary frequency control service, which are selected and notified in accordance with sub-paragraph (ç) of the first paragraph of Article 13.

(2) The hourly capacity fee (TL/MW) offered by the ancillary service market participants providing primary frequency control service, which are selected in accordance with sub-paragraph (g) of the first paragraph of Article 13, shall be paid to these ancillary service market participants.

(3) The payment calculated pursuant to Article 19, based on the capacity fee determined per the total time and volume in which the primary frequency control reserve volume is provided, shall be made to the ancillary service market participant legal entities that supply primary frequency control reserve in accordance with Article 13.

### **Pricing of primary frequency control service**

**ARTICLE 19** – (1) The primary frequency control reserve amount to be paid for an invoice period to legal entities participating in the ancillary service market that has provided primary frequency control reserve supply service in accordance with sub-paragraphs (ç) and (g) of the first paragraph of Article 13 shall be calculated according to the following formula:

$$PFKT_{f,p} = \sum_{y=1}^k \left( \sum_{s=1}^m (PRM_{f,p,y,s} \times PKB_{f,s} \times KS_{p,f,y,s}) \right)$$

(2)<sup>60</sup> The expressions used in the formula set out above shall have the following meanings:

a) PFKT<sub>f, p</sub>: Amount of receivables (TL) to be accrued due to the total primary frequency control reserve amount provided by the legal entity “p” that is an ancillary service market participant, in the billing period “f”, within the framework of the obligation undertaken pursuant to Article 13;

b) PRM<sub>f, p, y, s</sub>: Primary Frequency Control Reserve volume (MW) provided by the ancillary service unit “y”, that the legal entity “p” is obliged to supply in the hour “s” of the billing period “f”;

c) The hourly Primary Frequency Control Capacity Fee to be designated pursuant to Article 18 and be applied to the ancillary service market participant for the hour “s” of the billing period “f” within the framework of the obligation it has undertaken in accordance with subparagraph (ç) of the first paragraph of Article 13 or the hourly Primary Frequency Control Capacity Price (TL / MW) offered by the relevant ancillary service market participant for the additional reserves procured within the scope of subparagraph (g) of first paragraph of Article 13;

ç) K<sub>Sp,f,y</sub>: The Participation Coefficient determined as “1” in case it is determined that the ancillary service is provided within the framework of Article 29 for the hour “s” of the invoice “f” period, that is registered in the name of the legal entity “p” within the scope of the obligation undertaken pursuant to Article 13 or provided by an “y” ancillary service unit registered in the name of another legal entity as a result of transfer of obligation pursuant to Article 17, and “0” in other cases;

d) m: the number of hours in the billing period “f”;

e) k: The number of ancillary service units registered in the name of the legal entity “p”, an ancillary service market participant or by a “y” ancillary service unit registered in the name of another legal entity through the transfer of obligation from the legal entity “p” within the scope of Article 17.

(3) The coefficient of participation in primary frequency control mentioned in the first and second paragraphs is designated in accordance with Article 29.

<sup>60</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

## **CHAPTER FOUR**

### **Secondary Frequency Control**

#### **Supply principles of secondary frequency control service**

**ARTICLE 20** – (1) Secondary frequency control reserve to be provided by the ancillary service units certified in accordance with Article 8 shall be provided by the relevant ancillary service units as a result of assuming the obligations directly or by transfer at the end of the procurement process set forth under this Regulation carried out by TEİAŞ, within the framework of the procedures and principles regulated under this Regulation.

(2) Capacity fee determined in accordance with the provisions of the Regulation shall be paid by TEİAŞ to the ancillary service market participants that provide secondary frequency control service. The energy deficit or surplus resulting from the provision of secondary frequency control service shall be considered as energy imbalance within the scope of the provisions of the Electricity Market Balancing and Settlement Regulation.

(3)<sup>61</sup> Ancillary service market participants cannot offer the reserves they have reserved for the secondary frequency control set forth under the first paragraph to another market within the scope of the balancing mechanism or sell them via bilateral agreements. If it is determined that a settlement withdrawal unit that has an obligation within the scope of secondary frequency control service has offered the secondary frequency control reserve, which it is obliged to allocate from its available capacity, to the balancing power market, the obligation of the relevant ancillary service market participant shall be deemed not fulfilled and, non-fulfillment fee shall be applied according to Article 31.

#### **Procurement process of secondary frequency control reserve**

**ARTICLE 21** – (1) The process by which the amount of secondary frequency control reserve will be supplied shall consist of the following steps:

a) TEİAŞ shall publish the schedule for the procurement process.

b) TEİAŞ shall determine the interval that includes the minimum and maximum values of the secondary frequency control reserve that is anticipated to be required by the system during the procurement period to be covered by the procurement process, in accordance with the principles set forth under the Electricity Network Regulation, according to the settlement periods and shall announce it to the ancillary service market participant legal entities via ASMMS in accordance with the procurement schedule. If deemed necessary, TEİAŞ may carry out different procurement processes for each section by dividing the required amount of the secondary frequency control reserve into sections with different technical features.

c) Legal entities participating in the ancillary service market who have ancillary service unit registration documented pursuant to the Article 8 in their ancillary service settlement accounts, shall submit bids on an ancillary service basis in accordance with the announcement to be made by TEİAŞ in accordance with the schedule for the relevant procurement period, in order to provide secondary frequency control service for the relevant announced procurement period.

ç) In accordance with the announced procurement schedule, TEİAŞ shall, by taking into consideration the price order of the bids, select the amount of the secondary frequency control

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<sup>61</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

reserve that the system will require for each settlement period of the procurement period and shall notify all bidders.

d) The bidder legal entities selected as a result of the procurement process and notified, shall be deemed to have undertaken to fulfill the secondary frequency control supply service in accordance with the secondary frequency control reserve procurement process participation agreements they have signed.

e)<sup>62</sup> Ancillary services market participant legal entities that are registered in the settlement accounts as a result of the procurement process shall provide secondary frequency control service within the framework of the conditions specified in the Electricity Network Regulation by keeping the reserve amount of the secondary frequency control that they have undertaken during the procurement period available. Legal entities that own the selected ancillary service units may update the secondary reserve amount they will provide from the ancillary service units until 1 (one) hour prior to the hour that the service will be provided. It is the responsibility of the ancillary service unit owner legal entities to ensure that the selected ancillary service units are at the required operating level in order to provide the reserve amount for the relevant settlement period and to maintain their operating level, except for the YAL and YAT instructions or KGÜP changes they have received within the scope of the balancing power market.

f) Bids submitted by legal entities that are ancillary service market participants who have submitted bids to provide secondary frequency control service but were not selected shall be deemed valid throughout the supply period in which the service is to be provided, unless the said bidder notifies TEİAŞ otherwise. Legal entities that fall within this scope shall be deemed obliged to fulfil the secondary frequency control reserve supply service to be notified to them in accordance with the following paragraph in line with the secondary frequency control reserve procurement process participation agreements that they have signed.

g) In any settlement period of the relevant procurement period, where the secondary frequency control service will be provided, in case the sum of the reserve amount of the secondary frequency controls to be provided from the ancillary service units determined by the procurement process is insufficient and/or if there is a need for additional secondary frequency control reserve amount, the following steps shall be carried out for the secondary frequency control reserve procurement to be fulfilled by legal entities participating in the ancillary service market that have signed a framework secondary frequency control reserve supply agreement in accordance with subparagraph (f):

1) TEİAŞ shall control the final day-ahead generation programs of the bidders whose bids are valid in accordance with subparagraph (f), which are listed in the price order during the secondary frequency control capacity procurement process carried out for the relevant procurement period, and shall choose all or part of the additional reserve amount of the secondary frequency control from the ancillary service units whose operating level is suitable to provide secondary frequency control reserve, by taking transmission system constraints into account, and shall notify the relevant bidders. It is the responsibility of the legal entities that are registered in the ancillary service settlement account of the relevant ancillary service unit to ensure that the selected ancillary service units, are at the required operating level to provide the reserve amount of the secondary frequency control notified to them for the relevant settlement period and provide a secondary frequency control response.

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<sup>62</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

2) <sup>63</sup>If the bidders, whose bids are listed in the order of prices in the secondary frequency control capacity procurement process carried out for the relevant procurement period and whose bids are valid in accordance with subparagraph (f), wish to increase or decrease the secondary frequency control reserve amount according to the condition of the operating level they are in, they shall do so at least 2 hours prior to the delivery time. In case the amount is increased, the reserve capacity shall be increased over the lowest of the participant's current secondary reserve offer price levels. In case the amount is decreased, the reserve amount shall be reduced, starting with the highest offer price level of the secondary reserve capacity. An ancillary services market participant who has not updated or canceled its additional reserve offer and has a valid offer for the additional reserve procurement process, and although it is its turn to be selected by TEİAŞ in the additional reserve procurement process within the relevant hour; if additional reserve cannot be procured from it because the working level of the ancillary service unit's registered on its behalf are not suitable and/or ancillary services units are out of service and similar reasons, it shall be deemed that the said market participant has not performed the service for the relevant hour and sanctions shall be imposed upon it pursuant to Article 31.

ğ) <sup>64</sup>In the event that legal entities participating in the ancillary service market selected as a result of the procurement process cannot or opt not to meet the reserve amount of the secondary frequency control they are obliged to provide from the ancillary service units registered in their name, the relevant legal entities may transfer their obligations pursuant to the provisions of Article 25. Additional secondary frequency control reserve obligations provided in accordance with provisions of this Regulation cannot be transferred.

h) Legal entities participating in the ancillary service market that have undertaken the obligation to provide secondary frequency control reserve as a result of the secondary frequency control reserve procurement process or have taken over the obligation via transfer within the scope of Article 25, must participate in the secondary frequency control, in line with the relevant provisions of the Electricity Network Regulation, by giving a secondary frequency control response, and must keep the capacity as much as the reserve amount of the secondary frequency control corresponding to this obligation available on the basis of ancillary service unit.

(2) All transactions regarding the secondary frequency control reserve procurement process shall be carried out through ASMMS.

(3) <sup>65</sup>In the event that all or part of the additional secondary frequency control reserve requirement cannot be procured after the additional reserve procurement process carried out by TEİAŞ in accordance with sub-clause (2) of item (g) of the first paragraph; by announcing the required additional reserve amount on the Obligation Transfer Platform, TEİAŞ may procure the required amount on the platform, 2 (two) hours before the reserve is to be provided at the earliest, in line with the Principles and Procedures for the Operation of the Obligation Transfer Platform.

### **Structure and content of bids for providing secondary frequency control reserve**

**ARTICLE 22** – (1) Legal entities qualified as ancillary service market participants who are willing to provide secondary frequency control reserve from the ancillary service units registered in their names shall notify TEİAŞ on the basis of ancillary service unit via ASMMS in accordance with the procurement process set forth under Article 21 regarding the reserve amount of the

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<sup>63</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>64</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>65</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

secondary frequency controls that can be realized by the relevant ancillary service unit to be valid for the following procurement period.

(2) Legal entities participating in the ancillary service market shall submit their bids for the amounts they want to supply as secondary frequency control reserve in TL/MW as an hourly capacity fee.

(3) Technical requirements related to the procurement process to be carried out regarding the provision of secondary frequency control reserve and other procedures and principles shall be announced by TEİAŞ on ASMMS in accordance with the procurement process schedule.

(4) Generation facilities that are obliged to supply secondary frequency control reserve within the scope of special agreements pursuant to the Provisional Article 1 must comply with the terms to be published by TEİAŞ prior to the procurement process.

### **Evaluation of secondary frequency control reserve bids**

**ARTICLE 23** – (1) Evaluation of the secondary frequency control reserve bids shall be carried out in accordance with Article 21, via ASMMS over the cost resulting out of the procurement process in a way to ensure operational safety and system integrity and minimize secondary frequency control cost; by considering the transmission system constraints and technical constraints regarding generation facilities.

### **Secondary frequency control reserve procurement process participation agreements**

**ARTICLE 24** – (1) Legal entities participating in the secondary service market that would like to participate in the secondary frequency control service procurement process shall apply to TEİAŞ before the first procurement process they would like to participate and shall sign the secondary frequency control reserve procurement process participation agreement.

(2) The standard agreement that includes the obligations regarding participation in the procurement process of the secondary frequency control service shall be prepared by the system operator and submitted to the Authority for approval.

(3) The ancillary service units registered in the name of the relevant legal entity which will be included within the agreement, the secondary frequency control reserve capacities that the generation facilities can provide in MW designated as a result of the secondary frequency control performance tests, and the technical characteristics of these units shall be annotated to the secondary frequency control reserve procurement process participation agreements to be signed between ancillary service units to be included in the scope of the agreement and legal entities participating in the ancillary service market registered in the settlement accounts and TEİAŞ.

### **Transfer of secondary frequency control reserve obligation**

**ARTICLE 25** – (1)<sup>66</sup> Legal entities participating in the ancillary service market as a result of the procurement process carried out by TEİAŞ may provide all or a part of the secondary frequency control reserve they are obliged to provide from another legal entity that has a valid secondary frequency control performance test report and have an ancillary service unit in line with the technical parameters set forth under such report, or from another ancillary service unit that is registered to their ancillary service settlement accounts. Obligation transfer shall be made via the Obligation Transfer Platform within the scope of ASMMS. The obligations towards TEİAŞ of the ancillary services market participant who transferred its obligations shall be fulfilled by the legal entity that has taken over the obligation.

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<sup>66</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

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(3) Secondary frequency control reserve obligations provided in accordance with subparagraph (f) of the first paragraph of Article 21 cannot be transferred.

(4)<sup>68</sup> Obligation transfer transactions must be completed at least 90 (ninety) minutes before the reserve is to be provided.

(5)<sup>69</sup> A legal entity that has taken over a secondary frequency control reserve obligation may transfer that secondary frequency control reserve obligation again.

(6)<sup>70</sup> Legal entities involved in the transfer of obligations by participating in the Obligation Transfer Platform shall be deemed to have accepted the Procedures and Principles Regarding the Operation of the Obligation Transfer Platform and shall be obliged to comply with these Procedures and Principles.

### **Determination of secondary frequency control capacity cost**

**ARTICLE 26** – (1) The highest bid price determined as a result of the procurement process carried out shall be designated as the hourly capacity fee (TL/MW) to be paid to all legal entities engaged in generation activity providing secondary frequency control service selected and notified in accordance with subparagraph (ç) of the first paragraph of Article 21.

(2) Hourly capacity fee (TL/MW) they bade shall be paid to the ancillary service market participants which are selected in accordance with subparagraph (f) of the first paragraph of Article 21 and that provide secondary frequency control service.

(3) In accordance with Article 21, ancillary service market participant legal entities that provide secondary frequency control reserve shall receive a payment calculated in accordance with Article 27 over the capacity fee designated for the total time and amount they provide the secondary frequency control reserve amount.

### **Pricing of secondary frequency control service**

**ARTICLE 27** – (1) In line with sub-paragraphs (ç) and (f) of the first paragraph of Article 21, the reserve amount of the secondary frequency control to be paid as a capacity fee for a billing period to legal entities participating in the secondary service market that has provided secondary frequency control reserve supply service shall be calculated according to the following formula:

$$SFKT_{f,p} = \sum_{y=1}^k \left( \sum_{s=1}^m (SRM_{f,p,y,s} \times SKB_{f,s} \times KS_{p,f,y,s}) \right)$$

(2)<sup>71</sup> The expressions used in the formula set out above shall have the following meanings:

a) SFKT<sub>f, p</sub>: The amount of receivable (TL) to be accrued due to the total reserve amount of the secondary frequency control provided by the legal entity "p", which is an ancillary service market participant in the billing period "f", within the framework of the obligation undertaken pursuant to Article 21;

b) SRM<sub>f, p, y, s</sub>: the secondary frequency control reserve amount (MW) provided by the "y" ancillary service unit of the legal entity "p" for the hour "s" of the billing period "f" ;

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<sup>67</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>68</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>69</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>70</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>71</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

c) SKB<sub>f, s</sub>: Hourly secondary frequency control capacity fee (TL/MW) determined in accordance with Article 26 to be applied to the ancillary service market participant for the hour “s” of the billing period “f” within the framework of the obligation undertaken pursuant to Article 21 or the hourly secondary frequency control capacity fee (TL/MW) offered by the relevant ancillary service market participant for the additional reserves provided within the scope of subparagraph (f) of the first paragraph of Article 21;

ç) KSp<sub>f,y</sub>: The Participation Coefficient designated as "1" for the hour “s” of the billing period “f” within the framework of Article 29 if it is determined that it is provided by an ancillary service unit that is registered in the name of the ancillary services market participant legal entity “p” within the scope of the obligation it has undertaken within the scope of Article 21 or which is registered in the name of another legal entity by way of transfer of obligations pursuant to Article 25, and designated as "0" in other cases;

d) m: the number of hours in the billing period "f";

e) k: The number of ancillary service units registered in the name of the ancillary service market participant legal entity "p", and provided by another ancillary service market participant by a "y" ancillary service unit registered in the name of another legal entity through transfer of obligation within the scope of Article 25.

(3) The coefficient of participation in primary frequency control mentioned in the first and second paragraphs shall be designated in accordance with Article 29.

### **Secondary frequency control service imbalance reimbursement**

**ARTICLE 28<sup>72</sup> – (1) (Amendment: 27/01/2021 -31377/art.19)** If the ancillary service units selected to provide secondary frequency control service are also registered as balancing units within the scope of the balancing power market, in addition to the secondary frequency control reserve amount, the imbalance repayment calculated as follows shall also be made to the ancillary service market participant legal entities who are in this situation and are also participating in the balancing power market.

$$DG\ddot{O}_{f,p} = \sum_{y=1}^n \sum_{s=1}^m G\ddot{O}DM_{f,y,s} \times \{ [NPTF_{f,s} - maks(SMF_{f,s}, NPTF_{f,s}) \times (1 + k)] \times NDK_s + [NPTF_{f,s} - min(SMF_{f,s}, NPTF_{f,s}) \times (1 - l)] \times PDK_s \}$$

(2) The expressions used in the formula set out above shall have the following meanings:

a) DGÖ<sub>f,p</sub>: the imbalance repayment amount (TL) to be accrued as receivables regarding the energy imbalances arising from the secondary frequency control service provided by the legal entity "p", participating in the ancillary service market in the billing period “f”;

b)<sup>73</sup> GÖDM<sub>f, y, s</sub>: Regarding the energy imbalances caused by the secondary frequency control service provided by the "y" ancillary service unit for the "s" hour of the "f" invoice period; the imbalance amount (MWh) to be taken as basis in the imbalance repayment calculation to be made to the relevant ancillary service market participant

c) SMF<sub>f, s</sub>: Hourly System Marginal Price (TL/MWh) calculated within the scope of the balancing power market for the hour “s” of the billing period “f”, calculated and announced by TEİAŞ in accordance with the Electricity Market Balancing and Settlement Regulation;

ç) NPTF<sub>f, s</sub>: The final market clearing price (TL/MWh) calculated within the scope of the Day Ahead Market for the hour “s” of the billing period “f”, in accordance with the Electricity Market Balancing and Settlement Regulation;

<sup>72</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>73</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

d) NDKs: The imbalance coefficient that is designated as "1" in case the imbalance amount in the related ancillary service unit is negative due to the provision of secondary frequency control service for the ancillary service units that are selected to provide secondary frequency control service at the "h" hour and which also have the characteristics of a balancing unit; and if otherwise designated as "0";

e) PDKs: The imbalance coefficient that is designated as "1" if the imbalance amount in the related ancillary service unit is positive due to the provision of secondary frequency control service for the ancillary service units that are selected to provide secondary frequency control service at the "s" hour and at the same time, and if otherwise designated as "0";

f) m: the number of hours in the billing period "f",

g) n: the number of ancillary service units registered in the ancillary service settlement account of the ancillary service market participant "p",

ğ) k: The coefficient to be used in the event of negative energy imbalance of the participants and determined within the scope of the Electricity Market Balancing and Settlement Regulation, provided that its value is designated between "0" and "1" by the Board and shall be announced at least three months in advance;

h) l: The coefficient to be used in the event of positive energy imbalance of the participants provided that the value is determined by the Board between "0" and "1" and announced at least three months in advance, and designated within the scope of the Electricity Market Balancing and Settlement Regulation.

(3) Legal entities who are selected to provide secondary frequency control service that are ancillary service market participants as well as balancing power market participants, for which they are registered in the ancillary service settlement account for ancillary service units, in every case where the DKs coefficient is "1", the imbalance refund shall be calculated according to the formula set forth under the second paragraph shall be refunded. In the event that it is determined that the secondary frequency control service is not provided as a result of the monitoring made pursuant to Article 29, imbalance refund shall not be made.

(4)<sup>74</sup> For a billing period, the amount of energy imbalance per hour of each ancillary service unit, which also has the characteristics of a balancing unit, shall be calculated according to the following formula:

$$DM_{f,y,s} = (VM_{f,y,s} - \zeta CM_{f,y,s}) - KGÜP_{f,y,s} + \left( \sum_{r=1}^{t2} KEYATM_{f,y,s,r} - \sum_{r=1}^{t1} KEYALM_{f,y,s,r} \right)$$

5)<sup>75</sup> The expressions used in the formula set out above shall have the following meanings:

a)<sup>76</sup> GÖDMf, y, s: Regarding the energy imbalances caused by the secondary frequency control service provided by the "y" ancillary service unit for the "s" hour of the billing period "f";

b) DMf, y, s: the imbalance amount (MWh) of the ancillary service unit "y" for the hour "s" of the billing period "f";

c)<sup>77</sup> Pgeni: The amount of generation (MW) realized by the ancillary service units participating in the secondary frequency control service at the gross generation point;

<sup>74</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>75</sup> Amended pursuant to the Regulation in the Official Gazette dated 12 January 2018 and numbered 30299.

<sup>76</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>77</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.



c)<sup>78</sup> MAXCi: Threshold value of ancillary service units participating in secondary frequency control service;

d)<sup>79</sup> MINCi: Lower limit value of ancillary service units participating in secondary frequency control service;

e)<sup>80</sup> Rsfky, f, s: the secondary reserve amount of the ancillary service unit "y" for the "s" hour of the billing period "f";

f)<sup>81</sup> Ksfkf, s, i: The coefficient that is designated as "1" if the instant response of the ancillary service unit "y", which has a secondary reserve obligation for the "s" hour of the billing period, in response to the signals transmitted from the automatic generation control program is within the tolerance limits, and as "0" in other cases;

g)<sup>82</sup> i: The number of signals transmitted in 4 (four) seconds from the Automatic Generation Control (AGC) system / interface to the "y" ancillary service unit that has a secondary reserve obligation for the "s" hour of the billing period "f".

## **CHAPTER FIVE**

### **Monitoring and Control of Frequency Control**

#### **Monitoring of frequency control**

**ARTICLE 29** – (1)<sup>83</sup> In order to monitor the primary and/or secondary frequency control reserves created as a result of the procurement process or by the transfer of the obligation, and to determine whether these services can be provided by ancillary service units, TEİAŞ shall consider the following data and information:

a) Data and information obtained from the SCADA system of TEİAŞ or through TEİAŞ power quality analysis devices;

b) Data and information obtained from recording devices in ancillary service units that provide primary and/or secondary frequency control service;

c) Notifications made by relevant ancillary service market participants through YHPYS. The final day ahead generation/consumption program notifications made to the System Operator and/or BYTMs regarding the availability of ancillary service units by the relevant ancillary service market participant legal entities shall be used. Primarily, the data obtained through TEİAŞ SCADA or TEİAŞ power quality analysis devices shall be used. In cases where the data of TEİAŞ SCADA or TEİAŞ power quality analysis devices are not available and/or insufficient for evaluation, the data obtained from the recording devices in the said facilities sent by the ancillary service unit shall be used. Terms stating that daily frequency control data shall be sent to TEİAŞ by the ancillary service units participating in the service shall be included in the participation agreements.

(2) In cases where there isn't any data obtained through TEİAŞ SCADA or TEİAŞ power quality analysis devices or data required to be obtained from ancillary service units, the relevant ancillary service units shall be deemed to have not provided primary and/or secondary frequency control reserves that they did not transfer.

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<sup>78</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>79</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>80</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>81</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>82</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>83</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

(3) Monitoring of ancillary service units participating in primary frequency control service shall be carried out on an hourly basis as follows:

a) In line with the mathematical model specified in Annex-1; the expected active output power values shall be calculated by assuming that the ancillary service units keep the primary frequency control reserve amount undertaken by the transfer of the obligations under Article 13 or the obligations set forth under Article 17 under the actual frequency deviation that occurs in the system.

b) Tolerance range shall be designated by adding  $\pm 10\%$  of the primary frequency control reserve to the active output power values obtained as a result of the calculations. It shall be determined whether the ancillary service unit active output power data obtained within the scope of the first paragraph is within this tolerance range.

c) In the event that the time that the UEVCB active output power data is outside the tolerance band is more than 10% of the relevant hour, it shall be accepted that the relevant ancillary service units do not provide primary frequency control service for the hour under examination.

(4) The monitoring of ancillary service units participating in the secondary frequency control service shall be carried out as follows:

a) In line with the mathematical model specified in Annex-1; the expected active output power values shall be calculated by taking into account the active power reference value sent by the automatic generation control system and assuming that the ancillary service units keep the reserve amount of the secondary frequency control they have undertaken by transferring the obligations set forth under Article 21 or the obligations set forth under Article 25.

b) Tolerance range shall be determined by adding  $\pm 10\%$  of the secondary frequency control reserve to the active output power values obtained as a result of the calculations. It shall be determined whether the ancillary service unit active output power data obtained within the scope of the first paragraph is within this tolerance range.

c) In case the time that the ancillary service unit active output power data is out of the tolerance band is more than 10% of the relevant hour, it shall be accepted that the relevant generation facility does not provide the secondary frequency control service for the hour under examination.

(5) Monitoring of generation facilities that participate in primary and secondary frequency control services at the same time shall be carried out as follows:

a) In line with the mathematical model specified in Annex-1, under the actual frequency deviation of the ancillary service units in the system and taking into account the active power reference value sent by the automatic generation control system; the expected active output power values shall be calculated by assuming that they keep the primary and the reserve amount of the secondary frequency controls they have undertaken by transferring the primary and secondary frequency control reserve supply obligations set forth under Articles 13 and 21, or by way of transfer of obligations as set forth under Articles 17 and 25.

b) Tolerance range shall be determined by adding  $\pm 10\%$  of the secondary frequency control reserve to the active output power values obtained as a result of the calculations. It shall be determined whether the ancillary service unit active output power data obtained within the scope of the first paragraph is within this tolerance range.

c) In case the time that the ancillary service unit active output power data is out of the tolerance band is more than 10% of the relevant hour, it shall be accepted that the relevant generation facility does not provide the secondary frequency control service for the hour under examination.

### **Non-fulfilment fees for primary frequency control**

**ARTICLE 30** – (1) No payment shall be made to the ancillary service unit that provides primary frequency control reserve within the scope of the obligation it has undertaken pursuant to Article 13 or has undertaken the obligation via transfer of obligations as set forth under Article 17, in case it makes a notification lesser than the obligation it has undertaken, for the non-notified amount, and if less reserve is reserved than the reserve amount reported in real time, for the entire obligation within the scope of the settlement period during which the violation in question took place. However, within the scope of the balancing power market, an ancillary service unit that has undertaken obligations set forth under Article 13 or assumed an obligation through transfer of obligation as set forth under Article 17, except in cases where it is disabled due to an emergency load shedding (YAT) instruction received from TEİAŞ or falls below the minimum stable generation level, if it is determined that such an ancillary service does not provide the primary frequency control service, a non-fulfillment fee of 25% of the primary frequency control capacity fee foreseen to be paid per MW for the settlement period in which the violation has occurred shall be applied to the relevant legal entity that has undertaken obligations within the scope of Article 13.

(2) In a case of failure of an ancillary service unit that has undertaken obligations set forth under Article 13 or assumed an obligation via transfer as set forth under Article 17 to provide the primary frequency control reserve amount due to a malfunctioning preventing its participation to the primary frequency control service or being out of service due to unexpected operating conditions or falling below the minimum stable production level, no capacity fee shall be paid for the relevant hour and the next four hours, and the non-fulfillment fee specified in the first paragraph of this Article shall not be applied, provided that the ancillary service unit that will provide the service notified TEİAŞ first verbally following the incident and then within the following hour via YHPYS. The obligation of the ancillary service unit shall resume when the mentioned situations are eliminated within this period and the ancillary service unit reaches the minimum stable generation level. In case the mentioned situations reoccur or continue in the hours following this period, an ancillary service market participant legal entity that has assumed obligation pursuant to Article 13 shall be obliged to procure the amount is obliged to provide from other ancillary service units registered in the settlement account or from another ancillary service market participant legal entity that has signed a participation agreement via transfer of obligation. Otherwise, the capacity fee shall not be paid and the non-fulfillment fee in the first paragraph shall be applied.

### **Non-fulfilment fees for secondary frequency control**

**ARTICLE 31** – (1) In the event it is determined that an ancillary service unit that has assumed obligations within the scope of Article 21 or has undertaken an obligation by way of transfer of obligations within the scope of Article 25, has not provided secondary frequency control service or if it has reserved less reserve than the reserve amount reported in real time as a result of monitoring performed within the scope of Article 29 for any reason, no capacity fee shall be paid to the relevant ancillary service market participant legal entity that has assumed obligation within the scope of Article 21 for the settlement period in which the violation in question has occurred.

(2) In a case of failure of an ancillary service unit that has undertaken obligations set forth under Article 21 or assumed an obligation via transfer as set forth under Article 25 to provide the primary frequency control reserve amount due to a malfunctioning preventing its participation to the secondary frequency control service or being out of service due to unexpected operating conditions or falling below the minimum stable production level, no capacity fee shall be paid for the relevant hour and the next four hours, and the non-fulfillment fee specified in the first paragraph

of this Article shall not be applied, provided that the ancillary service unit that will provide the service notified TEİAŞ first verbally following the incident and then within the following hour via YHPYS. The obligation of the ancillary service unit shall resume when the mentioned situations are eliminated within this period and the ancillary service unit reaches the minimum stable generation level. In case the mentioned situations reoccur or continue in the hours following this period, an ancillary service market participant legal entity that has assumed obligation pursuant to Article 21 shall be obliged to procure the amount is obliged to provide from other ancillary service units registered in the settlement account or from another ancillary service market participant legal entity that has signed a participation agreement via transfer of obligation. Otherwise, the cost of creating additional reserve of the system operator due following the steps set forth under subparagraph (f) of the first paragraph of Article 21 shall be borne by the legal entity that has failed to fulfill its reserve supplying obligation.

## **CHAPTER 5/A<sup>84</sup>** **DEMAND-SIDE BACKUP SERVICE**

### **Demand-Side Backup Service Procurement Principles**

**ARTICLE 31/A** (1) In case of need in order to maintain the frequency stability or to eliminate the constraints by ensuring the generation consumption balance in the system, demand-side backup service can be procured through the tenders to be organized by TEİAŞ among voluntary consumption facilities connected to the transmission system. As a result of these tenders, for the voluntary consumption facilities that will provide demand-side backup service, an ancillary service agreement regarding demand-side backup service shall be signed between the consumption facility owner legal entity and TEİAŞ. Taking into account the needs and system constraints of the system, TEİAŞ may limit the demand-side backup service procurement to consumption facilities located in a specific region.

(2) Provided that they are connected to the transmission system and their annual electrical energy consumption is above the minimum amount determined by a Board decision, consumption facility owner legal entities with the qualifications specified in the tender announcement may submit bids to provide demand-side backup service.

(3) TEİAŞ shall choose the consumption facilities that will provide the demand-side backup from among consumption facilities that are capable of providing this service and that have participated to the procurement process, in a way that minimizes the total demand-side backup procurement cost.

(4) Payments regarding the demand-side backup service shall be made monthly by TEİAŞ to legal entities owning consumption facilities, which are parties to the agreement.

(5) The energy deficit or excess that may arise during the settlement period served by the consumption facilities participating in the demand-side backup service fulfilling the orders of TEİAŞ shall not be considered as energy imbalance within the scope of the provisions of the Electricity Market Balancing and Settlement Regulation.

(6) Investments regarding meters, remote reading, remote control, monitoring, verification and other hardware and software required within the scope of the technical criteria to be determined by TEİAŞ in the tender specifications shall be borne by the relevant consumption facility owner legal entities. Regarding the investments in this scope, the obligations of TEİAŞ from the legislation are reserved.

### **Demand-side backup service procurement process**

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<sup>84</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

**ARTICLE 31/B (1)** Demand-side backup service procurement process shall be performed in accordance with the provisions of this Regulation and shall consist of the following steps:

a) TEİAŞ shall set out to tender by determining the reserve amount foreseen for the demand-side backup service that the transmission system may need. Along with the tender announcement, the period and the region to be covered by the ancillary service agreements for the demand-side backup service shall be announced.

b) The following issues along with other similar issues shall be included in the tender document:

1) The period covered by the service (offer period),  
2) Consumption profiles of consumption facilities that will bid, covering a period of at least 1 (one) year before the bid period,

3) The price structure and content of the bids to be submitted,

4) If deemed necessary by TEİAŞ, the maximum offer price determined for the relevant bid period,

5) In case of need for consumption facilities within the scope of service, how the instructions will be given, how long ago the instruction will be given and the maximum number of orders to be given and how they will be put into operation, only in the direction of load reduction,

6) How to calculate the basic consumption value to be taken as basis in determining the amount of load change that occurs during the provision of the service,

7) Conditions regarding monitoring, control and verification of fulfillment of obligations within the scope of service,

8) Conditions regarding pricing and payment of the service to be provided,

9) Non-performance fees to be applied if the service is not performed,

c) In accordance with the schedule to be determined by TEİAŞ and announced in the tender announcement, legal entities owning consumption facilities shall submit bids for the demand-side backup service.

c) Consumption facility owner legal entities who will bid in the tender to be initiated, must prove with the necessary information, document and/or certificates to be determined by TEİAŞ that they have the necessary controlling, measuring, monitoring and verification infrastructure and that TEİAŞ can provide the necessary information flow in the consumption facilities that will provide service within the time schedule specified in the tender document, and TEİAŞ must have the certificate of conformity for this. In this context in order to provide data to the monitoring system to be operated by TEİAŞ, permission to connect the consumption facility owner legal entities that will provide demand-side backup service via RS485, RS232, pulse input output, digital or analog or other outputs shall be given within 10 working days from the application to be made by TEİAŞ. If it is technically not possible to connect to the existing meter, the transmission system operator shall install a new meter that allows more than one connection and complies with the relevant legislation rules, within 10 working days from the application, with the meter allocation and installation fee to be covered by the consumption facility owner legal entity upon the application to be made.

d) TEİAŞ shall evaluate the bids submitted in accordance with the rules set forth under Article 31/Ç, select the required number of offers and shall notify all bidders.

e) Ancillary service agreement regarding demand-side backup service shall be signed between the consumption facility owner legal entities and TEİAŞ.

f) TEİAŞ can only issue orders in the direction of load reduction, as much as the demand-side backup amount offered in the tender at most. If instructions are given by TEİAŞ, the load

change shall be realized in the amount of the demand-side backup amount offered in the tender within the framework of the terms of the agreement.

g) The instructions to be given within the scope of the demand-side backup service shall be determined by taking into account the system constraints and in a way that does not discriminate between the legal entities owning consumption facilities.

ğ) The basic consumption value calculation method to be taken as basis for determining the amount of change in the load that occurs during the provision of the demand-side participation service shall be determined by TEİAŞ in accordance with the Procedures and Principles of Determining the Basic Consumption Value in accordance with the instruction form and notification period specified and announced in the tender announcement.

h) If the instructions to be given within the scope of the demand party backup service are instantaneous, the basic consumption value that will be the basis for determining the amount of load change shall be the amount of load taken from the system by the relevant consumption facility at the time the load change order is given.

### **The structure and content of offers for the provision of demand-side backup service**

**ARTICLE 31/C** (1) In accordance with the schedule to be determined by TEİAŞ, consumption facility owner legal entities for consumption facilities having the qualifications specified in the tender document and Article 31/B shall notify their offers to TEİAŞ in accordance with the tender document in order to provide demand-side backup service during the agreement period specified in the tender announcement by TEİAŞ.

(2) Bids submitted to provide demand-side backup service shall be notified to TEİAŞ, including the reserve capacity based on load reduction (MW) and the hourly capacity price offered for unit reserve capacity (TL/MW). All bid amounts submitted shall be expressed in terms of 1 MW and its multiples.

(3) All offer prices shall be declared in Turkish Lira (TL) with two digits after the comma.

### **Evaluation of offers regarding the demand-side backup service**

**ARTICLE 31/Ç** (1) Bids submitted shall be listed in order of price, and bids shall be selected as much as the demand side backup reserve amount anticipated to be required by the system for the tender period and all bidders shall be notified.

(2) TEİAŞ shall act without making discrimination among equal parties regarding the evaluation of offers regarding the demand-side backup service, by taking into account the technical requirements and system conditions.

(3) As a result of the procurement process carried out, the highest offer price determined on the condition that it does not exceed the maximum offer price specified in the tender announcement for the relevant bidding period shall be selected, and the hourly capacity fee (TL / MW) to be paid to the legal entities that will provide the notified demand-side backup service shall be determined.

### **Pricing of demand-side backup service**

#### **ARTICLE 31/D**

(1) The monthly amount to be paid to the consumption facility owner legal entities regarding the demand-side backup service shall be calculated in accordance with the following formula:

$$TTY\ddot{O}T_{p,f} = \left\{ \sum_{s=1}^m (TTYRM_{t,f,s} \times TTYKB_{t,f}) + \sum_{s=1}^m [(TTYTM_{t,f,s} \times \max(NPTF_{f,s}, SMF_{f,s})) \times (TTYHS_{t,f,s} + 60)] \right\}$$

(2) The abbreviations used in the formula in the first paragraph refer to the following:

- a) TTYÖTp, f: The amount of payment (TL) to be accrued for the demand-side backup service provided by the legal entity "p" in the invoice period "f";
- b) TTYRMt, f, s: The backup capacity (MW) supplied by the consumption facility "t" for demand-side backup at hour "s" for the invoice period "f";
- c) TTYTMt, f, s: The amount of load (MW) changed by the consumption facility "t" in line with the instruction for demand-side backup at the hour "s" for the invoice period "f";
- ç) TTYKBt, f: The hourly capacity fee (TL/MW) to be applied for demand-side backup service at the hour "s" of the invoice period "f" for consumption facility "t";
- d) TTYHSt, f, s: demand-side backup service time (minutes) provided by consumption facility "t" by cutting the load within hour "s" of the invoice period "f";
- e) NPTFf, s: The final market clearing price (TL/MWh) calculated within the scope of the Day Ahead Market for the hour "s" of the invoice period "f" in accordance with the Electricity Market Balancing and Settlement Regulation;
- f) SMFf, s: System marginal price (TL/MWh) calculated within the scope of the Balancing Power Market for the hour "s" of the invoice period "f" in accordance with the Electricity Market Balancing and Settlement Regulation, and
- g) m: the number of hours in period "d".

### **Ancillary service agreements regarding the demand-side backup service**

#### **ARTICLE 31/E**

(1) Regarding the provision of demand-side backup service, ancillary service agreements regarding demand-side backup service prepared by TEİAŞ shall be signed between the consumption facility owner legal entities and TEİAŞ.

(2) Ancillary service agreements to be signed between consumption facility owner legal entities and TEİAŞ regarding demand-side backup service shall include at least the following information and documents:

- a) The period covered by the agreement.
- b) The demand-side backup amount to be provided under the agreement (MW).
- c) Certificate of eligibility to provide demand-side backup service.
- ç) Electricity consumption profiles of the previous period, if requested from the consumption facilities within the scope of the agreement in the tender announcement.
- d) How, when and how the consumption facilities will be given instructions and how they will be put into operation, by ensuring that the equipment belonging to the consumption facility within the scope of the agreement is not damaged.
- e) Information on calculating the consumption amount that will be the basis for determining the amount of load change that occurs during the provision of the service under the agreement.
- f) Procedures for monitoring, checking and verifying whether the obligations under the agreement are fulfilled.
- g) Pricing of the service to be provided within the scope of the agreement.

ğ) The provisions regarding the termination or termination of the agreement and the non-performance fees to be applied if the service within the scope of the agreement is not provided properly.

h) Other issues that TEİAŞ deems appropriate to be included in the agreement and that do not disrupt and change the conditions in the tender document.

### **Non-performance fees for the demand-side backup service**

#### **ARTICLE 31/F**

(1) The provisions regarding non-performance fees to be applied in the event that the party that has signed the demand-side backup service agreement fails to perform the service in accordance with the terms of the agreement, shall be included in the related ancillary service agreement.

## **CHAPTER SIX**

### **Instant Demand Control Service**

#### **Principles regarding provision of instant demand control service**

**ARTICLE 32** – (1)<sup>85</sup> In order to prevent decrease of critical operating conditions before they occur in system frequency within the scope of emergency measures defined in the Electricity Grid Code, instant demand control reserves shall be procured through tenders to be organized by TEİAŞ between consumption facilities connected to the transmission system. As a result of these tenders, an ancillary service agreement regarding instant demand control service shall be signed between TEİAŞ and the consumption facility owner legal entity for voluntary consumption facilities that will provide instant demand control service.

(2) Legal entities that own consumption facilities whose electricity consumption is above the level set forth under the tender announcement may submit bids as defined in this Regulation to provide instant demand control service through instant demand control relays.

(3) It is essential that the system operator chooses the consumption facilities that will provide instant demand control reserve, taking into account system constraints and minimizing the total instant demand control reserve procurement cost.

(4) Payments regarding instant demand control service shall be made monthly by TEİAŞ to legal entities owning consumption facilities. No payment shall be made to the relevant legal entities in the event that service is not obtained through instant demand control relays from the consumption facilities they own for the relevant month.

(5) TEİAŞ shall receive instant demand control service for a maximum of 15 minutes without interruption. A consumption facility that is automatically disconnected from the system in order to provide instant demand control reserve can be activated within a maximum of 15 minutes by receiving confirmation from the system operator.

(6) Relay investments and meter and other required equipment investments that comply with the technical criteria to be determined by TEİAŞ in the tender specifications, shall be made by the legal entities that own the relevant consumption facilities.

#### **Procurement process of instant demand control service**

**ARTICLE 33** – (1) Instant demand control service shall be procured based on the provisions of this Regulation and shall consist of the following steps:

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<sup>85</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.



a) TEİAŞ shall determine the total amount of instant demand control reserve that the system may need and the bid ceiling price if deemed necessary and shall organize the tender. Together with the tender announcement, it is essential to announce the period to be covered by the ancillary service agreements for instant demand control service.

b) In accordance with the schedule to be determined by TEİAŞ and announced in the tender announcement, legal entities that own a consumption facility shall submit bids for instant demand control service.

c) TEİAŞ shall evaluate the bids submitted as set forth under Article 35, select the required number of bids and shall notify all bidders.

ç) Ancillary service agreement for instant demand control service shall be signed between TEİAŞ and the legal entities that own the selected consumption facilities.

d) In real time, in case the system frequency falls to the frequency level predetermined by TEİAŞ, all the demand within the scope of the agreement related to the instant demand control relays shall be interrupted.

#### **Structure and content of bids for provision of instant demand control service**

**ARTICLE 34** – (1) In accordance with the schedule to be determined by TEİAŞ, legal entities that own a consumption facility with the qualifications set forth under the second paragraph of Article 32 shall notify the system operator to provide instant demand control service during the agreement period determined by TEİAŞ.

2) Bids submitted to provide instant demand control service shall be notified to the system operator, including a single price bid (TL/MWh) and instant demand control reserve amount (MW) regarding the load to be cut through instant demand control relays. All submitted bid volumes shall be expressed in 1 MW and its multiples.

(3) The bid prices shall be valid throughout the contract period. However, if there is a valid reason acceptable to the system operator, the bid volumes may be updated by the legal entity that owns the relevant consumption facility.

(4) All bid prices shall be at least equal to or greater than zero, have one percent precision and shall be in Turkey's official currency.

#### **Evaluation of bids for instant demand control service**

**ARTICLE 35** – (1) The bids submitted shall be listed in order of price, and the bids for the amount of instant demand control reserve required by the system for the auction period shall be selected and all bidders shall be notified.

(2) Regarding the evaluation of bids for instant demand control service, TEİAŞ shall act without making any discrimination among equal parties, and by taking into account the technical requirements and system conditions.

#### **Ancillary service agreements for instant demand control service**

**ARTICLE 36** – (1) Regarding the provision of instant demand control service, standard ancillary service agreements for instant demand control service prepared by TEİAŞ and approved by the Board shall be signed between the legal entities that own the consumption facility and TEİAŞ.

(2) Ancillary service agreements to be signed between legal entities that own the consumption facility and TEİAŞ regarding instant demand control service must include at least the following information and documents:

a) The period covered by the agreement, not less than 1 year;

- b) Instant demand control reserve (MW) to be provided under the agreement;
- c) The bid price accepted to be valid throughout the agreement period (TL/MWh);
- ç) A letter of undertaking showing that it is guaranteed that the instant demand control service will be provided through instant demand control relays in accordance with the provisions of this Regulation;
- d) Documents containing the results of instant demand control reserve performance tests for the consumption facility subject to the agreement;
- e) Technical specifications regarding electricity consumption of the consumption facilities subject to the agreement.

### **Pricing of instant demand control service**

**ARTICLE 37**<sup>86</sup> – (1) The monthly amount to be paid to the consumption facility owner legal entities regarding the instant demand control service shall be calculated in accordance with the following formula:

$$TKT_{p,f} = \sum_{t=1}^k \sum_{s=1}^m (TKKYM_{t,f,s} \times TKTf_{t,f} \times (TKHS_{t,f,s} + 60))$$

(2) The expressions used in the formula set out above shall have the following meanings:

- a) TKT<sub>p, f</sub>: Amount of receivables (TL) to be accrued for the instant demand control service provided by the legal entity "p" in the billing period "f";
- b) TKKYM<sub>t, f, s</sub>: The amount of load (MW) interrupted from the consumption facility "t" for instant demand control at the hour "s" for the billing period "f";
- c) TKTf<sub>t, f</sub>: the instant demand control bid price (TL/MWh) valid for the billing period "f" for the consumption facility "t";
- ç) TKHSt, f, s: The instant demand control service period (minutes) provided by the consumption facility "t" by cutting the load within the hour "s" for the billing period "f";
- d) k: Number of consumption facilities registered in the name of the legal entity "p"
- e) m: the number of hours in period "d",

### **Penal sanctions regarding instant demand control service**

**ARTICLE 38** – (1) In case it is detected for the first time that the demand of any consumption facility connected to the instant demand control relays has not been interrupted due to the negligence or fault of the relevant legal entity, although the system frequency has dropped to the frequency level predetermined by TEİAŞ, no payment shall be made to the legal entity that owns the relevant consumption facility for the instant demand control service for the billing period in which the violation in question has occurred. In case the violation repeats in the same agreement period in any subsequent billing period, legal entity that owns the relevant consumption facility shall not be paid for the instant demand control service for the billing period in which the violation in question has occurred, and a fine equal to the amount of one hour service determined by considering the bid volume and bid price for the relevant billing period shall be imposed.

(2) If the system operator is notified at least one day in advance and there is a valid reason acceptable to the system operator, the penalty set forth under the first paragraph of this Article shall not be applied for the relevant hours.

## **CHAPTER SEVEN**

<sup>86</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

## **Reactive Power Control**

### **Principles of reactive power control service supply**

**ARTICLE 39**<sup>87</sup> – (1) A reactive power control service agreement shall be signed with licensed legal entities that are connected to the transmission system at a voltage level of 66 kV and above and have generation facilities with an installed power of 30 MW and above. When deemed necessary by TEİAŞ, licensed generation facilities connected to the transmission system and with an installed power less than 30 MW are also obliged to participate in reactive power control. Wind energy based generation facilities and solar energy based photovoltaic generation facilities participate in reactive power control within the conditions set forth under the Electricity Network Regulation.

(2) In order for generation facilities to provide reactive power capacity or to operate as synchronous compensators, it is obligatory to have an ancillary service agreement regarding reactive power control service for generation facilities connected at 66 kV and above voltage level between the legal entity that holds the license and TEİAŞ. For generation facilities connected to a voltage level of 34.5 kV and below, which have signed a connection agreement with TEİAŞ, the licensed legal entities they are registered in shall be obliged to sign a reactive power control service agreement with the relevant distribution company in line with the request of the relevant distribution company and the approval of TEİAŞ.

(3) TEİAŞ, shall choose the generation facilities that will provide related services among the generation facilities within the scope of ancillary service agreements regarding reactive power control, taking into account the system constraints and minimizing the total reactive power control supply cost.

### **Process of reactive power control service supply**

**ARTICLE 40** – (1) Supply of reactive power control for the transmission system shall be provided in accordance with the provisions of this Regulation and consists of the following steps:

a) TEİAŞ determines the reactive power demand that the system will need on the regional basis.

b) Ancillary service agreement for reactive power control service shall be signed between TEİAŞ and the licensed legal entities registered in the names of the generation facilities selected in line with the system requirements.

c) <sup>88</sup> In order to regulate the system voltage in real time, the instructions given for the production facilities to operate as generators or as synchronous compensators shall be notified by TEİAŞ to the relevant generation facilities via ASMMS. Notifications regarding the termination of the instructions shall be made to the relevant production facilities.

### **Ancillary service agreements regarding reactive power control service**

**ARTICLE 41** – (1)<sup>89</sup> It is mandatory to sign standard ancillary service agreements regarding reactive power control between legal entities engaged in generation activity regarding the provision of reactive power control services by means of generation facilities providing reactive power capacity and/or operating as synchronous compensator and TEİAŞ. Standard ancillary service agreements regarding reactive power control shall be prepared by TEİAŞ and approved by the

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<sup>87</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>88</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>89</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

Board. A single ancillary service agreement regarding reactive power control shall be signed with each legal entity engaged in generation activity, including those registered in their names among the generation facilities with the qualifications set forth under Article 39 excluding life water units.

(2) Before the completion of the provisional acceptance procedures, an ancillary service agreement for reactive power control service shall be signed between TEİAŞ and the license holder legal entity that will engage in generation activity or it will be incorporated into the scope of ancillary service agreement for reactive power control service previously signed by the relevant legal entity operating in the generation facility in question.

(3) Ancillary service agreements to be signed between legal entities engaged in generation activity and TEİAŞ regarding reactive power control service shall include at least the following information and documents:

- a) The period covered by the agreement,
- b) Which of the generation facilities registered in the name of the relevant legal entity are covered by the agreement and the technical features of these generation facilities,
- c)<sup>90</sup> Reactive power support service ancillary service certificate for the generation facilities in operation, for the generation facilities that will enter into operation, an undertake that the reactive power support service performance tests will be carried out and the reactive power support service ancillary service certificate will be submitted to TEİAŞ within 90 days at the latest from the provisional acceptance date,
- ç)<sup>91</sup> The generation license belonging to the generation facilities within the scope of the agreement and the original or notarized copies of the signature circular of the personnel authorized to sign the agreement on behalf of the legal entity or a copy to be submitted together with the original,
- d) Investment, operation and maintenance costs determined by TEİAŞ regarding synchronous compensation service provision and monthly synchronous compensation service fee reflecting the costs of consumption (purchase) system usage and operating costs paid by the legal entity to TEİAŞ on a monthly basis.

#### **Instructions given by system operator regarding reactive power control service<sup>92</sup>**

**ARTICLE 42<sup>93</sup>** – (1) Within the scope of transmission system operation, the instructions regarding reactive power control to be given if necessary and active shall primarily notified via ASMMS to the generation facilities that are selected by TEİAŞ to provide reactive power control service as a generator or synchronous compensator or to provide automatic reactive power control service through automatic voltage regulator. If deemed necessary, instructions reported via ASMMS shall also be notified by telephone.

(2) In the generation facilities with an ancillary service agreement with TEİAŞ regarding the reactive power control service, if the nominal active power of the units is required to provide reactive power capacity above the capacity that enables them to output at the reactive power values corresponding to 0.85 power factor with over-alerting, 0.95 power factor with low-alerting, the said generation facilities shall primarily be given a load shedding instruction in accordance with Article 44. Later, the instructions regarding reactive power control shall be notified to these generation facilities via ASMMS.

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<sup>90</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>91</sup> Amended pursuant to the Regulation in the Official Gazette dated 1 April 2021 and numbered 31441.

<sup>92</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>93</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

### **Pricing of reactive power control service**

**ARTICLE 43** - (1) Wind power generation facilities that have an ancillary service agreement with TEİAŞ regarding reactive power control service shall not be paid for their participation in reactive power control within the limits set forth under the Electricity Network Regulation. In other generation facilities, with reactive power values corresponding to power factors of 0.85 with over-alerting and 0.95 as low-alerting, no fee shall be paid for participation in reactive power control at every point between the nominal active power and minimum stable generation levels of the units.

(2)<sup>94</sup> Active electricity costs to be incurred by generation facilities with an ancillary service agreement with TEİAŞ regarding reactive power control service during operation as synchronous compensator and the fee to be paid to cover the costs of investment, operation, maintenance and system usage and operating costs related to the provision of synchronous compensation service shall be calculated in accordance with the provisions of Article 45.

### **Active output power change instructions**

**ARTICLE 44** - (1) When there is a need to reduce the active power output of units in generation facilities that have an ancillary service agreement with TEİAŞ regarding reactive power control service, the required output power changes are provided by accepting the load shedding proposals submitted by the relevant generation facilities within the scope of the balancing power market. The instructions given for this purpose are considered within the framework of balancing power market rules and evaluated as the instructions given within the scope of ancillary services.

### **Pricing for the service of working as a synchronous compensator**

**ARTICLE 45** – (1) Synchronous compensation amount to be paid to legal entities engaged in generation activity for the reactive power control service provided by the generation facilities registered in the names of legal entities with an ancillary service agreement with TEİAŞ regarding reactive power control service by working as synchronous compensator shall be calculated in accordance with the following formula:

$$SKT_{p,d} = \sum_{u=1}^l \left( \sum_{s=1}^m (\max(NPTF_{d,s}, SMF_{d,s}) \times (1+k) \times AEEÇM_{p,u,d,s}) + SKHB_{p,u,d} \right)$$

(2) The expressions used in the formula set out above shall have the following meanings:

a) SKTp, d: The amount of receivables (TL) to be accrued for the generation facilities registered in the name of the legal entity "p" engaged in generation activity as synchronous compensators in the period "d"

b) SMFd, s: The hourly imbalance price (TL / MWh) calculated in accordance with the Electricity Market Balancing and Settlement Regulation, which is taken as the basis for the settlement of imbalances regarding the hour "s" of the period "d",

c) NPTFd, s: The final market clearing price (TL / MWh) for the hour "s" of the period "d", calculated in accordance with the Electricity Market Balancing and Settlement Regulation,

ç) AEEÇMp,u,d,s: The active electricity withdrawal amount (MWh) in the hour "s" of the period "d" of the generation facility "u" registered in the name of the legal entity "p" engaged in generation activity,

d) SKHBp, u, d: The synchronous compensation service fee (TL) valid in the period "d" for the generation facility "u" registered in the name of the legal entity "p" engaged in generation activity,

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<sup>94</sup> Amended pursuant to the Regulation in the Official Gazette dated 12 January 2018 and numbered 30299.

e) k: The coefficient used in case of negative energy imbalance, whose value is determined between "0" and "1" by the Board to be taken as the basis for the settlement of imbalances regarding the hour "s" of the period "d" within the framework of the Electricity Market Balancing and Settlement Regulation,

f) l: The number of production facilities registered in the name of the legal entity "p" engaged in generation activity,

g) m: The number of hours in the period "d".

(3) The monthly synchronous compensation service fee, reflecting the costs of investment, operation, maintenance and system usage and operating costs related to providing synchronous compensation service, is calculated in accordance with the following formula:

$$SKHB_{p,u,d} = \left( \sum_{s=1}^m (\max(NPTF_{d,s}, SMF_{d,s}) \times (1 + k) \times AEEÇM_{p,u,d,s}) \right) \times h + TSKB_{p,u,d}$$

(4) The expressions used in the formula set out above shall have the following meanings:

a) SKHB<sub>p, u, d</sub>: The synchronous compensation service fee (TL) valid in the period "d" for the generation facility "u" registered in the name of the legal entity "p" engaged in generation activity,

b) SMF<sub>d, s</sub>: The hourly system marginal price (TL / MWh) calculated in accordance with the Electricity Market Balancing and Settlement Regulation implementations, which is taken as a basis for the settlement of imbalances regarding the hour "s" of the period "d",

c) NPTF<sub>d, s</sub>: The finalized market clearing price (TL / MWh) calculated in accordance with the Electricity Market Balancing and Settlement Regulation implementations, regarding the hour "s" of the period "d",

ç) AEEÇM<sub>p,u,d,s</sub>: The active electricity withdrawal amount (MWh) in the hour "s" of the period "d" of the generation facility "u" registered in the name of the legal entity "p" engaged in generation activity,

d) TSKB<sub>p,u,d</sub>: The consumption (purchase) system usage and operating fee (TL), which will be paid in case the generation facility "u" registered in the name of the legal entity "p" engaged in generation activity provides synchronous compensation service in the period "d", which is paid to TEİAŞ by the legal entity engaged in generation activity and arising from the active electricity withdrawn from the system in the period "d",

e) h: The coefficient determined by TEİAŞ to be valid from January 1st every year to ensure uniformity in implementation and to ensure that no discrimination is made between equal parties,

f) k: Coefficient used in case of negative energy imbalance, whose value is determined between "0" and "1" by the Board, to be taken as the basis for the settlement of imbalances regarding the hour "s" of the period "d" within the framework of the Electricity Market Balancing and Settlement Regulation,

g) m: the number of hours in period "d".

#### **Monitoring reactive power control<sup>95</sup>**

**ARTICLE 46<sup>96</sup>** – (1) Monitoring of ancillary service units participating in reactive power control service shall be carried out on an hourly basis in accordance with the principles set forth under the ancillary service agreements signed with TEİAŞ.

<sup>95</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>96</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

(2) When monitoring the ancillary service units participating in the reactive power control service, it is deemed that the relevant ancillary service unit does not provide the reactive power control service for the hour in question if it operates outside the tolerance band for more than 20% of the relevant hour.

(3) In cases where there is no data obtained through SCADA or power quality measurement devices belonging to TEİAŞ or data required to be obtained from ancillary service units, the relevant ancillary service units shall be deemed to have not provided reactive power control service.

(4) Generation facilities selected by TEİAŞ to provide reactive power control service or to provide automatic reactive power control service, serve in accordance with the Electricity Grid Code. If it is determined that the generation facilities do not fulfill the instructions notified to them for 72 (seventy-two) hour zones or more for an billing period, TEİAŞ makes a written warning to prevent the continuation of the violation. Within one year following the warning letter, in any billing period if the instructions notified to the legal entity engaged in generation activity are not fulfilled for 72 (seventy-two) hour zones or more for an billing period, TEİAŞ shall prepare a report containing the details of the violation and applies to the Authority with the confirming information and documents.

(5) If it is determined that the generation facilities selected by TEİAŞ to provide synchronous compensation service do not fulfill the instructions notified to them for 10 (ten) time zones or more for an billing period, TEİAŞ makes a written warning to prevent the continuation of the violation. In case of failure to fulfill the instructions that have been notified for a total of 10 (ten) hour zones or more for an billing period by the legal entity engaged in generation activity in any billing period within one year following the warning letter, TEİAŞ applies to the Authority by preparing a report containing the details of the violation with confirming information and documents.

(6) If it is detected that the legal entities do not send the data recording files of the day they are obliged to provide reactive power control service or they have sent data recording files that are incompatible with the format published by TEİAŞ, and if the violation exceeds 3 (three) days in an billing period, TEİAŞ shall firstly warn in order to prevent the continuation of the violation. In the event that the violation exceeds 3 (three) days in any billing period within a year following the billing period in which the warning occurred, TEİAŞ shall prepare a report containing the details of the violation and applies to the Authority with confirming information and documents.

## **CHAPTER EIGHT**

### **Recovery of the Settled System**

#### **Supply principles of recovery service of the settled system**

**ARTICLE 47<sup>97</sup>** – (1) Legal entities that have the ability to be put into use without the need for an external energy source and legal entities with generation facilities included in the system recovery plan created by TEİAŞ or electricity storage facilities included in the system recovery plan created by TEİAŞ shall be obliged to sign an ancillary service agreement regarding the service of the resident system recovery service as defined in this Regulation.

#### **Procurement process of recovery service of the settled system**

#### **ARTICLE 48<sup>98</sup>**

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<sup>97</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>98</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

### **Ancillary service agreements regarding the recovery of the settled system**

**ARTICLE 49** – (1)<sup>99</sup> Regarding the recovery service of the settled system, standard ancillary service agreements regarding the recovery of the settled system prepared by TEİAŞ and approved by the Board shall be signed between TEİAŞ and legal entities participating in the ancillary service market included in the system recovery plan prepared by TEİAŞ. A single ancillary service agreement shall be signed with each legal entity participating in the ancillary service market for the recovery of the settled system, which includes the ancillary service units registered in their names

(2) Ancillary service agreements to be signed between legal entities participating in the ancillary service market and TEİAŞ regarding the recovery of the system settled shall include at least the following information and documents:

- a)<sup>100</sup> The period covered by the agreement, in line with the system recovery plan of TEİAŞ;
- b) Which of the ancillary service units registered in the name of the relevant legal entity are covered by the agreement and the technical features of these production facilities,
- c)<sup>101</sup> The undertaking stating that the recovery of the settled system performance tests will be performed within 90 (ninety) days from the signing date of the agreement and the recovery of the settled system ancillary service certificate will be submitted to TEİAŞ, in order to guarantee that the recovery of the seated system will be provided for the duration of the agreement.
- ç)<sup>102</sup>
- d)<sup>103</sup> Registration certificate or power of attorney of the personnel authorized to sign the agreement on behalf of the ancillary service unit and legal entity belonging to the ancillary service unit within the scope of the agreement.

(3) Ancillary service units selected to provide the recovery service of the settled system shall serve in accordance with the system recovery plan and the provisions of the Electricity Network Regulation if necessary.

### **Pricing of the recovery service of the settled system**

**ARTICLE 50**<sup>104</sup> - (1) The amount to be paid to the legal entities participating in the ancillary service market for the generation facilities registered in their name in case of providing service regarding the recovery of the settled system shall be calculated in accordance with the following formula:

$$OSTT_{p,d} = \sum_{u=1}^k (KYM_{p,u,d} \times BYBF_{p,u,d} + OSTHB_{p,u,d})$$

(2) The expressions used in the formula set out above shall have the following meanings:

- a) OSTTp, d: The amount of receivables (TL) to be accrued for the recovery of the settled system provided by the legal entity "p" in the period "d",
- a) OSTTp, d: The amount of receivables (TL) to be accrued for the recovery of the settled system provided by the legal entity "p" in the period "d",
- c) BYBFp, u, d: The price of fuel used by the generation facility "u" registered in the name of the legal entity "p" engaged in generation activity during the recovery service of the settled system in the period "d",

<sup>99</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>100</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>101</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>102</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>103</sup> Amended pursuant to the Regulation in the Official Gazette dated 1 April 2021 and numbered 31441.

<sup>104</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.



ç) k: The number of generation facilities registered in the name of the legal entity “p” engaged in generation activity.

(3) The amount to be paid to the legal entities participating in the ancillary service market for the electricity storage facilities registered in the name of an ancillary service unit in case of providing service regarding the recovery of the settled system is calculated in accordance with the following formula:

$$OSTT_{p,d} = \sum_{u=1}^k (KEM_{p,y,d} \times OPTF_{p,y,d} + OSTHB_{p,y,d})$$

(4) The expressions used in the formula set out above shall have the following meanings:

a) OSTTp, d: Refers to the amount of receivables (TL) to be accrued for the recovery of the settled system provided by the legal entity "p" in the period "d" by the ancillary service market participant,

b) KEMp,y,d: The amount of electricity (MWh) used during the recovery service of the settled system by the ancillary service unit “y” registered in the name of the legal entity “p” in the period "d",

c) OPTFp,y,d: The 24-hour average unrestricted market clearing price (TL / MWh) in the day-ahead market of the electricity used during the recovery of the settled system, by the ancillary service unit “y” registered in the name of the legal entity “p” in the period "d",

ç) k: The number of ancillary service units registered in the name of the legal entity "p", which is an ancillary service market participant.

(5) The payments set forth under the first and third paragraphs shall be made only to the ancillary service units that have an ancillary service agreement of recovery of the settled system.

### **Non-fulfillment fees regarding the recovery service of the settled system**

**ARTICLE 51**<sup>105</sup> – (1) In the case that it is detected that an ancillary service market participant legal entity that the ancillary service unit, which has signed an agreement to provide the service for the recovery of the sitting system, is not kept ready to provide the service, except for planned maintenance and previously notified unplanned maintenance, repair and breakdown situations and force majeure or although it has received an instruction from the system operator cannot provide the recovery service of the settled system, the legal entity participating in the relevant ancillary service market shall be deemed to have not performed the service for the billing period in which the violation occurred. For the ancillary service market participants who do not fulfill their obligations, as of the date of the violation, 1% (one percent) of the unit fixed system usage tariff of the region (TL / MW-year) with the highest tariff and the non-fulfillment fee calculated by multiplying the electrical installed power (MW) of the ancillary service unit that does not perform the service is applied.

(2) In addition, TEİAŞ shall prepare a report containing the details of the violation and applies to the Authority together with the confirming information and documents.

## **CHAPTER NINE**

### **Procedures and Principles for the Supply Service of Regional Capacity Leasing**

#### **Principles of regional capacity leasing**

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<sup>105</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

**ARTICLE 52**<sup>106</sup> – (1) Pursuant to the first paragraph of Article 20 of the Law, TEİAŞ can hold a tender for the purpose of regional capacity leasing within the framework of the procedures and principles regulated by this Regulation, in order to maintain system reliability and to meet the regional system needs that may arise due to insufficient capacity.

(2) According to the nature of the need and the participation criteria to be determined in the tender announcement, TEİAŞ may organize tenders to provide regional capacity rental service, between generation license holder legal entities that have generation facilities in regions or regions where services are needed and/or generation license holder legal entities that can move the generation facility to the region or regions determined by TEİAŞ in the tender announcement and/or legal entities that can bid regional capacity leasing services with the investment to be made in region or regions where service is needed within the period to be provided by TEİAŞ.

(3) In case of the generation facility to be included in the service is established outside the region or regions announced by TEİAŞ in the tender announcement and will serve by transportation of the generation facility, all duties related to license amendment transactions and obtaining other approvals and permissions, establishment of the facility and starting commercial operation at the time of commitment are carried out under the responsibility of the legal entities selected in the tender; In case of new investments to provide regional capacity leasing services, all duties related to obtaining the license, establishing and starting commercial operation within the scope of the relevant legislation are carried out under the responsibility of the legal entities selected in the tender.

(4) Legal entities bid on the annual capacity fee and unit energy price in the tender. Selection among the facilities that provide technical competence is made by taking into account the unit capacity rental fee per MW calculated within the formula set forth under Article 55.

(5) Except for the maintenance period, it is essential for a generation facility, covered by an ancillary service agreement for regional capacity leasing, to submit bids to the balancing power markets in accordance with the provisions of the agreement and to generate in accordance with the minimum working periods set forth under the tender announcement and set forth under the agreement during the agreement. (6) As from the service commencement date included in the agreement, the capacity fee bid in the tender begins to be paid monthly to the legal entities with whom the agreement is made. The paid capacity fees shall be covered by TEİAŞ through system operation fees.

(7) It is essential for the contracted legal entities to sell their energy through bilateral agreements and/or through organized wholesale markets in order to generate in accordance with the minimum working periods, from the service commencement date included in the agreement. The unit energy price submitted to the tender within the scope of regional capacity leasing constitutes the bid ceiling price in the balancing power market for the relevant generation facility during the agreement period. The cost of energy sold through the balancing power market is covered in accordance with the provisions of the Electricity Market Balancing and Settlement Regulation.

### **Determining the regional capacity need**

**ARTICLE 53**<sup>107</sup> - (1) The regional capacity need shall be determined by TEİAŞ taking into account the generation safety criteria, which is prepared by TEİAŞ within the scope of the Electricity Network Regulation and includes the possibility of not meeting the peak load for one

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<sup>106</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>107</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

year. The process of determining the regional capacity need is carried out annually by TEİAŞ by following the steps below:

a) TEİAŞ shall determine the transmission system regions where large-scale transmission constraints are expected at the transmission system connection points forming its limits or if more than one bid zone is determined in accordance with the Electricity Market Balancing and Settlement Regulation, TEİAŞ takes into account the specified bidding zones.

b) TEİAŞ calculates the probability of not meeting the peak load on a regional basis for the following 2 years, at least by considering the following issues on a regional basis:

- 1) Estimation of demand and probability distribution of error of estimation,
- 2) Availability and actual working state of existing generation facilities,
- 3) Maintenance requirements,
- 4) Progress of the generation facilities under construction,
- 5) Generation of hydraulic and other renewable generation facilities,
- 6) Availability and actual commitment state of interregional transmission capacities.

c) The probability of not meeting the peak load calculated by TEİAŞ on a regional basis is compared with the probability of not meeting the peak load target value defined for in the Electricity Network Regulation. Regional capacity need is determined for regions where the probability of not meeting the peak load calculated by TEİAŞ on a regional basis is above the target value set forth under the Electricity Network Regulation.

ç) The amount of regional capacity need is determined by considering the capacity amount that will bring the probability of not meeting the peak load of the relevant region to the target value set forth under the Electricity Network Regulation.

### **Tender process of regional capacity leasing**

**ARTICLE 54 - (1)**<sup>108</sup> The tender for regional capacity leasing shall be finalized by TEİAŞ in two stages as pre-qualification and tender. Legal entities holding generation license or those who intent to invest in a new generation facility may apply for the tender.

(2)<sup>109</sup> The pre-qualification and tender process starts with the publication of the tender announcement on the official website by TEİAŞ. In the tender announcement, there shall be information about the regions where the tender is valid, the amount of capacity needed by regions, regions that can apply for legal entities who want to apply by moving their existing generation facilities to the region or regions where the service will be received, the monthly minimum generation periods to be determined on the basis of technology and will be taken as basis for the unit bid price calculated during the selection of the bids and the monthly payments to be made to the service providers under the agreement, commencement date of the service, agreement period, how the proposed annual capacity price and unit energy price will be updated. TEİAŞ may announce the minimum monthly working time by limiting it to certain hours of the day, taking into account the system needs,

(3) Pre-qualification is done in order to determine the competencies of the proposed facilities to meet the needs. Pre-qualification bids shall be evaluated by TEİAŞ within the framework of the provisions of the Electricity Market Network Regulation and the pre-qualification specification to be prepared.

(4) Applicants who are found to be qualified as a result of the pre-qualification evaluation shall be invited to tender in writing. The bids submitted to the tender shall be evaluated within the

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<sup>108</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>109</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

framework of this Regulation, Electricity Network Regulation and the tender specifications to be prepared by TEİAŞ. If deemed necessary by TEİAŞ, an upper bid limit may be implemented in the tender.

(5)<sup>110</sup> In accordance with Article 56, ancillary service agreement regarding regional capacity leasing shall be signed between TEİAŞ and legal entities with generation license selected as a result of the tender, effective from the commencement date of the service announced in the tender. For the new investments to be made as a result of the tender, following the issuance of a generation license by the Authority, an ancillary service agreement regarding regional capacity leasing shall be signed with the generation facility owner legal entity or entities that have started commercial operation, effective from the commencement date of the service announced in the tender.

### **Selection of generation facilities that can provide service of regional capacity leasing**

**ARTICLE 55** - (1)<sup>111</sup> The regional capacity leasing unit price, which is the basis for selection of the generation facilities that can provide service of regional capacity leasing, shall be calculated according to the following formula:

$$BKKBF_{u,t} = \frac{[(EF_{u,t} \times BKKTK_{u,t} \times TY\ddot{U}S_{u,t} \times k) + YKTF_{u,t}]}{BKKTK_{u,t}}$$

(2)<sup>112</sup> The expressions used in the formula set out above shall have the following meanings:

a) BKKBF<sub>u,t</sub>: The regional capacity leasing unit price (TL/MW) calculated for the generation facility "u" with technology "t",

b) EF<sub>u,t</sub>: The unit energy price (TL/MWh) bid by the generation facility "u" with technology "t",

c) BKKTK<sub>u</sub>: The capacity (MW) bid by the generation facility "u" within the scope of regional capacity leasing with technology "t",

ç) TYÛS<sub>u,t</sub>: The minimum annual production time (hour) announced in the tender notice for the generation facility "u" with technology "t",

d) YKTF<sub>u,t</sub>: The annual capacity bid price (TL) bid ed by the generation facility "u" with technology "t",

e) k: The coefficient set forth under the tender announcement by TEİAŞ, which will determine the weight of the unit energy price to be bid ed in the procurement process carried out by TEİAŞ within the regional capacity leasing unit price, which will be taken as the basis for the selection of generation facilities to provide services within the scope of regional capacity leasing service.

(3) Regional capacity leasing unit price is calculated by TEİAŞ in accordance with the formula stated in the first paragraph for each generation facility that has a valid bid to provide regional capacity leasing service. Calculated unit prices shall be listed in order of price, and a bid shall be selected to meet the amount set forth under the tender specifications.

### **Ancillary service agreements for regional capacity leasing**

**ARTICLE 56** - (1) Regarding regional capacity leasing, standard ancillary service agreements regarding regional capacity leasing prepared by TEİAŞ and approved by the Board

<sup>110</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>111</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>112</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

shall be signed between the legal entities selected in accordance with Article 55 and TEİAŞ. It is essential to sign a separate ancillary service agreements regarding regional capacity leasing with each legal entity engaged in generation activity for each generation facility selected as a result of tenders.

(2) It is essential that ancillary service agreements to be signed between legal entities engaged in generation activity and TEİAŞ regarding regional capacity leasing include at least the following information and documents;

a)<sup>113</sup> The period covered by the agreement, not more than 2 years for existing generation facilities, adding units to existing generation facilities and mobile power plants, and not more than 8 years for new generation facilities to be built or to be moved.

b) A letter of undertaking indicating that the service will be provided during the agreement period, if needed,

c) Technical features of the generation facility covered by the agreement,

ç) Energy price and annual capacity bid price determined as a result of the tender for the generation facility within the scope of the agreement.

(3) It is essential that the generation facilities included within the scope of ancillary service agreement regarding regional capacity leasing to provide services in accordance with the provisions of the Electricity Network Regulation, Electricity Market Balancing and Settlement Regulation and ancillary service agreement regarding regional capacity leasing.

(4) The legal entity engaged in generation activity shall fulfill the participation of the generation facility in other ancillary services and other obligations regarding network compliance in accordance with the provisions of the applicable legislation.

### **Pricing of regional capacity leasing**

**ARTICLE 57**<sup>114</sup> – (1) The monthly capacity fee to be paid, if they work for at least two thirds (2/3) of the minimum working period set forth under the ancillary service agreement for the relevant billing period, to the legal entities engaged in generation activity for the generation facility registered in its name regarding the service of regional capacity leasing shall be calculated in accordance with the following formula:

$$BKKT_{p,f} = \sum_{u=1}^n ((YKTF_{p,u} \div 12) \times \frac{EBSS_{p,u,f}}{TSS_f})$$

(2) The expressions used in the formula set out above shall have the following meanings:

a) BKKBp, f: The regional capacity leasing fee (TL) to be accrued as receivables due to the service of regional capacity leasing provided in the billing period "f" to the legal entity "p" engaged in generation activity;

b) YKTFp, u: The annual capacity bid price (TL) bid for the generation facility "u" registered in the name of the legal entity "p" engaged in generation activity;

c) FÜSp, u, f: The period of actual generation (hours) of the generation facility "u" registered in the name of the legal entity "p" engaged in generation activity during the billing period "f";

ç) AÜSu, t, f: The minimum monthly working period (hour) set forth under the tender announcement and in the ancillary service agreement for the generation facility "u" with technology "t", specific to the billing period "f";

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<sup>113</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>114</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

d) n: The number of production facilities registered in the name of the legal entity "p" engaged in generation activity and having an ancillary service agreement regarding regional capacity leasing;

e) TYÜSu, t: The minimum annual generation time (hour) announced by TEİAŞ and included in the ancillary service agreement for the generation facility "u" with technology "t".

(3) Payment of the monthly capacity fee calculated according to the formula stated in the first paragraph is started after the generation facility starts to work.

(4) In the event that the generation facility or generation facilities within the scope of the relevant ancillary service agreement work for at least two-thirds or more than two-thirds of the monthly minimum working period set forth under the tender announcement and set forth under the ancillary service agreement, specific to the relevant billing period, the regional capacity rental fee calculated in accordance with the first paragraph shall be paid to the generation license holder legal entity with an ancillary service agreement regarding regional capacity leasing.

### **Penalty regarding service of regional capacity leasing**

**ARTICLE 58<sup>115</sup>** - (1) In case of failure to submit a bid to the balancing power market in accordance with the provisions of the agreement, except for maintenance periods and breakdowns for a generation facility covered by the relevant ancillary service agreement and/or a generation facility within the scope of the relevant ancillary service agreement works for a period of less than two-thirds of the monthly minimum generation period set forth under the tender notice and included in the ancillary service agreement, specific to the relevant billing period during an billing period; no payment shall be made to the generation license holder legal entity with an ancillary service agreement regarding regional capacity leasing for the relevant generation facility in the said billing period.

(2) In case of the generation facility and/or generation facilities within the scope of the relevant ancillary service agreement work for a period of less than the monthly minimum working period set forth under the tender announcement and included in the ancillary service agreement but the said generation facility and/or generation facilities shall not be included in the scope of the first paragraph, since the working period of the said generation facility during the relevant billing period is equal to or more than two-thirds of the said minimum working period, the non-fulfillment fee is reflected to the generation license holder legal entity with an ancillary service agreement regarding regional capacity leasing in accordance with the formula given below:

$$BKKYGB_{p,f}: \sum_{u=1}^n \left( \frac{(A\ddot{U}S_{u,t,f} - F\ddot{U}S_{p,u,f}) \times YKTF_{p,u}}{TY\ddot{U}S_{u,t}} \right)$$

(3) The expressions used in the formula set out above shall have the following meanings:

a) BKKYGBp, f: Regional capacity lease non-fulfillment fee (TL) to be accrued to the legal entity "p" engaged in generation activity due to the regional capacity leasing service provided in the billing period "f";

b) YKTFp, u: Annual capacity bid price (TL) bid ed for the generation facility "u" registered in the name of the legal entity "p" engaged in generation activity;

c) FÜSp, u, f: The period (hours) that the generation facility "u" registered in the name of the legal entity "p" engaged in generation activity actually generates during the billing period "f";

ç) AÜSu, t, f: The minimum monthly working period (hour) set forth under the tender announcement and in the ancillary service agreement for the generation facility "u" with technology "t", specific to the billing period "f";

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<sup>115</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

d) n: The number of generation facilities registered in the name of the legal entity "p" engaged in generation activity and having an ancillary service agreement regarding regional capacity easing;

e) TYÜSu, t: Minimum annual production time (hour) for the generation facility "u" with technology "t" announced by TEİAŞ and included in the ancillary service agreement.

## **CHAPTER TEN**

### **Notices, Invoicing and Payments**

#### **Notices within the scope of providing ancillary services**

**ARTICLE 59**<sup>116</sup> - (1) Announcements and instructions regarding the supply of ancillary services shall be primarily notified to the legal entities providing the relevant ancillary services via ASMMS. Instructions submitted via ASMMS may also be confirmed by telephone if deemed necessary.

(2) Legal entities providing ancillary services shall be obliged to take the necessary measures to gain access to ASMMS. However, if ASMMS is not functioning, notifications can be made via fax and telephone, respectively. Notifications made via fax and telephone shall be transferred to ASMMS by the system operator.

(3) ASMMS records shall be taken as basis in instruction notices made through ASMMS. If the relevant instruction notices is made using other communication channels, the records regarding the communication channels used shall also be applied. In the event of conflict between the system operator and the legal entity providing ancillary service, the voice recordings in the voice recording system at the load dispatch center where the instruction was given shall be valid.

#### **Payment notices**

**ARTICLE 60**<sup>117</sup> - (1) The payment notices for the legal entities providing ancillary services, including the payments to be made as a result of the service they provide, shall be prepared by EPIAŞ and announced to the relevant legal entities until the end of the working day on the seventh day of the month following the month in which the service is provided. In these notices, the payment amounts for all ancillary services provided by the relevant legal entity during the month subject to service shall be specified separately.

(2) For the preparation of payment notices, the following information is provided by system operator regarding the relevant legal entities and/or facilities:

a) The starting and ending times of the instructions given for the legal entities/facilities to provide ancillary services, and the instruction amounts,

b) As a result of monitoring, the amount of ancillary service determined based on the time that legal entities facilities actually provide ancillary services, the number of activations and the monitoring principles.

(3) For the preparation of payment notices, the following information is provided by TEİAŞ regarding the relevant legal entities and/or facilities through ASMMS:

a) Hourly system marginal prices,

b) Supply-withdrawal amounts measured from the meter,

c) Finalized day ahead generation/consumption programs,

ç) Load taking and load shedding instructions given within the scope of balancing power market.

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<sup>116</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>117</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

(4) For the preparation of payment notices, the following information is provided by TEİAŞ through participation agreements, ancillary service agreements or the decision of the relevant Board regarding the relevant legal entities and/or facilities:

a) Unit service fee or capacity fee determined as a result of the procurement process or incurred in the tender,

b) Price and amount of ancillary service bid.

(5) The amount of fuel or electricity and fuel price information used for the recovery of the settled system is provided to TEİAŞ by the relevant legal entity providing ancillary service.

(6) The information in the second, third, fourth and fifth paragraphs is notified to EPIAŞ in the format determined by TEİAŞ until the end of the working day on the fourth day of each month, at the latest.

(7) TEİAŞ notifies the legal entities providing ancillary services of the non-fulfillment fees imposed due to the obligations they have not fulfilled during the service they provide until the end of the working day on the seventh day of the relevant month via ASMMS,. In these notices, the non-fulfillment fees incurred and calculated by the relevant legal entity during the said month shall be specified separately for each ancillary service.

(8) Relevant legal entities shall make their objections to the payment notifications within the scope of the first paragraph to EPIAŞ and shall make their objections to TEİAŞ regarding the notices of non- fulfillment fees within the scope of the seventh paragraph within 2 (two) days following the publication of the notifications. The objected organization concludes these objections until the end of the working day on the twelfth day of the relevant month. TEİAŞ notifies EPIAŞ about the amounts of non- fulfillment fees arising as a result of evaluation of the results of the objection made to EPIAŞ until the end of the working day on the thirteenth day of the relevant month to include it in the finalized payment notice. Finalized payment notices resulting from both payment notices shall be notified to the relevant legal entities by EPIAŞ until the end of the working day on the fourteenth day of the relevant month.

### **Invoicing**

**ARTICLE 61**<sup>118</sup> - (1) Legal entities providing ancillary services shall communicate the invoices for the service they provide to TEİAŞ within 7 (seven) days starting from the fifteenth day of the relevant month, consistent with the final payment notifications sent to them by EPIAŞ.

(2) TEİAŞ shall issue invoices for non- fulfillment fees imposed due to non-fulfillment of obligations of legal entities providing ancillary services within 7 (seven) days starting from the fifteenth day of the relevant month, consistent with the finalized payment notices published by EPIAS to legal entities.

### **Payment, collection and objections**

**ARTICLE 62**<sup>119</sup> - (1) The invoices issued consistent with the finalized payment notices notified by EPIAŞ to legal entities providing ancillary services shall be paid by TEİAŞ within fifteen working days following the notice date of the invoice.

(2) The invoices regarding the non- fulfillment fees issued by TEİAŞ consistent with the finalized payment notices shall be paid to TEİAŞ by the relevant market participant and/or legal entities providing ancillary services within fifteen working days following the notice date of the invoice.

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<sup>118</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>119</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.



(3) TEİAŞ shall make an objection to the invoices that are not issued consistent with the finalized payment notices within 7 (seven) working days from the notice date of the invoice and returns the invoice. No payment shall be made for the returned invoice. The cost of the re-issued invoice is paid by TEİAŞ within 15 (fifteen) working days following the notice date of the re-issued invoice.

(4) Legal entities and market participants who provide ancillary services can make a written objection to TEİAŞ regarding the invoices within 7 (seven) working days from the notice date of the invoice. The objection of the legal entities or market participants to the invoices does not eliminate their payment obligations. TEİAŞ investigates the legitimacy of the objection by examining the registration information and settlement calculations according to the reason of the objection made to it. Material errors shall be concluded immediately, objections other than material errors are concluded within 20 (twenty) working days by TEİAŞ. In the event of the objection is found legitimate and/or TEİAŞ detects an error made without an objection, the necessary correction is made. The disputes regarding the result reached by TEİAŞ shall be examined by the Authority if the legal entities providing ancillary services or market participants apply within 20 (twenty) working days following the date on which TEİAŞ's result is notified to them.

(5) In the event that the relevant parties do not pay the invoice amounts set forth under this Article within the period set forth under this Article, default interest shall be applied to the invoice amounts not paid on time. This rate is the default interest rate determined in accordance with Article 51 of the Law on the Procedure for Collection of Public Receivables dated 21/7/1953 and numbered 6183.

(6) In case the legal entities or market participants providing ancillary services do not pay the invoice amount within 15 (fifteen) working days following the notice date of the invoice, the relevant party is deemed to be in default. Payments that must be made by the party in default, shall be deducted primarily from the receivables of the relevant legal entity in TEİAŞ, if any, without prejudice to legal remedies.

### **Correction transactions**

**ARTICLE 63**<sup>120</sup> - (1) Objections regarding the ancillary services provided in the previous invoice period, which could not be detected within the period specified in Article 60, shall be made in writing to the relevant party within 6 (six) months following the invoice period. In case the objections regarding the payment notices made by the individuals/legal entities providing ancillary services are evaluated by EPIAŞ or TEİAŞ in accordance with their content, the necessary corrections are made by EPIAŞ. Following the conclusion of the objection, notification is made thorough the system by EPIAŞ to the legal entity performing the related ancillary service activity. As a result of the correction, the payment that is required to be made to the legal entity or individuals or payment to be made by a legal entity is included as a retrospective adjustment item in the payment notice after the date of the notice regarding the correction.

### **Notification or actions contrary to facts**<sup>121</sup>

**ARTICLE 63/A**<sup>122</sup> - (1) If it is determined that a legal entity that is a participant in the ancillary services market has made notification or transaction contrary to facts regarding the service provided by an ancillary service unit registered on its behalf and/or provides misleading

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<sup>120</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>121</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>122</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

information or documents, ancillary service certificate and/or performance test report of the said ancillary service unit may be suspended by TEİAŞ and/or service procurement from the relevant ancillary service unit may be temporarily suspended. Without prejudice to the rights of TEİAŞ arising from the agreement regarding the related ancillary service, if the situation specified in the first sentence is determined, TEİAŞ applies to the Authority within 15 (fifteen) business days, together with the information and documents in evidence, in order to initiate proceedings against the relevant legal entity.

## **CHAPTER ELEVEN**

### **Miscellaneous and Final Provisions**

#### **Anti-competitive acts and transactions**

**ARTICLE 64**<sup>123</sup> - (1) Attempts to conduct an investigation by the Competition Authority regarding legal entities suspected of being involved in an anti-competitive act and transaction regarding any ancillary service handled within the scope of this Regulation shall be initiated by TEİAŞ by preparing a report on abuse of dominant position and submitting it to the Authority or directly by the Authority.

(2) By introducing the obligation to participate in the said ancillary service procurement tender to the ancillary service units registered in the name of ancillary service market participants determined by the Competition Authority to be in anti-competitive actions, the maximum price limits to be applied to the offers of these ancillary service units may be regulated on the basis of ancillary service units for a maximum of 1 (one) year by the Board's decision. The procedures and principles regarding the regulation aforementioned enter into force upon approval by the Board.

#### **Transfer and assignment**

**ARTICLE 65** - (1) Except for the transfer of obligations defined for primary and secondary frequency control services, transfers and assignments made regarding obligations within the scope of this Regulation shall not be in effect against TEİAŞ. The rights within the scope of this Regulation may only be transferred or assigned by obtaining approval from TEİAŞ.

#### **Privacy**

**ARTICLE 66**<sup>124</sup> - (1) Within the framework of the provisions of this Regulation, TEİAŞ shall be obliged to take the necessary measures to keep the information and documents provided by the relevant legal entities confidential.

#### **The abolished regulation**

**ARTICLE 67** - (1) Electricity Market Ancillary Services Regulation published in the Official Gazette dated 27/12/2008 and numbered 27093 has been abolished.

#### **Ancillary service obligations regarding EÜAŞ**<sup>125</sup>

**PROVISIONAL ARTICLE 1**<sup>126</sup> - (1) Including those licensed under the provisional Article 12 of the Law, Generation facilities that sell electricity to EÜAŞ within the scope of their existing

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<sup>123</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>124</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>125</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>126</sup> Amended pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

contracts with Build Operate, Build Operate Transfer and Transfer of Operating Rights models shall be included in the participation or ancillary service agreements to be made with EÜAŞ.

(2) The rights and obligations regarding the fulfillment of the works and transactions regulated in this Regulation Regarding the participation of generation facilities in this scope to ancillary services belong to EÜAŞ.

(3) Receivables and debts arising from the provision of ancillary services regarding the said generation facilities are accrued to EÜAŞ.

(4) The obligation of generation facilities that sell electricity to EÜAŞ with the Build Operate, Build Operate Transfer and Transfer of Operating Rights models to provide relevant ancillary services to EÜAŞ is as contained in the Energy Sales Agreements signed.

(5) The power factor limits that EÜAŞ is obliged to provide due to the generation facilities that sell electricity to EÜAŞ with the Build Operate, Build Operate Transfer and Transfer of Operating Rights models, are the values included in the Energy Sales Agreements signed.

**Scope of the service fee for the recovery of the settled system** <sup>127</sup>  
**PROVISIONAL ARTICLE 2** <sup>128</sup>

**Ancillary services related to the distribution system** <sup>129</sup>  
**PROVISIONAL ARTICLE 3** <sup>130</sup>

**Establishment of the Obligation Transfer Platform** <sup>131</sup>

**PROVISIONAL ARTICLE 4** <sup>132</sup> – (1) The software and installation stages of the obligation transfer platform to be established within the scope of YHPYS for frequency control services shall be completed by TEİAŞ within 10 (ten) months from the effective date of this Article and put into use.

(2) The Procedures and Principles Regarding the Operation of the Obligation Transfer Platform shall be prepared by TEİAŞ within 6 (six) months from the effective date of this Article, to be published at least 1 (one) month before the platform is put into use, and submitted to the Authority for Board approval.

**Procedures and principles regarding demand side reserve service and service procurement** <sup>133</sup>

**PROVISIONAL ARTICLE 5** <sup>134</sup> - (1) As of the effective date of this Article; the minimum annual energy consumption for consumption facilities that can provide demand-side reserve service shall be 10,000,000 (ten million) kWh.

(2) TEİAŞ shall prepare the Procedures and Principles Regarding the Certification of Consumption Facilities within the scope of demand-side reserve service and the Procedures and Principles Regarding the Determination of the Basic Consumption Value for consumption facilities that will participate in the service within the scope of demand-side reserve service, and submitted to the Board for approval within 6 (six) months from the effective date of this Article.

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<sup>127</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>128</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>129</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>130</sup> Repealed pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>131</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>132</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>133</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>134</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

**Submission of ancillary service agreements for Board approval<sup>135</sup>**

**PROVISIONAL ARTICLE 6<sup>136</sup>** - (1) Standard ancillary service agreements regarding demand-side reserve, regional capacity rental, instant demand control and recovery of the resident system shall be prepared by TEİAŞ within 3 (three) months from the effective date of this Article and submitted to the Authority for Board approval.

**Enforcement**

**ARTICLE 68<sup>137</sup>** - (1) This Regulation shall enter into force on 1/2/2018.

**Execution**

**ARTICLE 69** - (1) The provisions of this Regulation shall be executed by the President.

	<b>Regulation Published in the Official Gazette</b>	
	<b>Dated</b>	<b>Numbered</b>
	26/11/2017	30252
	<b>Regulations Amending the Regulation Published in the Official Gazettes</b>	
	<b>Dated</b>	<b>Numbered</b>
	1	12/1/2018
2	27/1/2021	31377
3	1/4/2021	31441

<sup>135</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>136</sup> Inserted pursuant to the Regulation in the Official Gazette dated 27 January 2021 and numbered 31377.

<sup>137</sup> Amended pursuant to the Regulation in the Official Gazette dated 12 January 2018 and numbered 30299.