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## **Terms and Conditions for Voltage Service Providers (T&C VSP)**

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*pursuant to Articles 4 and 234 of the Royal Decree of 22 April 2019, as amended from time to time, establishing a federal technical regulation for the management of and access to the transmission grid (hereinafter referred to as 'Federal Grid Code')*



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THE BELGIAN TRANSMISSION SYSTEM OPERATOR ELIA, TAKING INTO ACCOUNT THE FOLLOWING

**Whereas**

- (1) ELIA Transmission Belgium NV/SA (hereinafter referred to as 'ELIA') is responsible for the operation of the Belgian transmission system, for which it holds a right of ownership or at least a right of use. ELIA has been appointed Transmission System Operator (TSO), in accordance with the Law of 29 April 1999 concerning the organisation of the electricity market (hereinafter referred to as the "Electricity Law"), and guarantees the safety, reliability and efficiency of the Belgian transmission system.
- (2) This document constitutes a proposal by ELIA regarding the terms and conditions applicable to Voltage Service Providers or 'VSPs' (hereinafter referred to as the 'T&C VSP') and includes the requirements set up in Article 234 of the Federal Grid Code:
  - (a) The terms and conditions applicable to VSPs
  - (b) the technical specifications for the provision of the service for reactive power and voltage management,
  - (c) the participation conditions,
  - (d) the mechanism for the constitution of the service,
  - (e) and, if any, the modalities for the compensation with regard to the participation to this service.
- (3) Pursuant to the Electricity Law, the Commission for Electricity and Gas Regulation (hereinafter referred to as 'CREG') is the relevant regulatory authority, tasked under Article 4 of the Federal Grid Code, for approving the terms and conditions related to voltage services.
- (4) Pursuant to Article 4(1) of the Federal Grid Code, the regulatory authority is competent to approve the proposals of model contracts, among which contracts for the provision of ancillary services other than balancing services.
- (5) Pursuant to Article 4(2) of the Federal Grid Code, the regulatory authority shall decide on the proposal of T&C VSP within a reasonable timeframe from the date of submission by the TSO.
- (6) Pursuant to Article 223 of the Federal Grid Code, the services for reactive power and voltage management are ancillary services. Articles 234 of the Federal Grid Code is applicable to these services.
- (7) The TSO contracts these ancillary services according to Article 12 *quinquies* of the Electricity Law.
- (8) Elia will publish these T&C VSP on its website in the following reference languages: Dutch and French.

SUBMIT THE FOLLOWING PROPOSAL TO THE COMPETENT REGULATORY AUTHORITY

## **Article 1**

### **Subject matter and scope**

- (1) The T&C VSP are the proposed terms and conditions applicable to voltage service providers or VSPs pursuant to Article 4 and 234 of the Federal Grid Code.
- (2) Pursuant to Article 4 of the Federal Grid Code, the proposal for model contract for the ancillary service of reactive power and voltage management must be submitted to CREG for approval.
- (3) Pursuant to Article 234 of the Federal Grid Code, the terms and conditions to act as voltage service providers, the technical specifications for the provision of the service for reactive power and voltage management, the participation conditions and the mechanism for the constitution of the service are included in the model contract as stated in paragraph (2).

## **Article 2**

### **Implementation Date**

- (1) These T&C VSP shall enter into force one month after the approval by CREG and not before January 1<sup>st</sup> 2023.

## **Article 3**

### **Language**

- (1) The reference languages for the T&C VSP are Dutch and French. The T&C VSP will be made available to affected market players in English for information and consultation purposes.

## **Article 4**

### **General provisions**

- (1) In these T&C VSP, unless the context require otherwise:
  - (a) The singular indicates the plural and vice versa;
  - (b) References to one gender include all other genders;
  - (c) The table of contents, titles and headings in these T&C VSP are for convenience only and do not affect their interpretation;
  - (d) The word "including" and its variations are to be construed without limitation;
  - (e) Any reference to legislation, regulations, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it then in force.

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## **APPENDIX : MODEL CONTRACT FOR VOLTAGE AND REACTIVE POWER CONTROL SERVICE**

# **Contract for Voltage & Reactive Power Control Service**

**“VSP Contract”**

## **Contract Reference [ContractReference]**

**between**

**[Company]**, a company established under **[Country]** law with registered offices at **[Address]**, company registration number **[Number]** and validly represented by **[Name1]** and **[Name2]**, in their respective capacity of **[Role1]** and **[Role2]**;

hereinafter referred to as the "**[ServiceProvider]**",

**and**

**ELIA Transmission Belgium N.V./S.A.**, a company established under Belgian law with registered offices at Keizerslaan 20, B-1000 Brussels, registered at the Crossroad Bank for Enterprises under number 0476.388.378 and represented by **[Name1]** and **[Name2]**, in their respective capacities of **[Role1]** and **[Role2]**;

hereinafter referred to as "Elia",

Elia and the **[ServiceProvider]** may also hereinafter be referred to individually as "the Party" and collectively as "the Parties".

**Whereas:**

- Elia is responsible for the operation of the Belgian transmission system over which it has an ownership right or, at least, a right of use (hereinafter referred to as the “Elia Grid”);
- Elia has been appointed as Transmission System Operator (hereinafter referred to as the “TSO”), in accordance with the Belgian law of 29 April 1999 concerning the organisation of the electricity market (hereinafter referred to as the “Electricity Act”) and supervises the safety, reliability and efficiency of the Elia Grid;
- Elia must therefore safeguard operational security, frequency quality and the efficient use of the interconnected system and resource – in accordance with the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereinafter referred to as “SOGL”);
- [VSP] has expressed its willingness to become a Voltage Service Provider (“VSP”) according to the terms and conditions of this Contract for the Voltage and Reactive Power Control Service;
- The Parties understand that this Contract is not a contract granting access to the Elia Grid;
- The Service is procured as part of the Grid User’s obligation and/or voluntarily, according to article 234 of the Federal Grid Code and to article 12 *quinquies* of the Electricity Act;
- The General and Specific Conditions as detailed hereafter shall govern the Contract, as well as the rights and obligations of the Parties relating to the Voltage and Reactive Power Control Service , without prejudice to the applicable provisions of the Federal Grid Code or, where appropriate, without prejudice to compliance with the relative Sensitivity Coefficient set in Annex 1 in accordance with the criteria defined to that end in the Connection Contract for the Technical Unit concluded with Elia;
- This Contract falls under the Terms and Conditions for Voltage and Reactive Power Control Services.

**the following points have been agreed:**

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# PART I - GENERAL CONDITIONS

## ART. I.1 DEFINITIONS

Except where there is further specification aimed at application for the purposes of the present Contract, and without ignoring the stipulations of public order, the concepts defined in the Electricity Act, the electricity decrees and/or ordinances in relation to the organization of the electricity market and/or the various applicable Grid Codes and EU network codes, regulations and guidelines, as amended from time to time, are also included for the purposes of the Contract in the sense of these statutory or regulatory definitions.

In addition, the following definitions apply for the purposes of the Contract:

Annex	Any annex to the present Contract;
Article or Art.	Any article of the present Contract;
CACM	Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management;
Contract	The present contract, including its Annexes;
CREG	The Commission for Electricity and Gas Regulation, i.e. the Belgian national regulatory authority;
Direct Damage	Any damage, with the exclusion of Indirect Damage, directly and immediately resulting from any contractual breach and/or fault within the framework of or as a result of the execution of the Contract, on any grounds whatsoever (contractual or extra-contractual). The said fault being one, which under similar circumstances, an experienced, professional Service Provider or TSO, respectively, acting according to the rules and taking all reasonable precautions would in no case have committed;
EBGL	Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing;
Electricity Act	The Belgian law of 29 April 1999 concerning the organisation of the electricity market (« Loi du 29 avril 1999 relative à l'organisation du marché de l'électricité, <i>M.B.</i> 11.05.1999 » / « Wet van 29 april 1999 betreffende de organisatie van de elektriciteitsmarkt, <i>B.S.</i> 11.05.1999 »), as amended from time to time;
E&R NC	Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration;
General Conditions	Part I to the present Contract. The General Conditions are identical in the following contracts for ancillary services to be concluded by Elia: the contracts for balancing services (BSP – “Balancing Service Provider” contracts for FCR – “Frequency Containment Reserve”, aFRR “automatic Frequency Restoration Reserve” and mFRR – “manual Frequency Restoration Reserve”), the contracts for restoration services (RSP –

	“Restoration Service Provider”), the contracts for voltage and reactive power control services (VSP – “Voltage Service Provider”) and the contracts for services related to congestion management (OPA – “Outage Planning Agent” and SA – “Scheduling Agent”);
Grid Codes	The Federal Grid Code for Transmission (adopted in the form of royal decree on the basis of article 11 of the Electricity Act – currently the “Arrêté royal du 22 avril 2019 établissant un règlement technique pour la gestion du réseau de transport de l’électricité et l’accès à celui-ci, <i>M.B. 29.04.2019</i> ” / “Koninklijk besluit van 22 april 2019 houdende een technisch reglement voor het beheer van het transmissienet van elektriciteit en de toegang ertoe, <i>B.S. 29.04.2019</i> ”), as amended from time to time, and the grid codes for local and regional transmission, as amended from time to time;
Indirect Damage	Any indirect damage or consequential damage, such as, but not limited to loss of revenue, loss of profit, loss of data, loss of business opportunities, loss of (prospective) clients, missed savings;
Law of 2 August 2002	The Law of 2 August 2002 against payment arrears in commercial transactions (“Loi du 2 août 2002 concernant la lutte contre le retard de paiement dans les transactions commerciales, <i>M.B. 7.08.2002</i> ” / “Wet betreffende de bestrijding van de betalingsachterstand bij handelstransacties, <i>B.S. 7.08.2002</i> ”), as amended from time to time;
Service(s)	The service(s) and tasks as described in the Specific Conditions of the present Contract and as provided by the Service Provider;
Service Provider	The Service Provider as identified on the first page of the present Contract;
SOGL	Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation;
Specific Conditions	Part II of the present Contract, supplemented by any Annexes;
Terms and Conditions	The terms and conditions as required by, and developed in accordance with, the applicable European regulations. The present Contract constitutes an appendix to the Terms and Conditions as identified in the Whereas section of the present Contract;
Working Day	Any calendar day except for Saturday, Sunday and Belgian public holidays.

## ART. I.2 SCOPE OF SERVICES AND CONTRACTUAL STRUCTURE

### I.2.1 Scope of Services

By the signature of the present Contract, the Service Provider undertakes to provide the Service(s) in accordance with the General and Specific Conditions as provided for in this Contract.

The present Contract between the Parties lays down their mutual rights and obligations in relation to the procurement by Elia from the Service Provider and the eventual provision by the Service Provider to Elia of the Service(s).

#### I.2.2 Structure of the Contract

The present Contract is composed of a first part containing the General Conditions and of a second part containing the Specific Conditions for the Services, supplemented by any Annexes.

The Parties shall ensure that the proper performance of this Contract is always based on the existence and proper performance of the requisite contractual agreements, if any, with third parties involved.

### **ART. I.3 RULES OF INTERPRETATION**

By signing this Contract, the Service Provider explicitly renounces to apply its own general conditions, special or otherwise, regardless of the time when they were issued or the form of their issuance.

The substantiation in this Contract of a specific obligation or stipulation listed in the applicable legislation shall in no way be considered as derogating from the obligations or stipulations which, under the applicable legislation, must be applied to the relevant situation.

In this Contract, including its Annexes, unless the context requires otherwise:

- The singular indicates the plural and vice versa;
- References to one gender include all other genders;
- The table of contents, titles and headings in this Contract are for convenience only and do not affect their interpretation;
- The word “including” and its variations are to be construed without limitation;
- Any reference to legislation, regulations, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it then in force.

### **ART. I.4 ENTRY INTO FORCE AND DURATION OF THIS CONTRACT**

#### I.4.1 Entry into force of this Contract

This Contract shall enter into force once it has been validly signed by all Parties, provided the Terms and Conditions to which this Contract relates have already entered into force. Otherwise, this Contract shall enter into force, once validly signed by all Parties, on the implementation date of such Terms and Conditions.

Once this Contract has entered into force, the Parties shall be bound by the General Conditions as detailed under Part I and the Specific Conditions as detailed under Part II of this Contract, supplemented by any Annexes. This is without prejudice to the fact that Part II might foresee a later start date for the provision of certain Services.

Once this Contract has entered into force, it supersedes all previous agreements and documents exchanged between the Parties relating to the same subject matter.

#### I.4.2 Duration of the Contract

Without prejudice to Art. I.11 and without prejudice to the applicable legislation and regulations, the duration of this Contract is specified in Part II on the Specific Conditions.

### **ART. I.5 INVOICING AND PAYMENT**

#### I.5.1 Invoicing matters – General instructions

Without prejudice to specific instructions regarding invoicing matters as may be provided for under the Specific Conditions of this Contract, each invoice sent under this Contract shall include at least the following items:

- 1) Full name and address of both the invoicing Party and the invoiced Party;
- 2) VAT number of both the invoicing Party and the invoiced Party;
- 3) Invoiced amount, valued in euro;
- 4) Bank account and bank address (including IBAN and BIC) on which the relevant payment shall be made;
- 5) Invoice number;
- 6) Invoice issue date;
- 7) Designation of the Service and the period on the invoice;
- 8) Tax rate and tax amount separately, if any;
- 9) Specific constraint for invoicing, required by article 226 of Directive 2006/112/CE, if any, e.g. indication of the reference to the applicable provision of the Directive where the supply of services is subject to the VAT reverse charge procedure;
- 10) Reference if required by the invoiced Party;
- 11) Payment term in accordance with Art. I.5.2 hereafter; and
- 12) Specific items as listed in any invoicing section provided for under the Specific Conditions of this Contract.

The absence of one of the abovementioned stipulations shall nullify the invoice and render it valueless. In such a case, the invoiced Party reserves the right to return the invoice to the invoicing Party within a period of 15 (fifteen) Working Days. Returning the invoice in this way shall constitute rejection of the invoice, without any other reaction from the invoiced Party being necessary. Failure by the invoicing Party to observe the abovementioned stipulations regarding invoicing will give rise to an incorrect invoice, which will be the subject of a credit note to invoiced Party. The invoicing Party may then send a new and corrected invoice.

### I.5.2 Payment matters

Payments will be made within 30 calendar days following the end of the month in which the invoice is received (this is the due date of the invoice). The invoiced Party shall pay the invoicing Party by direct transfer to the stated bank account. Within the scope of this Article, an invoice will be considered received on the third Working Day following the date when the invoice was sent (postmark will serve as proof in case of a paper invoice sent by post – in case of an electronic invoice the date the invoice was submitted in the electronic system or sent by email will apply).

Any objection regarding the amount of an invoice must, in order to be admissible, be sent by registered letter to the invoicing Party before the due date of the disputed invoice as set above. The reasons for the objection shall be described as comprehensibly and in as much detail as is reasonably possible. If the value of the invoice is disputed, the undisputed part of the invoice shall still be paid. The Parties will discuss in good faith in order to reach an agreement on the disputed amount of the invoice within thirty (30) Working Days of the receipt of the registered letter, failure of which Art. I.13 will apply.

The amount subject of an objection shall be paid within 30 calendar days following the end of the month in which 1) the agreement is reached in respect of the dispute or 2) the decision has been adopted by which the dispute is definitively settled between the Parties according to Art.I.13. The Parties undertake not to invoke the exception of non-performance (“exceptio non adimpleti contractus”) in order to suspend the performance of their respective obligations during the dispute.

### I.5.3 Interest for delayed payment

Late payment will automatically and without notice of default incur interest on the total amount of the invoice as specified in article 5 of the Law of 2 August 2002 from the day following the due date, up to and including the day when payment in full is made.

## ART. I.6 LIABILITY

### I.6.1 General principles

Without prejudice to any obligation of result provided for under this Contract (such as confidentiality and payment obligations), as the case may be, and without prejudice to the application of a penalty system as provided by the Contract, the provision of the Services by the Service Provider is an obligation of means (“middelenverbintenis – obligation de moyens”).

The Parties shall do their utmost effort, during the lifetime of the Contract, to prevent damage by one Party to the other and, as the case may be, to limit it.

### I.6.2 Direct Damages

The Parties to this Contract shall be liable to one another for any Direct Damage. The Party in breach and/or at fault will indemnify the other Party and compensate it for any Direct Damage, including for claims by third parties in relation to such Direct Damage. Except in a case of fraud or wilful misconduct, the Parties will under no circumstances be liable to the other Party for compensating or indemnifying the other Party, including for claims by third parties, for Indirect Damage.

### I.6.3 Process

As soon as one of the Parties has knowledge of any claim to pay compensation, including a claim for compensation arising from a claim by a third party, for which the latter might institute proceedings against the other Party, that Party shall inform the other Party thereof without delay. This notification shall be made by means of a registered letter, mentioning the nature of the claim, the amount thereof (if known) and the method of calculation – all in reasonable detail and with reference to the legislative, regulatory or contractual provisions on which the claim might be based. In case of third party claim, the defaulting Party shall fully cooperate with the defending Party in such response and defense as reasonably required.

### I.6.4 Caps

Any compensation due, as the case may be, by any Party to the other Party, is in any case limited to a maximum of twice the value of the Contract per year irrespective of the number of claims, the amount of which cannot exceed €12.5 million (twelve and a half million Euro) per year and per Party. This cap is not applicable in case of fraud or willful misconduct.

## **ART. I.7 EMERGENCY AND FORCE MAJEURE**

### I.7.1 Emergency Situation

In case of an emergency situation (as defined in the applicable legislation and regulations<sup>1</sup>), Elia is entitled and/or obliged to take all the measures provided for in the applicable legislation and regulations. In case of contradictions with the provisions of this Contract, such measures as foreseen in the applicable legislation and regulations shall prevail on the rights and obligations of this Contract. Except if Elia notifies expressly otherwise and/or except in case of a provision of the applicable legislation and regulations stating otherwise, the Service Provider will continue to fulfill its obligations as foreseen under this Contract during this situation.

### I.7.2 Alert, Emergency, Black-out and Restoration state

When the system is in alert, emergency, black-out or restoration state (as defined in the applicable legislation and regulations<sup>2</sup>), Elia is entitled and/or obliged to take all the measures provided for in the applicable legislation and regulations, including under certain circumstances the suspension of market activities as provided for in the applicable legislation and regulations. In case of contradictions with the provisions of this Contract, such measures as foreseen in the applicable legislation and regulations shall prevail on the rights and obligations of this Contract. Except if Elia notifies expressly otherwise and/or except in case of a provision of the applicable legislation and regulations stating otherwise, the Service Provider will continue to fulfill its obligations as foreseen under this Contract during this situation.

### I.7.3 Force Majeure

Without prejudice to the rights and obligations of the Parties in the cases as referred to under Art. I.7.1 and 1.7.2, and as defined in the applicable legislation and/or regulations, and without prejudice to the application of the rescue and restoration provisions, as defined in the applicable legislation and/or regulations, the Parties will be discharged of their respective obligations under this Contract in a case of force majeure that prevents the performance of their obligations under this Contract, either partly or entirely, with the exception

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<sup>1</sup> Including article 72 of CACM; article 16.2 of the Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003 and article 16.2 of the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity.

<sup>2</sup> Including article 3 of SOGL.

of the financial obligations that arose before the force majeure event. This suspension of the obligations will only last as long as the force majeure event.

The term “force majeure” shall mean, without prejudice to the definition of force majeure in applicable legislation and/or regulations, any unforeseeable or unusual event or situation beyond the reasonable control of a Party, and not due to a fault of the Party, which cannot be avoided or overcome with reasonable foresight and diligence, which cannot be solved by measures which are from a technical, financial or economic point of view reasonably possible for the Party, which has actually happened and is objectively verifiable, and which makes it impossible for the Party to fulfil, temporarily or permanently, its obligations in accordance with this Contract and which occurred after conclusion of the Contract.

The application of market mechanisms, such as imbalance prices or the application of high prices in a normal market state, cannot be qualified as force majeure.

The following situations, among others, will be considered as force majeure, but only if they comply with the conditions for force majeure as provided for in the second section of Art. 1.7.3:

- natural disasters arising from earthquakes, floods, storms, cyclones or other climatologically exceptional situations recognized as such by a public authority habilitated for this;
- a nuclear or chemical explosion and its consequences;
- exceptional hazards (or “hors catégorie” hazards) during which the sudden unavailability of elements of the grid (also including closed distribution grids) or of an electricity production unit is caused by reasons other than aging, lack of maintenance or qualification of the operators; including the unavailability of the IT system, whether or not caused by a virus, when all preventive measures have been taken considering the state of the art ;
- the temporary or continuing technical impossibility for the grid to exchange electricity because of disruptions within the control area caused by electrical currents resulting from energy exchanges within another control area or between two or more other control areas and of which the identity of the market participants involved in those energy exchanges is unknown by Elia and which Elia could not reasonably be expected to know;
- the temporary or continuing technical impossibility for a closed distribution grid to exchange electricity because of disruptions within the closed distribution grid caused by events on the Elia grid not attributable to the closed distribution system operator and resulting in disruptions on the closed distribution grid which the closed distribution system operator could not reasonably be expected to prevent or to handle;
- the impossibility to operate the grid (also including closed distribution grids), installations that from a functional point of view are part of it, or installations of the Service Provider, due to a collective dispute that gives rise to a unilateral measure by employees (or groups of employees) or any other labour dispute;
- fire, explosion, sabotage, acts of terrorism, acts of vandalism, damage caused by criminal acts, criminal coercion and threats of a similar nature or acts having the same consequences;
- state of war (declared or not), threat of war, invasion, armed conflict, blockade, revolution or uprising; and
- The situation in which a competent authority invokes urgency and imposes exceptional and temporary measures on the system operators and/or grid users, such as measures needed in order to maintain or restore the safe and efficient operation of the grids, including the order to shed load in case of a shortage.

The Party that invokes a situation of force majeure shall inform the other Party as soon as possible, in writing (by letter or by e-mail), of the circumstances following which it cannot fulfil its obligations, either wholly or in part, how long such non-fulfilment might reasonably be expected to last, and of the measures it has taken to counteract the situation.

Nevertheless, the Party that invokes a situation of force majeure shall do everything possible to limit the consequences of the non-fulfilment of its obligations towards the other Party and third parties and to once again fulfil its obligations.

If the period of force majeure persists for 30 (thirty) successive days or more, and a Party, as a result of the force majeure situation acknowledged by both Parties, is unable to fulfil its essential obligations of the Contract, the other Party may terminate the Contract with immediate effect by a reasoned registered letter.

## **ART. I.8 CONFIDENTIALITY**

### **I.8.1 No divulgence of confidential information**

The Parties and/or their employees shall treat any information that they exchange with one another within the framework or in relation to the Contract in the strictest confidence and not divulge it to third parties unless at least one of the following conditions is met:

- if one of the Parties is called to give evidence in court or in their relations with the competent regulatory, administrative and judicial authorities. The Parties shall, as far as possible, inform each other of the situation in advance, and will reach an agreement concerning the form and content of the communication of this information;
- if a prior written agreement has been obtained from the Party issuing the confidential information;
- with regard to Elia, in consultation with operators of other grids or within the framework of contracts and/or rules with the foreign grid operators or regional security coordinators/regional coordination centers, insofar as necessary and where anonymization is not possible and insofar as the addressee of that information undertakes to accord the same degree of confidentiality to that information as that accorded by Elia;
- if such information is easily and normally accessible or available to the public;
- if the divulgence of such information by a Party to persons such as subcontractors and/or their employees and/or their representatives and/or regional security coordinators/regional coordination centers is essential for technical or safety reasons, insofar as those addressees are bound by rules of confidentiality that appropriately guarantee the protection of confidentiality;
- if the information is already legally known by a Party and/or their employees and work agents at the time of transmission, and which has not been communicated by the notifying Party, prior to the transmission, directly, indirectly, or by a third party by breaching an obligation of confidentiality;
- the information which, after transmission, has been brought to the attention of the recipient Party and/or its staff and work agents via a third party, without breaching an obligation of confidentiality with regard to the notifying Party;
- the divulgence of the information is foreseen by applicable legislation and/or regulation;
- the divulgence of aggregated and anonymized information and data.

This Article is without prejudice to the specific provisions on confidentiality obligations regarding the operator of the Belgian electricity transport network (at both federal and regional levels) imposed by the applicable legislation and regulation.

A Party must not, for reasons of confidentiality, refuse to divulge information that is essential and pertinent to the implementation of the Contract. The other Party to whom such information is communicated guarantees that it will maintain the confidential nature thereof.

The Service Provider declares and guarantees that the confidential information will only be used for the purposes of establishing the bid/performance of the Services and not for other purposes.

Both Parties shall take the requisite measures to ensure that this confidentiality obligation shall also be strictly observed by their employees, as well as any person who, without being an employee of one of the Parties but for whom that Party is nonetheless responsible, might properly receive such confidential information. In addition, confidential information shall only be divulged on a “need-to-know” basis, and reference will always be made thereby to the confidential nature of the information.

#### 1.8.2 Infringements to confidentiality obligations

Any infringement to this confidentiality obligation shall be considered as serious misconduct by the Party that violates that obligation. Such infringement shall give rise to the payment of compensation for any Direct and Indirect, material and immaterial damage (in deviation from Art. 1.6.2) that the other Party can reasonably demonstrate, subject to the caps of Art. 1.6.4.

#### 1.8.3 Ownership

Each of the Parties shall maintain full ownership of that confidential information, even when it has been divulged to other Parties. The transmission of the confidential information does not entail any transfer of property nor of any other right other than those mentioned in the Contract.

#### 1.8.4 Duration

Without prejudice to the applicable legislation and regulations, the aforementioned confidentiality obligations remain in force for a period of 5 (five) years after termination of the Contract.

#### 1.8.5 Phone recordings

The Parties agree that real-time telephone communications will be recorded at their respective dispatching centers. The Parties accept the need for this communication to be recorded and the principle underpinning it. As regards probative value, the Parties acknowledge that the recordings of these communications shall be admissible as proof in the event of a dispute settlement relating to this Contract. Both Parties shall notify their respective staff about the existence and/or possibility of recordings as well as about the existence and/or possibility of recordings by the other Party.

### ART. 1.9 OBLIGATION OF INFORMATION

The Parties undertake, for the duration of this Contract, to inform one another as soon as possible of any event or information that the Party who has knowledge thereof must reasonably consider as an event or information that might have a detrimental effect on the Contract or on the fulfilment of the obligations specified in the Contract towards the other Party.

**ART. I.10 REVIEW**

I.10.1 Amendments to the main body of this Contract (General and Specific Conditions) and generally applicable Annexes

This Contract can only be modified in the course of the process for amendments to the Terms and Conditions to which it relates and following the processes foreseen therefor in the applicable regulations and legislations.

After approval by the CREG of the amendments to the Contract, including the proposed date of entry into force, these amendments shall enter into force, as will be indicated in the implementation plan of the amended Terms and Conditions and as confirmed in the notification via registered mail with acknowledgement of receipt, sent by Elia to the Service Provider in case the amendments would apply to existing contractual relationships for the subject matter which is ruled by this Contract, but however not earlier than 14 days after such notification.

Without prejudice to the competences of the competent authorities and without prejudice to the applicable legislation and regulations, in case the Service Provider does not agree with the amendments that would be applicable to the Contract currently in force, the Service Provider may terminate the Contract, except if the Service Provider is the grid user subject to an obligation to ensure delivery of the Service according to the applicable legislation and regulations, without prejudice to the right of the grid user to designate a third party as Service Provider.

I.10.2 Amendments to Party-specific Annexes

Without prejudice to obligations imposed by the applicable legislation and regulations, any Annex containing Party-specific information can be modified in writing after agreement by both Parties (but only for the Party-specific information itself).

Any modification to the contact information taken up under the relevant Annex to this Contract (i.e. contact person, address, e-mail, phone and fax numbers) must be communicated to the other Party no later than 7 (seven) Working Days before the date on which that modification comes into effect. Both Parties shall keep the contact details as provided for under that Annex up to date throughout the validity of the Contract. These exchanges and updates can be done via e-mail and do not require a formal written amendment process of the Contract.

**ART. I.11 PREMATURE DISSOLUTION IN CASE OF SERIOUS DEFAULT**

The Contract may be suspended or terminated unilaterally by one of the Parties (the 'impacted Party') without judicial intervention if the other Party (the 'defaulting Party') does not rectify a serious breach or fault within 15 (fifteen) Working Days after the defaulting Party has received a registered letter with proof of receipt in which the serious breach or fault is mentioned and in which that Party was notified that the Contract would be suspended or terminated without any further notice if the aforementioned serious breach or fault is not fully rectified within the stated deadline. The deadline of 15 (fifteen) Working Days can be extended by the impacted Party. The Contract will be suspended or terminated without prejudice to any legal action available to the impacted Party against the defaulting Party, including a claim for damages.

## **ART. I.12 MISCELLANEOUS CLAUSES**

### **I.12.1 Waiver**

The fact that one of the Parties renounces permanently or temporarily to the application of one or more clauses of the Contract may under no circumstances be considered as a renunciation of the rights of that Party arising from that particular clause or those clauses.

### **I.12.2 Entire agreement**

Without prejudice to the application of the relevant legislation and regulations, the Contract comprises the entire agreement concluded between the Parties and includes all the agreements made by the Parties regarding the subject matter thereof.

### **I.12.3 Notices**

Any notification, as required under the Contract, will be made in writing (including e-mail) except if otherwise provided for in accordance with the provisions of this Contract.

The exchange of information for the performance of the Contract shall be directed to the respective contact persons of the Parties as provided for under the relevant Annex.

### **I.12.4 Transfer of rights**

The rights and obligations specified in the Contract may under no circumstances, either wholly or in part, be transferred without the prior written permission of the other Party (except for transfers to undertakings affiliated to Elia in the sense of article 1:20 of the Belgian Code of Companies and Associations for which no such permission shall be required). That permission shall not be refused or postponed unreasonably.

### **I.12.5 Severability**

On condition that this has no effect on the subject of the Contract itself, the invalidity of one or more clauses in the Contract shall not affect the validity, interpretation and/or implementation of the other clauses of the Contract.

If one or more clauses of the Contract have to be declared invalid or impossible to implement, the review process foreseen under Art. I.10 shall be followed.

## **ART. I.13 APPLICABLE LAW – RULES REGARDING DISPUTES**

The Contract is governed by and interpreted according to Belgian law.

Any dispute relating to the conclusion, validity, interpretation or execution of the Contract or of any subsequent contracts or operations that may arise therefrom, as well as any other dispute concerning or in relation to the Contract shall, at the discretion of the more diligent Party, be presented to:

- the jurisdiction of the Brussels Enterprise Court; or

- the mediation/conciliation and arbitration service organized by the regulator concerned in accordance with the applicable legislation and regulations; or
- an ad hoc arbitration in accordance with the provisions of the Belgian Judicial Code.

In view of the complex relationships, the Parties hereby agree, in order to facilitate the application of the rules regarding coherence or intervention, either – in the case of related disputes – to renounce any arbitration proceedings for the purpose of intervening in another judicial procedure, or – conversely – to renounce a judicial procedure for the purpose of taking part in multi-party arbitration. In the case of dissension, preference will be given to the procedure introduced first.

#### **ART. I.14 PROTECTION OF PERSONAL DATA**

In the context of this Contract, both Parties shall process personal data in accordance with the data protection legislation.

Elia and the Service Provider act as separate data controllers for the personal data that they process in the context of the Services, subject to cases where factual analysis would indicate a different relationship.

Before any processing of personal data between the Parties, the Parties will consult each other on the applicability, consequences and implementation of the applicable legislation and regulations, and on the processing possibilities.

The Parties guarantee that they will process all personal data in a strictly confidential fashion and that they will inform all the employees and/or named individuals taking part in the processing of said data of the confidential nature of said data and the associated security procedures. The Parties will ensure that their employees and/or designated persons only have access to personal data in so far as that is necessary for the correct performance of their respective duties.

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## PART II - SPECIFIC CONDITIONS

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## TITLE 1: DEFINITIONS

### ART. II.1 DEFINITIONS

Except where there is further specification aimed at application for the purposes of the present Contract, and without ignoring the stipulations of public order, the concepts defined in the Electricity Act, the electricity decrees and/or ordinances in relation to the organization of the electricity market and/or the various applicable Grid Codes and EU network codes and guidelines, as amended from time to time, are also included for the purposes of the Contract in the sense of these statutory or regulatory definitions.

In addition, the following definitions apply for the purposes of the Contract:

Access Point	For the purpose of this contract: <ul style="list-style-type: none"> <li>As defined in art. 2 §1 29° of the Federal Grid Code for an access to the transmission grid of Elia;</li> <li>For an access to the Elia Grid other than transmission grid: a point, defined by physical location and voltage level, at which access to the Elia Grid other than transmission grid is granted, with a goal to injecting or taking off power, from an electricity generation unit, a consumption facility, a non-synchronous storage facility, connected to this grid;</li> </ul>
Access Contract	As defined in art. 2 § 1 8° of the Federal Grid Code for an access to the transmission grid of Elia; for an access to the Elia Grid other than transmission grid, this means the contract between Elia and a Elia Grid User or a third party appointed by this Elia Grid User for the access of the installations of the Elia Grid User to the Elia Grid;
Access Contract Holder or “ACH”	The party requesting access to the Elia Grid who concludes the Access Contract with Elia;
Active Energy	As defined in art. 2 §1 14° of the Federal Grid Code;
Active Power	As defined in art. 2 (20) of the EU Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators;
Automatic Control Service Type	Control of the Grid Voltage and Reactive Power by means of an automated and continuous modulation of the production/absorption of Reactive Power by the VSP in function of voltage measured at the Service Measurement Point;
Closed Distribution System or “CDS”	As defined in art. 2 §1 3° of the Federal Grid Code; For the purpose of this Contract, CDS refers to CDS connected to the Elia Grid;

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CDS Operator or “CDSO”	A natural or legal person appointed by the relevant authority as the operator of the CDS;
CDS User	As defined in Art. 2 §1 58° of the Federal Grid Code;
Communication Test	A test in which Elia certifies the VSP's ability to exchange information that is necessary to execute the contract as per Annex 8;
Compensator Mode	The operation mode during which a Technical Unit provides the Automatic and/or Manual Control Service Type, while offtaking more Active Power than its Minimum Active Power Threshold in Compensator Mode and less Active Power than its Maximum Active Power Threshold in Compensator Mode ;
Connection Contract	The contract concluded between a Elia Grid User and Elia, as defined in art. 2 §1 9° of the Federal Grid Code;
Controlling Technical Unit	A Technical Unit that can participate in both the Automatic Control Service Type and the Manual Control Service Type as per art. 62 of the Federal Grid Code;
Day	Period of 24 hours starting at 00:00 CET morning until 24:00 CET;
Elia Grid	The electricity grid at which Elia holds the property right or at least a right of using and operating it, and for which Elia has been designated as system operator;
Elia Grid User	A Grid User connected to the Elia Grid;
Grid User	As defined in art. 2 §1 57° of the Federal Grid Code ;
Elia Grid User Declaration	The official declaration of the Elia Grid User provided to Elia containing proof of designation of a VSP by the Elia Grid User, as per letter template advised in Annex 11;
Federal Grid Code	The provisions of the Royal Decree of 22 April 2019, as amended from time to time, establishing a federal technical regulation for the management of and access to the transmission grid;
Grid Voltage or “GV”	The voltage at the Service Measurement Point;
Injection Mode	The operation mode during which a Technical Unit provides the Automatic and/or Manual Control Service Type, while injecting more Active Power than its Minimum Active Power Threshold in

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	Injection or while offtaking more Active Power than its Minimum Active Power Threshold in Offtake) ;
Interconnection Point	As defined in art 2§1 32° of the Federal Grid Code;
Manual Control Service Type	Control of the Grid Voltage and Reactive Power by means of a step-wise modulation of the production/absorption of Reactive Power by the VSP following an explicit signal by Elia;
Minimum Active Power Threshold in Injection	Injected Active Power beyond which a Technical Unit starts delivering the Service in Injection Mode;
Minimum Active Power Threshold in Offtake	Offtaken Active Power beyond which a Technical Unit starts delivering the Service in Injection Mode;
Minimum Active Power Threshold in Compensator Mode	Offtaken Active Power beyond which a Technical Unit starts delivering the Service in Compensator Mode;
Maximum Active Power Threshold in Compensator Mode	Maximum offtaken Active Power beyond which a Technical Unit stops delivering the Service in Compensator Mode;
Technical Pmax or "P <sub>tech_max</sub> "	A data that indicates the installed capacity (in MW) of a Technical Unit in line with articles 45 and 48 of the SOGL, as mentioned in the OPA Contract or as agreed by Elia and the VSP in case the Technical Unit is not included in a OPA Contract with Elia;
Month	Period starting at 00:00 the 1 <sup>st</sup> of the month until 24:00 the last day of the month;
Non-controlling Technical Unit	A Technical Unit that can participate only in the Manual Control Service Type, not falling under criteria for Controlling Technical Units as per art. 62 of the Federal Grid Code;
Open Qualification Procedure	A qualification procedure in accordance with public procurement rules in which candidates for provision of the Service are screened based on criteria set by ELIA in a publication on <a href="http://ted.europe.eu">ted.europe.eu</a> ; ;
Power Measured or "P <sub>measured</sub> "	The net quarter-hourly Active Power, i.e. the difference between gross offtake and gross injection, measured on a quarter-hourly basis at a Service Measurement Point. Net offtake from the Elia Grid is considered as a positive value, net injection into the Elia Grid is considered as a negative value;
Power Park Module Or PPM	As defined in Art. 2(17) of the RfG
Public Distribution Grid	As defined in art.2, §1 49° of the Federal Grid Code;

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Public Distribution Grid User	A Grid User connected to a Public Distribution Grid;
Distribution System Operator or "DSO"	As defined in art. 2, 11° of the Electricity Law;
Reactive Energy	As defined in art. 2 §1 15° of the Federal Grid Code
Reactive Power or "Q"	As defined in art. 2 (28) of the EU Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators;
Reactive Power Requested Or "Q <sub>req</sub> "	The Reactive Power requested (in MVar) for the activation of the Automatic Control Service Type and/or the Manual Control Service Type;
RfG	The Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators;
Sensitivity Coefficient ( $\alpha_{eq}$ )	As defined in Art. 67 of the Federal Grid Code
Setpoint	The control variable of a certain Technical Unit at a certain moment, defining the relation between voltage and regulation of Reactive Power, expressed in MVar. The Setpoint, as ordered by Elia according to modalities in Annex 8 describes the requested stepwise regulation of the Technical Unit's production or absorption of Reactive Power as per the Automatic and Manual Control Service Types;
Service Type	Manual Control or Automatic Control services, who together form the Voltage and Reactive Power Control Service;
Service Measurement Point	A point within an electric grid taken as a reference for measuring the delivery of the Service as per Art.II.3.4 a);
Synchronous Power Generating Module Or SPGM	As defined in Art. 2(9) of the RfG;
Storage Power Module Or SPM	As defined in Art. 2(27) of the Federal Grid Code
Prequalification Test	A test performed prior to Service provision according to the modalities in Art.II.3.3;
Technical Control Compensator Mode Band in	The Reactive Power that can be produced or absorbed at Elia's request, within the technically possible operating limits as

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	described in Annex 1, for a Technical Unit operating in Compensator Mode;
Technical Control Band in Injection Mode	The Reactive Power that can be produced or absorbed at Elia's request, within the technically possible operating limits as described in Annex 1, for a Technical Unit operating in Injection Mode;
Technical Unit	A facility connected to the Elia Grid, to a Public Distribution Grid or to a CDS able to provide Reactive Power and Voltage Control Services to Elia through a VSP;
Contract for the Outage Planning Agent or "OPA Contract"	The contract between Elia and the Outage Planning Agent in accordance with article 244 of the Federal Grid Code.
Contract for the Scheduling Agent or "SA Contract"	The contract between Elia and the Scheduling Agent in accordance with article 249 of the Federal Grid Code.
Voltage and Reactive Power Control Service or "Service"	The Service constituted by the Manual Control and/or the Automatic Control Service Types;
Voltage Service Provider or "VSP"	Any natural person or legal entity, as defined in art. 234 of the Federal Grid Code, and with whom Elia has concluded a contract to provide the Voltage and Reactive Power Control Service;
Week	Period starting at 00:00 Monday morning until 24:00 the next Sunday;

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## TITLE 2: CONDITIONS FOR PARTICIPATION TO THE SERVICE

### ART. II.2 CONDITIONS FOR VSP

#### II.2.1 Designation procedure of the VSP by the Elia Grid User

In accordance with art. 234, 5<sup>th</sup> al., of the Federal Grid Code, the VSP is the Elia Grid User of Technical Units providing the Service or a third party appointed by the Elia Grid User as VSP. In case of the designation by the Elia Grid User of a third party, the VSP must provide Elia with a copy of the Elia Grid User Declaration as figuring in Annex 11 signed by the Elia Grid User and the VSP.

II.2.2 Should the VSP for a certain Technical Unit change, the new party assuming his role also assumes the obligations deriving from this Contract.

II.2.3 When one or more of the Technical Units listed in Annex 1 is/are transferred to another VSP the VSP shall collaborate with the Elia Grid User(s) of the Technical Unit(s) to ensure correct transfer of the Technical Unit to the new VSP by providing all necessary information.

II.2.4 In application of art. 234, 4<sup>th</sup> al., of the Federal Grid Code, when the Service is delivered at an Access Point of a CDS, the relevant CDSO has the exclusive right to deliver the Service to Elia by undertaking the role of a VSP, or by appointing a VSP. If the CDSO provides the Service with Technical Units from a CDS User, Elia requires a proof of an agreement signed by both parties before the VSP starts delivering the Service.

II.2.5 In application of art. 234, 4<sup>th</sup> al., of the Federal Grid Code, when the Service is delivered at an Interconnection Point, the relevant DSO has the exclusive right to deliver the Service to Elia by undertaking the role of a VSP, or by appointing a VSP. If the DSO provides the Service with Technical Units from a Public Distribution Grid User, Elia requires a proof of an agreement signed by both parties before the VSP starts delivering the Service.

#### II.2.6 Open qualification Procedure

Prior to submitting an offer to provide the Service, the VSP has satisfied the following conditions:

- 1) Provision of a declaration (referred to as “sworn statement”) in which the VSP declares the fulfilment of the obligations related to payment of social security contributions in accordance with the legal provisions, fulfilment of the obligations related to payment of taxes in accordance with the legal provisions, and situation of non-bankruptcy.
- 2) Proof of a sound financial and economical situation of the VSP.

The VSP has applied by submitting a completed application form and the required documents, for the applicable Service to Elia. The application form and the template for the sworn statement can be downloaded on Elia’s website or requested by e-mail to contracting\_as@elia.be, with the contractual responsible as designated in Annex 10 in copy.

The VSP shall comply with the conditions set forth in the Open Qualification Procedure.

If it is confirmed that the VSP no longer complies with above conditions Elia will notify the VSP via a registered letter. If after 15 working days after reception of notification the VSP remains non-compliant to these conditions, the participation of the VSP in the Service and the remuneration will be suspended until compliance with these conditions has been fully restored.

**ART. II.3 CONDITIONS FOR TECHNICAL UNITS**

II.3.1 The VSP operates Technical Units that are able to produce and/or absorb the Reactive Power to and from the Elia Grid or has concluded an agreement with one or more Elia Grid User(s) or CDS User(s) that operate(s) Technical Units that are able to produce and/or absorb the Reactive Power to and from the Elia Grid.

II.3.2 The Technical Units used by the VSP to provide the Service are listed in Annex 1 (including the necessary technical and measurement information). The list of these Technical Units may change at any time subject to agreement by and between the Parties throughout the term of the Service delivery period.

II.3.3 The Technical Unit may participate in the Service under the following conditions:

**Technical requirements**

- a) The Technical Units shall meet the requirements of the articles of the Federal Grid Code and of the requirements of general application in accordance with article 7(4) of the RfG related to the Service as defined in the table below and, for the automatic service, comply with the relative Sensitivity Coefficient  $\alpha_{eq}$ . The Sensitivity Coefficient is determined by Elia following discussions between Elia and the VSP as described in Annex 13 and in coherence with the criteria defined to that end in the Connection Contract (in which the technical characteristics of the Technical Unit are described). This coefficient is set in Annex 1.

Technical Unit	Articles from the Federal Grid Code	Articles from the requirements of general application in accordance with article 7(4) of the RfG <sup>3</sup>
New Type B,C,D SPGM	Art. 89 and 234	Art. 4.3.1/5.5.1
New Type B,C,D PPM	Art. 93 and 234	Art. 4.4.2/5.6.2
New Type B, C, D SPM	Art. 99 and 234	n.a. <sup>4</sup>
New HVDC interconnector	Art. 104 and 234	
New generators connected on a HVDC link	Art. 106 and 234	
New HVDC conversion stations at isolated extremity	Art. 107 and 234	

<sup>4</sup> This table may be subject to evolutions of the legislation framework such as the adaptation of the regional grid codes

<b>New offshore PPM with onshore connection points</b>	Art. 118, 119 and 234	
<b>New offshore PPM with offshore connection points</b>	Art. 130, 131 and 234	
<b>Existing SPGM and PPM type C,D</b>	Art. 62 to 68 and 234	
<b>Existing SPGM and PPM type B</b>	Art. 62 to 68 and 234	
<b>Other Technical Units without obligation to provide the Service (such as Demand facilities directly connected to the Elia Grid, Technical Units connected to CDS/Public Distribution Grid, existing HVDC interconnector...)</b>	Art. 234	

Figure 1: Relevant articles concerning the requirements in terms of voltage and Reactive Power control capabilities applicable to different types of Technical Units

- b) Elia is entitled to evaluate, at any time during the Service delivery period, whether the Technical Units comply with the conditions mentioned in Art. II.3.3 a). For the avoidance of doubt, this does not entail any right for Elia to physically access the Technical Unit(s) without prejudice to any other regulation, i.e. the Federal Grid Code, regarding access to the Elia Grid User's connection installations. If Elia establishes that (a) Technical Unit(s) fail(s) to comply with these conditions, the participation in the Service of the concerned Technical Unit(s) and the corresponding remuneration as set in Art. II.8.3 will be suspended until compliance has been fully restored.

#### Communication Test

- c) Before the beginning of Service delivery with a Technical Unit, the VSP of this Technical Unit must perform a Communication Test to verify the correct exchange of messages as per Art. II.5.4 and II.5.5. The Service may not be delivered before successful completion of such a test.
- d) The VSP undertakes to maintain communication means and processes operational at all times. If Elia notices that communication means and processes do not meet the requirements anymore, it may request performance of a new Communication Test, within a reasonable timeframe, until which Service delivery (and payment thereof) remains suspended. If Elia establishes that the VSP fails to comply with the Communication Test, the participation in the Service of the concerned Technical Unit(s) and the corresponding remuneration as set in Art. II.8.3 will be suspended until a successful new Communication Test has been completed.

#### Prequalification Test

- e) Before the beginning of Service delivery, Elia shall request a Prequalification Test to verify the characteristics of the Service delivery by each Technical Unit.

- f) This test will at least involve an activation of the Service in which the VSP must provide the Service under conditions foreseen in the present Contract. Exact test modalities are described in Annex 13
- g) The Prequalification Test will confirm the Reactive Power Technical Control Band made available, measurement modalities together with the modalities for calculation of  $Q_{req}$  (as per Annex 2)
- h) The Prequalification Test will not be considered as an activation of the Service.
- i) Elia reserves the right to abort the Prequalification Test at any moment if it jeopardizes the security of the Elia Grid.

**Compliance**

- j) In case of non-compliance with one or more of the obligations in Article II.3.3 a) to i), the VSP shall take all necessary actions to become compliant again as soon as possible.

II.3.4 All Technical Units participating in the Service must be identified by a Service Measurement Point:

- a) A Service Measurement Point may correspond to:
  - o for Technical Units connected to the Elia Grid or a CDS : the Access Point to the Elia Grid. In exceptional circumstances following proposal by Elia and agreement of the VSP during the prequalification procedure as specified in Annex 13, the Service Measurement Point may be a point downstream from this Access Point and associated to measurement and metering devices;
  - o for Technical Units located in a Public Distribution grid: the Interconnection Point (at the high-voltage side of the Interconnection Point transformer) ;

These Service Measurement Points will be used as a reference for remuneration, delivery control and the provision of the Service by Technical Units according to modalities described in the present Contract.

- b) Cumulated measures for several Technical Units at a certain Service Measurement Point may be considered under the following conditions:
  - o all Technical Units behind the Service Measurement Point are represented by the same VSP;
  - o a cumulated regulation effect is demonstrable and measurable at the Service Measurement Point;
  - o the VSP must demonstrate that provision of the Service at the Service Measurement Point is not influenced in an unpredictable way by other Technical Units or local grid elements downstream from the Service Measurement Point;
  - o All Technical Units that are PGM's or PPM's are equipped with real-time Active Power measurements

When all above conditions are fulfilled, the cumulated  $Q_{req}$  of these Technical Units may be used to remunerate and control Service delivery as provided in Art. II.7, Art. II.8, and Art. II.9 and after agreement with Elia (following the analysis foreseen in Annex 13).

- II.3.5 A Technical Unit supplying the Service cannot be a part of a strategic reserve contract.
- II.3.6 Elia reserves the right to disqualify a Technical Unit if its participation in the Service jeopardizes the Elia Grid security after justification.
- II.3.7 Technical Units are related to Access Point(s) included in valid Access Contract(s) .
- II.3.8 Update of Annex 1:
- The agreed list of Technical Units based on the template in Annex 1 should at all times be kept up to date by the VSP.
- The agreed list of Technical Units may be modified by the VSP by submitting an updated list based on the template in Annex 1 via e-mail to the contractual responsible of Elia as mentioned in Annex 10 under the following conditions:
- At the moment of the notification, the Technical Units must be in respect with the applicable conditions set in Art. II.3.3 and Art. II.3.4
  - The updated list of Technical Units becomes effective at the beginning of the next Month following the notification of acceptance by Elia.
- II.3.9 Each Technical Unit must provide Elia a Technical Control Band with a minimum volume of 1 MVar for production or absorption of Reactive Power.
- II.3.10 For each Technical Unit participating to the Service in both Injection and Compensator Modes, the Technical Control Band in Injection Mode must be equal to the Technical Control Band in Compensator Mode.
- II.3.11 If the VSP is not designated as Access Contract Holder for the Access Point related to the concerned Technical Unit, the VSP shall hold a bilateral agreement with the Access Contract Holder, acknowledging and accepting the specific modalities of Service delivery that may interfere with the application of the access tariffs<sup>5</sup>, and in particular, the correction applied to the offtake or injection of additional reactive energy as per section 2.2 of the access tariffs and the power put at disposal as per section 1.3 of the access tariffs. As part of this agreement the Access Contract Holder and VSP agree to settle any financial and data flows resulting from provision of the Service between them, without informing Elia and without Elia's arbitration. The VSP shall provide evidence of this agreement to Elia. If the VSP does not provide such an evidence, the participation in the Service of the concerned Technical Unit cannot start and the Technical Unit cannot be included in Annex 1.
- II.3.12 Controlling Technical Units
- a) The Controlling Technical Units participate in Automatic Control Service Type and in Manual Control Service Type, in particular under the conditions of articles 62 to 68 of the Federal Grid Code and in accordance with the provisions in the present Article.
  - b) For these Technical Units, Reactive Power is produced or absorbed:
    - automatically, during slow (minute) or sudden (second) variations in the Grid Voltage; and
    - as the case may be, by changing the Setpoint of the automatic voltage regulator at Elia's request.

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<sup>5</sup> "Tarifs pour l'accès au réseau 2020 – 2023" that can be consulted on the Elia website: <https://www.elia.be/fr/clients/facturation-et-tarifs>

- c) Each Controlling Technical Unit may absorb or produce Reactive Power between the technical minimum ( $Q_{\text{tech min}}$  or  $Q_{\text{tech-}}$ ) and the technical maximum ( $Q_{\text{tech max}}$  or  $Q_{\text{tech+}}$ ) specified in Annex 1 for a normal operating voltage at the Service Measurement Point.
- d) Each Controlling Technical Unit may absorb or produce Reactive Power as per Art. II.3.12 c) for each voltage at the Access Point between 0,925 and 1,05 times the normal operation voltage, except if a limit is defined after consultation by and between the parties following the voltage limitations of the generator or following the stator current of the generator.  

Any stator current limitation at steady state shall not impede operation of the voltage control.
- e) Within the operating range defined in Articles II.3.12 c) and II.3.12 d), each Controlling Technical Unit shall be able to adjust its Reactive Power automatically in the event of Grid Voltage variations at the Service Measurement Point, according to a relative Sensitivity Coefficient  $\alpha_{\text{eq}}$  that is determined by Elia following discussions between Elia and the VSP as described in Annex 13. The relative Sensitivity Coefficient of each Controlling Technical Unit is specified in Annex 1. It is the VSP's obligation to ensure that the relative Sensitivity Coefficient value corresponds at all times to reality. If necessary, the VSP may ask Elia to perform joint tests at his expense to validate the relative Sensitivity Coefficient. The VSP can update the relative Sensitivity Coefficient of each controlling Technical Unit in Annex 1 after providing a technical justification and with the agreement of Elia.

### II.3.13 Non-controlling Technical Units

A Non-controlling Technical Unit participates only in Manual Control Service Type. It must be able to adapt its supply of Reactive Power between two levels agreed between Elia and the VSP. The Technical Control Band is defined in Annex 1.

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## TITLE 3: ACTIVATION

### ART. II.4 ACTIVATION OF AUTOMATIC CONTROL SERVICE TYPE

- II.4.1 The Automatic Control Service Type is to be activated without interruption when a Controlling Technical Unit is injecting (or offtaking) Active Power above or equal to its Minimum Active Power Threshold in Injection (or in Offtake) or offtaking Active Power between its Minimum Active Power Threshold in Compensator Mode and its Maximum Active Power Threshold in Compensator Mode (as agreed in Annex 1).
- II.4.2 Controlling Technical Units deliver the Automatic Control Service Type in accordance with Art. II.3.12

### ART. II.5 ACTIVATION OF MANUAL CONTROL SERVICE TYPE

- II.5.1 The Manual Control Service Type is to be available for activation without interruption when a Technical Unit is injecting (or offtaking) Active Power above or equal to its Minimum Active Power Threshold in Injection (or in Offtake) or offtaking Active Power between its Minimum Active Power Threshold in Compensator Mode and its Maximum Active Power Threshold in Compensator Mode (as agreed in Annex 1).
- II.5.2 Elia may request a Technical Unit listed in Annex 1, in real time, to adjust its Setpoint from the time it is available in accordance with the provisions of Art. II.3.12 and II.3.13 (request hereinafter referred to as 'manual activation').
- II.5.3 Elia will activate in priority Technical Units with the objective of reducing total Service costs, in consideration of the following elements:
- the location of the Technical Unit in the grid and the voltage level at which it is connected ;
  - activation prices;
  - the supply of Reactive Power from the automatic reaction of the machine or a previous Setpoint communicated by Elia;
  - Elia may also consider other technical requirements encountered at such time as for example:
    - the scheduled Active Power of the Technical Unit to identify how long a Technical Unit is still available to provide the Service after the Setpoint request
    - the Technical Control Band of the Technical Unit and the margins that left after the request of the Setpoint.
- II.5.4 Elia shall communicate a Setpoint to the VSP for the Technical Unit(s) selected under the conditions described in Article II.5.3. The Setpoint shall be communicated by a B2B request message from Elia to the VSP.
- The VSP shall electronically confirm receipt of the Setpoint in maximum 10 seconds. In case of absence of confirmation, the manual activation will be considered as failed and a remuneration reduction will apply as per Annex 7.

## Specific Conditions

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The VSP shall have a maximum period of 5 minutes to attain the Setpoint of the Technical Unit(s) concerned from the time said value is sent by Elia.

II.5.5 Elia shall request the activation of Manual Control Service Type by sending the VSP a Setpoint with at least the following information:

- the selected Technical Unit(s);
- the new Setpoint to be applied, in terms of a Reactive Power value (expressed in MVar) to be attained within the time limit defined in Art. II.5.4 for this Technical Unit.

- II.5.6 Once the volume of Reactive Power desired by Elia is attained by the Technical Unit, the latter may no longer change its Setpoint and only the automatic regulator may change the produced or absorbed Reactive Power, until Elia sends a new Setpoint.
- II.5.7 Where Elia does not send a Setpoint to the VSP, the Controlling Technical Unit shall operate from a reference Setpoint set by Elia and the VSP in Annex 1, corresponding to a volume of Reactive Power expressed in MVar and measured at the Service Measurement Point. Unless agreed differently in Annex 1, this Setpoint is considered to be 0MVar.
- II.5.8 Once a Technical Unit has been restarted and is injecting or offtaking Active Power above its Minimum Active Power Threshold in Injection or Offtake, irrespective of the last Setpoint sent by Elia, it is agreed that the Technical Unit shall supply the Service based on the Reference Setpoint set in Annex 1.
- II.5.9 When the Technical Unit is injecting (or offtaking) less than its Minimum Active Power Threshold in Injection (or in Offtake) (as agreed in Annex 1) and is not providing the Service in Compensator Mode Elia may request via an explicit order that the Technical Unit stops producing or absorbing Reactive Power. This is not applicable during moments where the Technical Unit is starting up or shutting down.
- II.5.10 The procedures for exchanging a Setpoint between Elia and the VSP are described in detail in Annex 8.

#### **ART. II.6 EXCHANGE OF INFORMATION**

- II.6.1 In any case and for all Technical Units, the VSP must notify to Elia the grid topology, configuration of metering equipment and the resulting modalities of delivery of Reactive Power. In this regard, he must provide Elia with all relevant requested information.
- II.6.2 The VSP agrees that metering data from Elia or the CDS Operator<sup>6</sup>, shall be used as the basis for the settlement as specified in Art. II.8 and Art. II.9.
- II.6.3 The VSP has the responsibility to be able to interpret messages received correctly and respond accordingly at all times.
- II.6.4 The VSP has the obligation to pro-actively maintain in good functioning order the communication channels for the correct exchange of messages as per Art. II.5.4. Any failure of activation due to unavailability or dysfunction of these communication channels (without fault by Elia) will be the VSP's sole responsibility.
- II.6.5 Elia reserves the right to request regular Communication Tests such as described in Art. II.3.3 to check whether the communication channels for the correct exchange of messages as per Art. II.5.4 are operational.

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<sup>6</sup> By default the Service Measurement Point is located at the Access Point or Interconnection Point meaning the Elia metering data shall be used. If the Service Measurement Point is located inside a CDS, the CDSO metering data shall be used.

Specific Conditions

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- II.6.6 The exchange of information for the performance of the Service will be directed to the respective contact persons of the Parties, as mentioned in Annex 10.
- II.6.7 Any restriction (forecasted or not) in the Reactive Power control capability is to be communicated via telephone and e-mail by and between the contact persons identified in Annex 10 as soon as possible.
- II.6.8 In the event of technical problems with electronic data interchange in the context of the Manual Control Service Type , the Parties shall use telephone communications as a back-up solution.

## TITLE 4: ACTIVATION CONTROL

### ART. II.7 ACTIVATION CONTROL

#### II.7.1 Automatic Control Service Type

- a) Pursuant to Art. II.3.10, each Controlling Technical Unit must be able to adjust its Reactive Power production or absorption automatically in the event of Grid Voltage variation at its Service Measurement Point, in accordance with the relative Sensitivity Coefficient  $\alpha_{eq}$  as defined in Annex 1.
- b) To ensure that the automatic regulator of a Controlling Technical Unit provides the Automatic Control Service Type correctly, Elia verifies whether the Reactive Power actually supplied by the Technical Unit corresponds to the Reactive Power that should have been supplied in response to variations of the Grid Voltage measured at that same Service Measurement Point.
- c) Elia uses quarter-hourly metering data to carry out this verification monthly for each Technical Unit for delivery in Month M-2, starting out with six samples. Each sample pertains to a 5-hour period. Elia applies the penalty described in Art.II.9.1 where necessary.
- d) Delivery control criteria, modalities and non-supplied volume calculation for the Automatic Control Service Type are described in Annex 3.
- e) In any case, Grid Voltage according to which regulation is performed is measured at the Service Measurement Point according to modalities of Art. II.6.

#### II.7.2 Manual Control Service Type

- a) Pursuant to Art. II.3.12 and II.3.13, each Controlling and Non-Controlling Technical Unit must be able to adjust its Reactive Power production or absorption upon request by Elia as per Art. II.5.4.
- b) To ensure that a Controlling or Non-Controlling Technical Unit provides the Manual Control Service Type correctly, Elia shall check whether the corresponding Reactive Power was supplied correctly at the Service Measurement Point by the selected Technical Unit within the timeframe mentioned in Art. II.5.4.  

To this end, Elia shall use the 30" remote measurements (or the most precise measurements available) at the Service Measurement Point of the Reactive Power supplied (Q).
- c) Elia shall carry out this verification monthly for each Technical Unit for delivery in Month M-2 on six samples of activation requests by Elia over six different days. Elia shall apply a penalty as described in Art. II.9.1 where necessary.
- d) Elia shall select for this verification the activation requests pertaining to a minimum volume of 5% of  $Q_{tech\ max}$  (value defined in Annex 1) when the interval with the following activation request is superior to 5 minutes.
- e) Delivery control criteria and non-supplied volume calculation for the Manual Control Service Type are described in Annex 4.

## TITLE 5: REMUNERATION AND PENALTIES

### ART. II.8 REMUNERATION

- II.8.1 Following article 12<sup>quinquies</sup> of the Electricity Act, prices can be fixed by means of Royal Decree. In such an event, prices fixed by the Royal Decree become applicable and prevail over prices fixed according to Applicable Prices Annex 12.B .
- II.8.2 Elia starts remunerating the Service for a Technical Unit provided that the conditions set in Art. II.3 are satisfied.
- II.8.3 The remuneration for the Service, without prejudice to any penalties defined in Art.II.9.1, shall consist of the remuneration for the activation costs for each Technical Unit and will depend on the price (as agreed in Annex 12) and  $Q_{req}$  volume for both Automatic and Manual Control Service Types for each quarter-hour.
- II.8.4 The remuneration basis is the Reactive Power Requested (or  $Q_{req}$ ), calculated as per Annex 2 meaning a volume of MVar that corresponds to Elia's regulation need at the given quarter-hour.
- II.8.5 The remuneration for the Service can also consist of a compensation of the costs related to an increase of the tariff for power put at disposal for offtake (PPAD) due to the delivery of the Service, provided that such compensation was integrated in the VSP offer with a detail of the additional supported costs.

### ART. II.9 PENALTIES

- II.9.1 If Elia establishes, based on activation controls for each Service Type according to Art. II.7, Annex 3 and Annex 4, that the VSP has failed for a particular quarter-hour to activate the quantity of  $Q_{req}$  , Elia applies a penalty as described in Annex 6 and/or Annex 7.
- II.9.2 The sum of the penalties under Art.II.9.1 will be subject to a monthly cap, without prejudice to any liability on the part of the VSP for the non-fulfillment of his obligations in accordance with Art. I.6 of the General Conditions. The penalty for each month may not exceed the VSP's remuneration for the Service as set in Art. II.8.3 for this month for the concerned Technical Unit or the aggregation of Technical Units as per Art. II.3.4 b).

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## TITLE 6: INVOICING

### ART. II.10 INVOICING AND PAYMENT

- II.10.1 Via a joint validation platform or other agreed channel, Elia will present the VSP a report, by or before the fifteenth day of Month M, related to the monitoring of the Reactive Power provided by the VSP in Month M-2. This report will indicate, amongst others, all penalties for Month M-2 as calculated by Elia in accordance with Art. II.9.1, showing the method of calculation and all data on which the calculation is based.
- II.10.2 The VSP shall send the pro-forma invoice to Elia, to the contact persons in Annex 10 by or before the 25th (twenty-fifth) day of each Month M. The pro-forma invoice shall indicate in particular:
- the remuneration for the activation of the Service in Month M-2, calculated in accordance with Art. II.8;
  - where applicable, the amount of the penalties in Month M-2, as calculated by Elia in accordance with Art. II.9.1;
  - the items in accordance with Art. I.5.1 of the General Conditions.
- II.10.3 Elia shall either approve or reject the pro-forma invoice within 5 working days of receiving it. In accordance with the pro-forma invoice, the invoice may be sent to the Invoicing & Payment department after Elia has approved the pro-forma invoice or after 5 working days without response.
- II.10.4 Disputes from the VSP regarding the report and penalties stipulated in Art. II.9 must be reported within 25 calendar days starting from the day following Elia's submission of the respective report. Should this occur, the Parties shall enter into negotiations with each other with a view to reach an agreement in accordance with Art. I.13 of the General Conditions.
- II.10.5 If no agreement can be reached:
- the VSP, when drawing up his pro-forma invoice for Month M, shall take account of the penalties calculated by Elia;
  - the Parties shall continue their negotiations with a view to reaching an amiable arrangement and, after concluding their agreement, settle this invoice ex-post;
  - if no amiable arrangement is reached, the dispute settlement procedure set out in Art. I.13 of the General Conditions shall apply.
- II.10.6 Annex 9 includes the appropriation structure to be used by the VSP.

Specific Conditions

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The Parties agree that this Contract is valid from its date of signature until DD/MM/YYYY

Drawn up in Brussels in two originals, of which each Party concerned acknowledges having received one. The official version has been drawn up in Dutch and French, without one version taking precedence over the other; the English version is solely for information purposes.

**ELIA Transmission Belgium N.V./S.A.**, represented by:

[•]

[•]

[•]

[•]

Date:

Date:

**[ServiceProvider]**, represented by:

[•]

[•]

[•]

[•]

Date:

Date:

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## PART III - ANNEXES

Annex 1 List of controlling and/or non-controlling Technical Units

## **ANNEX 1. LIST OF CONTROLLING AND/OR NON-CONTROLLING TECHNICAL UNITS**

Name: [VSP]

Version: [date submission VSP]

Validity Period: [start] – [end]

In accordance with Art. II.3.2 the VSP must declare the Technical Units on which he will make the Service available.

The Technical Units must be in respect with all the conditions set forth in Art. II.3.4.

This list must be presented by the VSP to Elia and must be agreed between both Parties.

Updates of this list must be exchanged, following the rules set forth in Art.II.3.8, and agreed upon via email to the contracting responsible as per Annex 10.

The fact of being listed in the present Annex does not constitute a right of access for the said Technical Units.



Annex 1 List of controlling and/or non-controlling Technical Units

Technical Unit	Service Measurement Point EAN	Controlling (C) or Non-controlling (NC)	Technical control band in Injection Mode (MVar)				Technical control band in Compensator Mode (MVar)				Sensitivity Coefficient $\alpha_{eq}$	Reference Setpoint (MVar)	Minimum Active Power Threshold (MW) in Injection	Minimum Active Power Threshold (MW) in Offtake	Minimum Active Power Threshold (MW) in Compensator Mode	Maximum Active Power Threshold (MW) in Compensator Mode
			$Q_{tech\ min}$	Q3	Q1	$Q_{tech\ max}$	$Q_{tech\ min}$	Q3	Q1	$Q_{tech\ max}$						

With:

- $Q_{tech\ min}$  (or  $Q_{tech-}$ ): technical minimum that can be absorbed by the unit and defining the Technical Control Band
- Q3: Value expressed in % of the  $Q_{tech\ min}$  used in order to split the Technical Control Band into two price bands following conditions described in annex 12
- Q1: Value expressed in % of the  $Q_{tech\ max}$  used in order to split the Technical Control Band into two price bands following conditions described in annex 12
- $Q_{tech\ max}$  (or  $Q_{tech+}$ ): technical maximum that can be produced by the unit and defining the Technical Control Band
- Reference set point: set point in which, the Controlling Technical Unit is supposed to operate when Elia does not send a Setpoint to the VSP

## ANNEX 2. CALCULATION OF REMUNERATION OF THE SERVICE

The calculation of the power that Elia requires from the VSP is the basis for the Service remuneration.

The remuneration for each quarter-hour is dependent on the  $Q_{req}$  value, and the price component applicable for the specific quarter hour as defined in Annex 12

$$Remuneration(Qh_n) = Q_{req} (Qh_n) * \frac{1}{4} * Price(Qh_n)$$

Where:

- $Q_{req} (Qh_n)$ : the Reactive Power Requested that is remunerated for the quarter-hour n as computed in this annex
- Price(Qh\_n): the price of Reactive Energy for quarter-hour n as determined per Annex 12
- $Qh_n$ : the considered quarter-hour

### 2.A CALCULATION OF $Q_{REQ}$

$Q_{req}$  shall be calculated by the following formula:

- For Controlling Technical Units:
  - During qh where no setpoint is received by the technical unit

$$Q_{req} = - \frac{(GV(t) - V_{startup}) * \alpha_{eq} * 0,45 * P_{tech\_max}}{U_{norm\_exp}} + Q_{initial} \quad (1)$$

- During qh during which a setpoint is received by the technical unit

$$Q_{req} = Q_{req\_manual} \quad (2)$$

- For Non-controlling Technical Units:

$$Q_{req} = Q_{req\_manual}$$

Where:

- $GV(t)$ : the average value of the Grid Voltage measurement at the Service Measurement Point for the specific quarter-hour controlled;
- $V_{startup}$ : as defined below in the present Annex;
- $Q_{req\_manual}$ : the last Setpoint value communicated by Elia as described in Annex 8.
- $Q_{initial}$ : the Reactive Power measured at the quarter-hour following the quarter-hour at which the Controlling Technical Unit started up for the last time (meaning the last moment in time where the Technical Unit's  $P_{measured}$  started to exceed its Minimum Active Power Threshold in Injection, in Offtake or in Compensator Mode as agreed in Annex 1 ) or measured at the quarter-hour following the quarter-hour in which a manual Setpoint is requested.

## Annex 2 Calculation of remuneration of the Service

- $U_{norm\_exp}$ : the standard operational Grid Voltage under which the Technical Unit is foreseen to operate, as agreed in the Technical Unit's Connection Contract or as agreed by Elia and the VSP in case the Technical Unit is not included in a Connection Contract with Elia;
- $P_{tech\_max}$ : a data that indicates the installed capacity (in MW) of a Technical Unit in line with articles 45 and 48 of the SOGL, as mentioned in the OPA Contract or as agreed by Elia and the VSP in case the Technical Unit is not included in a OPA Contract with Elia;

### Automatic Control Service Type

The Automatic Control Service Type reaction of a certain Technical Unit is determined by the Grid Voltage and by the Technical Unit's capacity to react to it according to its relative Sensitivity Coefficient ( $\alpha_{eq}$ ). MVAR's requested are considered to be MVAR's that are produced or absorbed when the Grid Voltage deviates from  $V_{startup}$  (as defined in the present Annex).

$V_{startup}$  is the average Grid Voltage value of the quarter hour following the quarter hour during which the unit started up for the last time (meaning the last moment in time where the Technical Unit's  $P_{measured}$  started to exceed its Minimum Active Power Threshold in Injection, in Offtake or in Compensator Mode ( $P_{min}$  in Figure 2) as agreed in Annex 1).  $V_{startup}$  is also reinitialized at the quarter-hour following the quarter-hour in which a manual Setpoint is requested using the Grid Voltage measured at this quarter-hour.  $V_{startup}$ , together with  $\alpha_{eq}$  characterize the Technical Unit's droop curve.

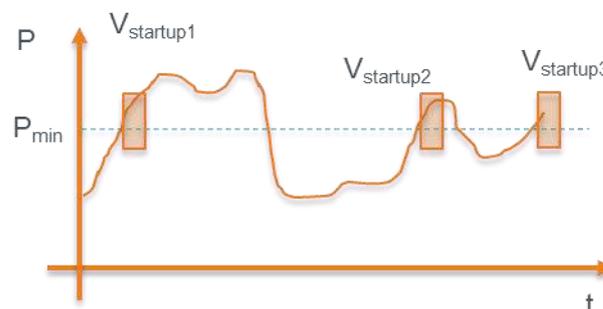


Figure 2: Example of calculation of  $V_{startup}$  in function of the evolution of  $P(t)$

To avoid propagations of errors when computing the Reactive Power Requested,  $Q_{initial}$  and  $V_{startup}$  are also initialized everyday at 00:00 for Technical Units whose Active Power injection or offtake is above the Minimum Active Power Threshold in Injection, in Offtake or in Compensator Mode at this time, using respectively the Reactive Power and the Grid Voltage measured during the first quarter-hour of each day.

### Setpoint request – Manual Control Service Type

For the quarter-hour(s) during which Technical Unit is expected to ramp-up or ramp-down its production or absorption of Reactive Power for the Manual Control Service Type (as per requirements in Art. II.5)  $Q_{req}$  will correspond to the entire volume requested for this quarter-hour.

#### Case 1

For a Setpoint request that arrives at the latest 10 minutes after the beginning of a given quarter-hour (at a  $T_{request}$  **equal to or smaller than** start of the quarter-hour +  $10 \cdot 60 = 600 \text{sec}$

## Annex 2 Calculation of remuneration of the Service

within the quarter-hour), the  $Q_{req}$  for the quarter-hour during which the Setpoint is requested (Qh1 in the figure below) corresponds to

$$Q_{req} (Qh1) = Q_{req\_manual}$$

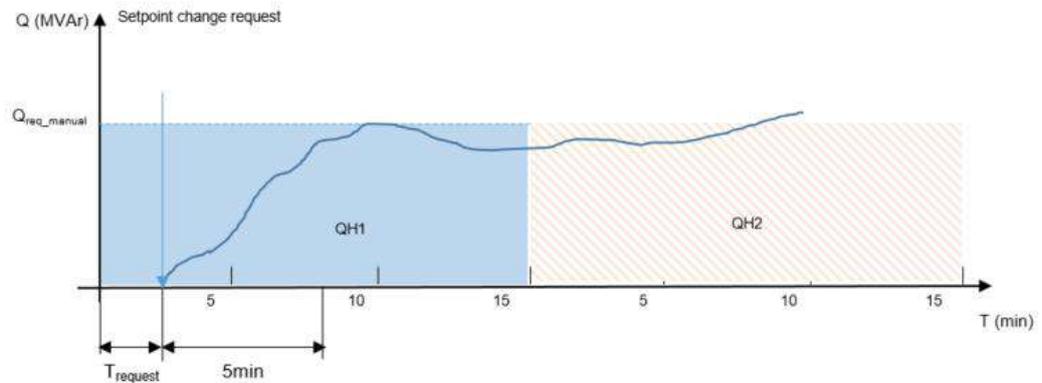


Figure 3: calculation of  $Q_{req}$  for a quarter hour during which a Setpoint request occurs before 10 minutes within the quarter-hour

### Case 2

For a Setpoint request that arrives later than 10 minutes after the beginning of the quarter-hour (at a  $T_{request}$  **larger** than start of the quarter-hour +  $10 \cdot 60 = 600$ sec within the quarter-hour), the  $Q_{req}$  for the quarter-hour during which the Setpoint is requested (Qh1) **and** the quarter-hour following the quarter-hour during which the Setpoint has been requested (Qh2) corresponds to

$$Q_{req} (Qh1) = Q_{req} (Qh2) = Q_{req\_manual}$$

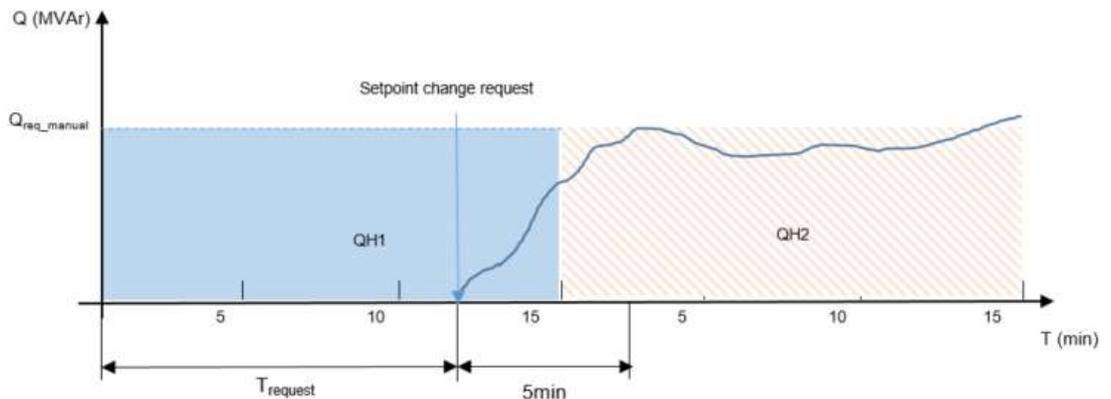
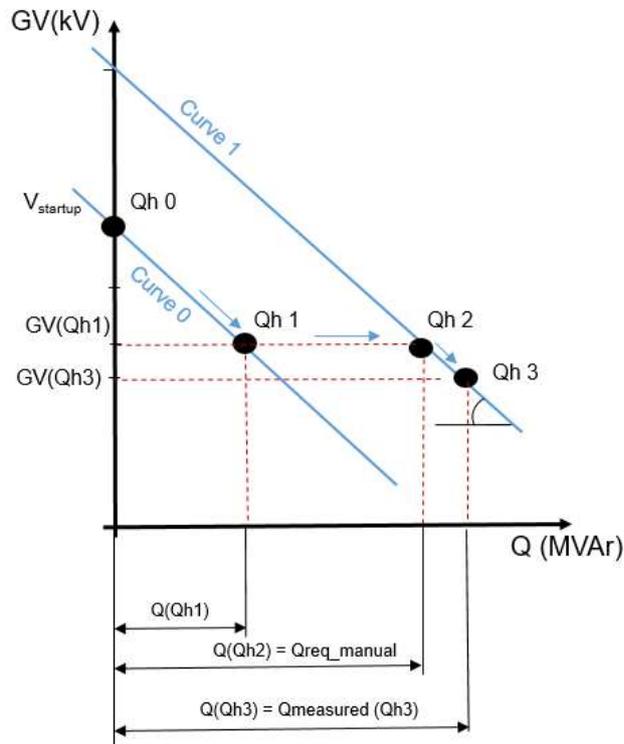


Figure 4: calculation of  $Q_{req}$  for 2 quarter hours during which a Setpoint request occurs after 10 minutes within the first quarter-hour

### Remuneration principle for a Controlling Technical Unit

For a Controlling Technical Unit for 4 consecutive quarter-hours, remuneration for each quarter-hour would be as follows:

## Annex 2 Calculation of remuneration of the Service



- **Qh 0** : Assuming the Technical Unit started injecting Active Power above its Minimum Active Power Threshold in Injection (as per Annex 1) during the previous quarter-hour, the measured Average Grid Voltage over Qh 0 is assumed to be  $V_{startup}$  and the measured Reactive Power is assumed to be 0 MVar so that  $Q_{initial}$  is set to 0 MVar .
- **Qh 1** : While delivering the Automatic Control Service according to curve 0, the Grid Voltage evolves to  $GV(Qh1)$ .  $Q_{req}(Qh1)$  is calculated according to the  $\alpha_{eq}$ , GV and  $V_{startup}$  (using equation (1)) and is remunerated according to agreed price (as per Annex 12).  $Q_{initial} = 0$  since no Setpoint request from Elia was received during this quarter-hour.
- **Qh 2**: During Qh2 the Technical Unit has received a request for Setpoint and has reached this Setpoint during the QH2 according to modalities described in Annex 8.  $Q_{req}(Qh2)$  is equal to  $Q_{req\_manual}$  as per equation (2). The Technical Unit restarts the Automatic Control following the curve 1.
- **Qh 3**: To avoid the propagation of the error following a Setpoint request,  $Q_{req}(Qh3)$  is calibrated using the measured Reactive Power and Grid Voltage of this quarter-hour i.e.  $Q_{initial} = Q_{measured}(Qh3)$  and  $V_{startup} = GV(Qh3)$ .

$$Q_{req}(Qh3) = -\frac{(GV(Qh3) - V_{startup}) * \alpha_{eq} * 0,45 * P_{tech\_max}}{U_{norm\_exp}} + Q_{initial} = Q_{measured}(Qh3)$$

For the quarter hour following Qh3, in the case of no new Setpoints sent, the  $Q_{req}$  is going to be calculated according to the  $\alpha_{eq}$ , GV, new  $V_{startup}$  and  $Q_{initial}$  (using equation (1)) as defined above and is remunerated according to agreed price (as per Annex 12)

## Annex 2 Calculation of remuneration of the Service

### 2.A.1 Example of calculation of the Reactive Power Requested for a Controlling Technical Unit

The table below shows an example of the computation of the Reactive Power Requested ( $Q_{req}$ ) for a Controlling Technical Unit assuming that:

- The Minimum Active Power Threshold in Injection is 100 MW
- The Sensitivity Coefficient is equal to:  $\frac{\alpha_{eq} * 0,45 * P_{tech\_max}}{U_{norm\_exp}} = 27,33$

Date	-P <sub>measured</sub> (MW)	Grid Voltage GV (kV)	Q <sub>initial</sub> (MVar)	V <sub>startup</sub> (kV)	Reactive Power measured (MVar)	Setpoint (MVar)	ΔV = Grid Voltage - V <sub>startup</sub> (kV)	Q <sub>req</sub> (MVar) = -ΔV*27,33 + Q <sub>initial</sub>
09:30:00	90	/	/	/	/	/	/	/
09:45:00	110	/	/	/	/	/	/	0
10:00:00	150	410,401	0	410,401	0	/	0	0
10:15:00	150	409,652	0	410,401	21	/	-0,749	20,47017
10:30:00	150	409,595	0	410,401	23	/	-0,806	22,02798
10:45:00	150	409,631	0	410,401	22	/	-0,77	21,0441
11:00:00	150	409,623	0	410,401	22	/	-0,778	21,26274
11:15:00	150	409,596	0	410,401	22	/	-0,805	22,00065
11:30:00	150	409,685	0	410,401	20	/	-0,716	19,56828
11:45:00	150	409,627	0	410,401	20	/	-0,774	21,15342
12:00:00	150	410,064	0	410,401	-80	-75	-0,337	-75
12:15:00	150	410,835	-70	410,835	-70	/	0	-70
12:30:00	150	410,688	-70	410,835	-66	/	-0,147	-65,98249
12:45:00	70	/	/	/	/	/	/	/

## Annex 2 Calculation of remuneration of the Service

- At 09:45, The Technical Unit's  $P_{\text{measured}}$  is above its Minimum Active Power Threshold in Injection and the Reactive Power Requested is 0 MVar
- At 10:00, a calibration is made using the measured Grid Voltage and measured Reactive Power. The initial Reactive Power ( $Q_{\text{initial}}$ ) is equal to the measured Reactive Power for this quarter-hour (i.e. 0 MVar in this example) and the initial Grid Voltage ( $V_{\text{startup}}$ ) is equal to the measured Grid Voltage for this quarter-hour (i.e. 410.401 kV in this example) at the Service Measurement Point. By application of formula (1), the Reactive Power Requested for this quarter-hour is equal to the measured Reactive Power.
- From 10:15 to 11:45 included, the Reactive Power Requested is computed according to the formula (1) described in this annex and using the  $Q_{\text{initial}}$ ,  $V_{\text{startup}}$  and Sensitivity Coefficient as defined above.
- At 12:00, a Setpoint of 75 MVar (absorption) is requested by Elia. The Reactive Power Requested for this quarter-hour is then -75 MVar.
- At 12:15, a calibration is made using the measured Grid Voltage and measured Reactive Power.  $Q_{\text{initial}}$  is equal to the measured Reactive Power for this quarter-hour and  $V_{\text{startup}}$  is equal to the measured Grid Voltage for this quarter-hour. By application of formula (1), the Reactive Power Requested for this quarter-hour is equal to the measured Reactive Power.
- At 12:30, the Reactive Power Requested is again computed based on formula (1) using the calibrated values of  $Q_{\text{initial}}$  and  $V_{\text{startup}}$
- At 12:45, the Technical Unit is going to stop and injects less Active Power than its Minimum Active Power Threshold in Injection. The Service is then not delivered anymore.

### 2.A.2 Example of calculation of the Reactive Power Requested for a Non-controlling Technical Unit

The table below shows an example of the computation of the Reactive Power Requested ( $Q_{\text{req}}$ ) for a Non-Controlling Technical Unit. The Reactive Power Requested is equal to the last Setpoint value communicated by Elia as described in Annex 8.

Date	$-P_{\text{measured}}$ (MW)	Setpoint (MVar)	$Q_{\text{req}}$ (MVar) = Sepoint
10:15:00	150	0	0
10:30:00	150	20	20
10:45:00	150	20	20
11:00:00	150	20	20
11:15:00	150	40	40
11:30:00	150	40	40

## Annex 2 Calculation of remuneration of the Service

### 2.B DETERMINATION OF THE $Price(Qh_n)$

Depending on the  $Q_{req}$  as computed in this annex, the price used for the remuneration is determined based on the price structure as per Annex 12.

For a Controlling Technical Unit In Injection Mode:

- If  $0 < Q_{req} < Q1$ : price 1 is used for the remuneration
- If  $Q1 \leq Q_{req} \leq Q_{tech\_max}$ : price 1 is used for the remuneration of the Reactive Power volume till  $Q1$  and price 2 is used for the remuneration of the Reactive Power volume from  $Q1$  to  $Q_{req}$
- If  $Q3 < Q_{req} < 0$ : price 3 is used for the remuneration
- If  $Q_{tech\_min} \leq Q_{req} \leq Q3$ : price 3 is used for the remuneration of the Reactive Power volume till  $Q3$  and price 4 is used for the remuneration of the Reactive Power volume from  $Q3$  to  $Q_{req}$

For a Controlling Technical Unit in Compensator Mode:

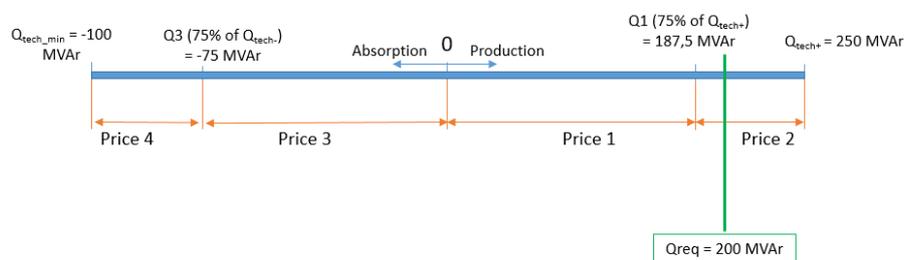
- If  $0 < Q_{req} < Q1$ : price 5 is used for the remuneration
- If  $Q1 \leq Q_{req} \leq Q_{tech\_max}$ : price 5 is used for the remuneration of the Reactive Power volume till  $Q1$  and price 6 is used for the remuneration of the Reactive Power volume from  $Q1$  to  $Q_{req}$
- If  $Q3 < Q_{req} < 0$ : price 7 is used for the remuneration
- If  $Q_{tech\_min} \leq Q_{req} \leq Q3$ : price 7 is used for the remuneration of the Reactive Power volume till  $Q3$  and price 8 is used for the remuneration of the Reactive Power volume from  $Q3$  to  $Q_{req}$

For a Non-Controlling Technical Unit :

- If  $0 < Q_{req} < Q_{tech\_max}$ : price 9 is used for the remuneration
- If  $Q_{tech\_min} \leq Q_{req} < 0$ : price 10 is used for the remuneration

#### Example for a Controlling Technical Unit in Injection Mode

Assuming the Technical Control Band and price band are defined in the following figure and the  $Q_{req}$  is equal to 200 MVar:



The remuneration is:

$$Remuneration(Qh_n) = 187.5 * \frac{1}{4} * Price 1 + (200 - 187.5) * \frac{1}{4} * Price 2$$

**ANNEX 3. DELIVERY CONTROL OF THE AUTOMATIC CONTROL SERVICE TYPE**

Elia expects that the VSP's Reactive Power production or absorption, at the Service Measurement Point as defined in Annex 13, remains within the calculated tolerance band around the value of  $Q_{req}$  as defined in the formula below. If this is not the case, Elia will apply penalties as per Art. II.9

$$Q_{req} = -\frac{\alpha_{eq} * (GV(t) - V_{startup}) * 0,45 * P_{tech,max}}{U_{norm\_expl}} + Q_{initial}$$

Elia tolerates a deviation in the delivery of the Service for each quarter-hour. This tolerance is calculated as follows:

$$Tolerance = 7.5\% * Q_{tech,max}$$

With a:

- minimum value of 1 MVAR
- maximum value of 25 MVAR

This error margin is considered equally on the upper or lower margins of the additional Reactive Power value that should have been supplied by the Technical Unit. Two values are defined around  $Q_{req}$ :

- Limit inf. =  $Q_{req} - Tolerance$
- Limit sup =  $Q_{req} + Tolerance$

The delivery control consists in checking if the Reactive Power supplied at the Service Measurement Point is within the tolerance band defined by Limit inf. and Limit sup.

Example of activation control for a certain Technical Unit

Considering a unit with the following characteristics:

- it is connected to the 150kV network ( $U_{norm\_expl}$ );
- it can supply a volume of Reactive Power in the band [ $Q_{tech\_min} = -48$ ;  $Q_{tech\_max} = 96,77$ ] MVAR;
- it has a maximum technical power ( $P_{tech\_max}$ ) of 150 MW and minimum Active Power ( $P_{min}$ ) of 100 MW;
- it has a Sensitivity Coefficient  $\alpha_{eq}$  of 18
- the standard operational Grid Voltage under which the Technical Unit is foreseen to operate ( $U_{norm\_expl}$ ) is 150 kV
- the average Grid Voltage value of the quarter hour during which the unit started up for the last time  $V_{startup} = 158.8$  kV

For this example, the 15-minute measurements of the Grid Voltage (GV(t)) and metering data of the Reactive Power ( $Q_{meas}$ ) for 3 september 2019 are checked from 13:45 to 18:30.

### Annex 3 Delivery control of the Automatic Control Service Type

$Q_{req}$  is then calculated using the formula above.

The margin of tolerance defined in the present Annex corresponds to  $0,075 * 96,77 = 7,25$  MVar and it is distributed around  $Q_{req}$  defining:

- Limit inf. =  $Q_{req} - 7.25$  MVar
- Limit sup =  $Q_{req} + 7.25$  MVar

Date	Hour	$P_{measured}$ [MW]	$P_{min}$ [MW]	$GV = U_{meas}$ [kV]	$Q_{meas}$ [MVar]	$Q_{req}$ [MVar]	Limit inf. [MVar]	Limit sup. [MVar]	Succeeded?
03/09/2019	13:45	150	100	158,4	14,36	3,37	- 3,88	10,62	N
03/09/2019	14:00	150	100	158,1	12,56	5,42	-1,83	12,67	Y
03/09/2019	14:15	150	100	158,3	10,63	3,87	-3,38	11,12	Y
03/09/2019	14:30	150	100	158,3	11,2	4,35	-2,9	11,6	Y
03/09/2019	14:45	150	100	158,5	13,06	2,43	-4,82	9,68	N
03/09/2019	15:00	150	100	158,3	14,99	3,76	-3,49	11,01	N
03/09/2019	15:15	150	100	158,3	15,53	4,01	-3,24	11,26	N
03/09/2019	15:30	150	100	158,5	14,26	2,76	-4,49	10,01	N
03/09/2019	15:45	150	100	158,5	8,73	2,26	-4,99	9,51	Y
03/09/2019	16:00	150	100	158,7	7,83	0,95	-6,3	8,2	Y
03/09/2019	16:15	150	100	158,2	8,76	5,05	-2,2	12,3	Y
03/09/2019	16:30	150	100	158,1	9,03	5,72	-1,53	12,97	Y
03/09/2019	16:45	150	100	158,1	14,21	5,53	-1,72	12,78	N
03/09/2019	17:00	150	100	158,3	15,26	4,48	-2,77	11,73	N
03/09/2019	17:15	150	100	158,1	11,69	5,43	-1,82	12,68	Y
03/09/2019	17:30	150	100	158	11,3	6,73	-0,52	13,98	Y
03/09/2019	17:45	150	100	157,8	13,39	8,38	1,13	15,63	Y
03/09/2019	18:00	150	100	157,7	16	9,17	1,92	16,42	Y
03/09/2019	18:15	150	100	157,6	16,8	9,94	2,69	17,19	Y
03/09/2019	18:30	150	100	156,8	24,9	16,72	9,47	23,97	N

For the sake of clarity, the values illustrated in the table above are represented :

- in blue for the measured/metered values
- in green for the computed values
- in black for the fixed values

Elia deems that the Service has not been supplied for any quarter-hour during which the metered Reactive Power  $Q_{meas}$  is not within calculated lower and upper limits (Limit inf and Limit sup). These quarter-hours are considered as failed.

In this example, this is the case for 8 out of 20 quarter hours, i.e. 40% of the time.

This sample is representative of one of the 6 samples that are considered per Technical Unit per month. Based on the six samples of one month, Elia applies a remuneration reduction as described in Annex 6.

### Annex 3 Delivery control of the Automatic Control Service Type

In order to avoid a double penalization related to the tariff for the offtake or injection of additional reactive energy and the delivery control of the Automatic Control Service Type, quarter-hours for which a Reactive Power volume has already been penalized through the tariff for the offtake or injection of additional reactive energy will not be considered in the delivery control of the Service.

## ANNEX 4. DELIVERY CONTROL OF THE MANUAL CONTROL SERVICE TYPE

Following the request of a Setpoint, Elia expects that the VSP adapts his Reactive Power production or absorption to reach the value of  $Q_{req}$  within the requested timeframe to respond to Elia's request as defined in Art. II.5.4.

$$Q_{req} = Q_{req\_manual}$$

With  $Q_{req\_manual}$  being the last Setpoint value communicated by Elia as described in Annex 8.

Elia tolerates a deviation in the delivery of the Service for each requested Setpoint. This tolerance is calculated as follows:

$$Tolerance = 7.5\% * Q_{tech,max}$$

With a :

- minimum value of 1 MVar
- maximum value of 25 MVar

This error margin is considered equally on the upper or lower margins of the additional Reactive Power value that should have been supplied by the Technical Unit. Two values are defined around  $Q_{req}$ :

- Limit inf. =  $Q_{req} - Tolerance$
- Limit sup =  $Q_{req} + Tolerance$

The delivery control of the Manual Control Service Type consists in checking whether the Reactive Power supplied at the Service Measurement Point is within the tolerance band defined by Limit inf. and Limit sup. for at least two successive 30" Reactive Power measurements within the requested timeframe as defined in art. II.5.4.

### Example of verification for a certain Technical Unit:

Elia sends an activation request at 8 a.m. (production of Reactive Power) to Technical Unit X with the Setpoint "150 MVar" (the procedures for the communication of a Setpoint are described in Annex 8). In this case  $Q_{req}=150\text{MVar}$

To verify whether the Reactive Power Requested was supplied ( $Q_{req}$ ), Elia uses the remote 30" Reactive Power measurements available for the 5 minutes following the activation request, i.e.:

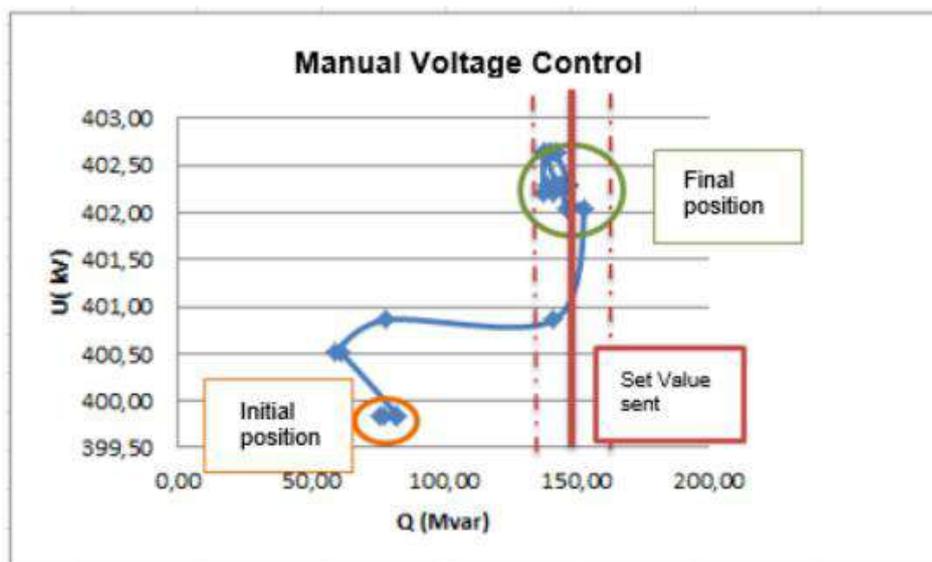
Time	$Q_{meas}(\text{MVar})$
8:00:00	81.76
8:00:30	75.84
8:01:00	77.42
8:01:30	82.55
8:02:00	61.22
8:02:30	59.25
8:03:00	78.21
8:03:30	141.41
8:04:00	152.86
8:04:30	146.15
8:05:00	145.36

#### Annex 4 Delivery control of the Manual Control Service Type

Elia checks whether the volume of the  $Q_{req}$  (150 MVar) and measured at the Service Measurement Point is within the limits of the tolerance calculated in the present Annex, for at least two successive measurements. Considering a Technical Unit with  $Q_{tech,max} = 200$  MVar, the Tolerance equals to 15 MVar.

That is the case in this example as of the measurement at 8:03:30 (i.e. 3 minutes and 30 seconds after 8 a.m.). The VSP has responded correctly to Elia's activation request (see also graphic example hereunder). Indeed the Reactive Power measured is within the tolerance for a least two successive measurements (8:03:30 and 8:04:00).

In order to avoid a double penalization related to the tariff for the offtake or injection of additional reactive energy and the delivery control of the Manual Control Service Type, quarter-hours for which a Reactive Power volume has already been penalized through the tariff for the offtake or injection of additional reactive energy will not be considered in the delivery control of the Service.



(alphaEQ)

## ANNEX 5. EXAMPLE OF CALCULATION OF RELATIVE SENSITIVITY COEFFICIENT OF TECHNICAL UNITS (ALPHA<sub>EQ</sub>)

**Disclaimer:** In the present Annex is presented an example of the calculation of the relative Sensitivity Coefficient ( $\alpha_{eq}$ ) value for informative reasons. It is to be noted that this value is a structural information for the Technical Unit's capability to regulate voltage and Reactive Power and its provision is foreseen by the Federal Grid Code. In case a Technical Unit provides the Automatic Control Service Type, the relative Sensitivity Coefficient is determined by Elia after discussions between Elia and the Elia Grid User. For each Technical Unit delivering the Automatic Control Service Type this value is annotated in Annex 1.

The reaction of a certain Technical Unit to voltage changes at its Service Measurement Point corresponds to the following equation (which is also a characteristic of the Technical Unit's droop curve):

$$\alpha_{eq} = - \frac{\frac{\Delta Q}{0,45 \times P_{nom}}}{\frac{\Delta GV}{U_{norm\_expl}}}$$

- $\Delta GV$ : the difference between the Grid Voltage before and after the network voltage variation;
- $\Delta Q$ : the absolute difference between the Reactive Power measured at  $Q_{h_n}$  and the Reactive Power Measured at  $Q_{h_{(n-1)}}$ . This volume corresponds to the additional Reactive Power that must be supplied by a Technical Unit during the 15-minute interval considered after a variation of the measured voltage ( $\Delta GV$ ) on this same 15-minute interval, calculated by applying the formula above.
- $U_{norm\_expl}$ : The standard operational Grid Voltage under which the Technical Unit is foreseen to operate, as agreed in the Technical Unit's Connection Contract.
- $Q_{h_n}$ : the considered quarter-hour

Elia has 15-minute metering data and measurements of the Reactive Power and measurements of the voltage at the Service Measurement Point of the Technical Unit. The quarter-hourly metering, following a request for Setpoint from Elia, are not considered in a valid sample.

A time interval is chosen for which the measurement of the Grid Voltage and of the net Active and Reactive Power of the Technical Unit concerned is available, but not necessarily on the site of the Technical Unit. The choice of time interval must meet the following criteria:

- There are no radical variations in the frequency of the system and the net Active Power of the Technical Unit during the time interval, and the Setpoint is not changed.
- No radical variations of the Grid Voltage and the net production or absorption of Reactive Power of the Technical Unit occur during the first 20 seconds and last 20 seconds of the interval.
- There is no major variation in Grid Voltage and thus in the net production or absorption of Reactive Power of the Technical Unit during the rest of the interval.

(alphaEQ)

Calculation of  $\Delta Q$  and  $\Delta GV$

$\Delta GV$  is calculated by the following formula:

$$\Delta GV = GV_2 - GV_1$$

Where:

- $GV_1$ : average Grid Voltage during the first 20 seconds of the interval
- $GV_2$ : average Grid Voltage during the last 20 seconds of the interval

$\Delta Q$  is calculated by the following formula:

$$\Delta Q = Q_2 - Q_1$$

Where:

- $Q_1$ : average Reactive Power production or absorption of the Technical Unit during the first 20 seconds of the interval
- $Q_2$ : average Reactive Power production or absorption of the Technical Unit during the last 20 seconds of the interval

**ANNEX 6. PENALTY FOR NON-DELIVERY OF THE AUTOMATIC CONTROL SERVICE TYPE**

Elia shall deem the Automatic Control Service Type to have not been supplied for a given 15-minute interval when the variation in Reactive Power measured for a certain Service Measurement Point does not fall within the margin of error defined in Annex 3.

If the conditions for the supply of the Automatic Control Service Type are not satisfied, Elia will calculate reductions to be applied to each monthly remuneration based on the following rule:

$$\%Q_{\text{failed}} = \frac{\# \text{ QHs not compliant with the supply conditions in the monthly samples}}{\# \text{ QHs analysed in the monthly samples}}$$

- Where  $\%Q_{\text{failed}}$  is between 0 and 30% included, Elia shall not apply the remuneration reduction.
- Where  $\%Q_{\text{failed}}$  is above 30% and below or equal to 80%, a 25% reduction shall be applied to the remuneration for the Service for this Technical Unit as set in Art.II.8.3, for the entire month as of which the sample was constituted.
- Where the  $\%Q_{\text{failed}}$  is above 80% and below or equal to 100%, Elia shall deem that the Service has not been supplied and shall therefore not remunerate the VSP for the Technical Unit concerned, for the entire month as of which the sample was constituted.

## ANNEX 7. PENALTY FOR NON-DELIVERY OF THE MANUAL CONTROL SERVICE TYPE

When the VSP fails to activate the Service (as established from the delivery control procedure described in Annex 4), Elia will apply a reduction of the monthly remuneration.

The penalty shall be proportional to the missing volume ( $Q_{\text{manual\_missing}}$ ) i.e. the Reactive Power volume that has not been provided during the activation of Manual Control Service Type according to the following formula:

$$\begin{aligned} \text{Remuneration reduction} \\ &= Q_{\text{manual\_missing}} * \text{price of the last MVAR supplied} * 1,5 \\ & * \text{Average Setpoint duration} \end{aligned}$$

Where:

- the Average Setpoint duration is set to 10 hours
- The price of the last MVAR supplied is based on the price structure as defined in Annex 12

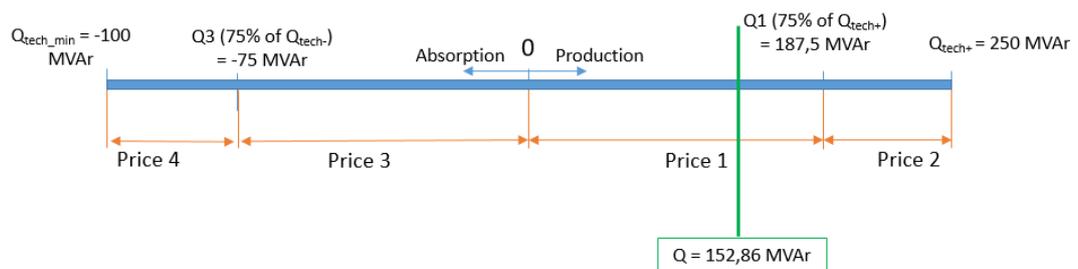
### Example:

For instance, if the Setpoint requested by Elia for the example used in Annex 4 had been 200 MVAR, Elia would have noted in its measurements that the maximum value attained by the Technical Unit is 152,86 MVAR.

A penalty for the volume not supplied would then be imposed on the delta, i.e.

$$Q_{\text{manual\_missing}} = 200 - 152,86 = 47,14 \text{ MVAR}$$

Assuming that the Technical Control Band and the corresponding price band of the Technical Unit are represented on the figure below, the price of the last MVAR supplied will correspond to the Price 1.



The remuneration reduction will be:

$$\text{Remuneration reduction} = 47,14 * \text{Price 1} * 1,5 * 10$$

If the VSP fails to confirm reception of the activation message,  $Q_{\text{manual\_missing}}$  is considered to be equal to the entire value of the Setpoint request (i.e. in the above example,  $Q_{\text{manual\_missing}}=200$ MVAR).

## ANNEX 8. COMMUNICATION OF A SETPOINT BY ELIA FOR MANUAL CONTROL SERVICE

When receiving a Setpoint request from Elia pursuant to Art. II.5.4 and II.5.5, the VSP of a Technical Unit needs to follow a procedure to correctly perform the Manual Control Service. The procedure is described in this annex for both Controlling and Non-Controlling Technical Units.

### 8.A CONTROLLING TECHNICAL UNIT

When receiving a Setpoint, the VSP of a Controlling Technical Unit needs to follow three steps:

1) Receiving the Setpoint

When Elia identifies a need of Reactive Power to be produced or absorbed by a Technical Unit, Elia sends a Setpoint to the VSP of this Technical Unit that corresponds to the new value of the Reactive Power that has to be produced or absorbed by the Technical Unit ( $Q_{req\_manual}$ ) at the Service Measurement Point. The VSP needs to be able to receive and integrate this Setpoint according to the modalities defined in Art II.5.4 and II.5.5.

2) Reaching the Setpoint

Within the timeframe indicated in Art. II.5.4II.5.4 after the Setpoint request, the VSP of the Technical Unit has to stop its Automatic Control, reach the requested Setpoint and maintain the Reactive Power in the tolerance band in accordance with modalities described in Annex 4.

3) Restarting the Automatic Control

When the Setpoint request is supposed to be correctly executed in accordance with modalities described in Annex 4, the Automatic Control has to be restarted.

An example of the communication of a Setpoint by Elia to a VSP is shown on the figure hereunder. This example describes the three steps of the communication of a Setpoint for a Controlling Technical Unit

## Annex 8 Communication of a Setpoint by Elia for Manual Control Service

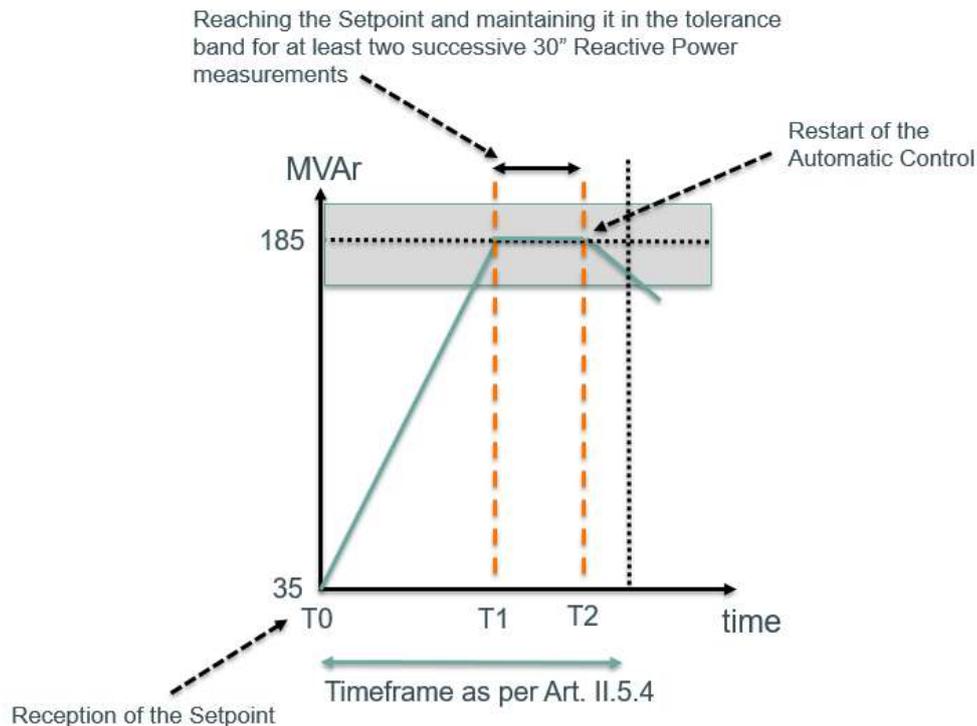


Figure 5: Example of a Setpoint request by Elia for a Controlling Technical Unit

### Reception of the Setpoint

At T0, Elia identifies a need for additional Reactive Power to be produced by the Controlling Technical Unit and sends the new Setpoint “185 MVar” to the VSP as per Article II.5.4.

### Reaching the Setpoint

Within the timeframe indicated in Art. II.5.4/II.5.4 after the Setpoint request, the VSP needs to stop its Automatic Control, reach the requested Setpoint (185 MVar) and maintain the Reactive Power in the tolerance band (grey band on Figure 5) in accordance with modalities described in Annex 4. Figure 5 shows that the requested Setpoint is reached at T1 and the Reactive Power is then correctly maintained in the tolerance band until T2.

### Restart of the Automatic Control

At T2, the Setpoint request is correctly executed and the Automatic Control has to be restarted from that point.

## 8.B NON-CONTROLLING TECHNICAL UNIT

When receiving a Setpoint, the VSP of a Non-controlling Technical Unit needs to follow three steps:

### 1) Receiving the Setpoint

When Elia identifies a need of Reactive Power to be produced or absorbed by a Technical Unit, Elia sends a Setpoint to the VSP of this Technical Unit that corresponds to the new value of the Reactive Power that has to be produced or absorbed by the Technical Unit ( $Q_{req\_manual}$ ) at the Service Measurement Point. The VSP needs to be able to receive and integrate this Setpoint according to the modalities defined in Art II.5.4 and II.5.5.

### 2) Reaching the Setpoint

## Annex 8 Communication of a Setpoint by Elia for Manual Control Service

Within the timeframe indicated in Art. II.5.4 after the Setpoint request, the VSP of the Technical Unit has to reach the requested Setpoint and maintain the Reactive Power in the tolerance band in accordance with modalities described in Annex 4.

### 3) Maintaining the Setpoint

The Setpoint has to be maintained in the tolerance band by the VSP until a new Setpoint is requested by Elia or the Active Power of the Technical Unit becomes lower than its Minimum Active Power Threshold in Injection, in Offtake or in Compensator Mode.

An example of the communication of a Setpoint by Elia to a VSP is shown on the figure hereunder. This example describes the three steps of the communication of a Setpoint for a Non-controlling Technical Unit.

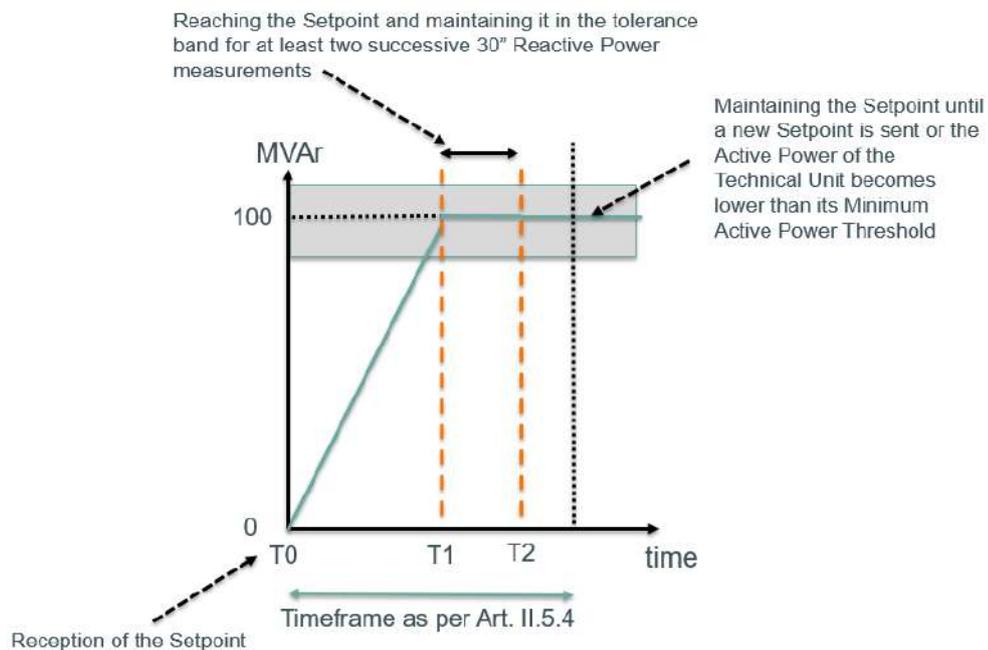


Figure 6: Example of a Setpoint request by Elia for a Non Controlling Technical Unit

#### Reception of the Setpoint

At T0, Elia identifies a need for additional Reactive Power to be produced by the Non-controlling Technical Unit and sends the Setpoint “100 MVar” to the VSP as per Article II.5.4.

#### Reaching the Setpoint

Within the timeframe indicated in Art. II.5.4 after the Setpoint request, the VSP needs to reach the requested Setpoint (100 MVar) and maintain the Reactive Power in the tolerance band (grey band on Figure 6) in accordance with modalities described in Annex 4. Figure 6 shows that the requested Setpoint is reached at T1 and the Reactive Power is then correctly maintained in the tolerance band until T2.

#### Maintaining the Setpoint

From T2, the Setpoint has to be maintained in the tolerance band by the VSP until a new Setpoint is requested by Elia or the Active Power of the Technical Unit becomes lower than its Minimum Active Power Threshold in Injection, in Offtake or in Compensator Mode.

## ANNEX 9. APPROPRIATION STRUCTURE

<b>Ancillary service</b>	<b>Remuneration</b>	<b>Booking reference</b>
Voltage regulation	Automatic Control Service Type delivery control	910339
	Manual Control Service Type delivery control	910360
	MVAr Prod-normal mode (0-Q1 band)	910329
	MVAr Prod-normal mode (Q1-Qtech_max band)	910330
	MVAr Abs-normal mode (0-Q3 band)	910331
	MVAr Abs-normal mode (Q3-Qtech_min band)	910332
	MVAr Prod-compensator mode (0-Q1 band)	910333
	MVAr Prod-compensator mode (Q1-Qtech_max band)	910334
	MVAr Abs-compensator mode (0-Q3 band)	910335
	MVAr Abs-compensator mode (Q3-Qtech_min band)	910336
	MVAr Prod- non-regulating unit (all band)	910337
	MVAr Abs- non-regulating unit (all band)	910338
	Voltage regulation start-up	905503

**ANNEX 10. CONTACT PERSONS**

<b>Contract monitoring</b>
<b>Invoicing and payments</b> <u>Settlement</u> <u>Invoicing and payments</u>
<b>Real-time operations</b> National dispatching (Operations) Chaussée de Vilvoorde 126 B-1000 Brussels Tel.: +32 (0)2 382 2383 Fax: +32 (0)2 382 2139 Email: <a href="mailto:dispatching@elia.be">dispatching@elia.be</a> Northern regional dispatching office (Noord) Southern regional dispatching office (Zuid)

## ANNEX 11. ELIA GRID USER DECLARATION

Elia Transmission Belgium NV

To the attention of :

Keizerslaan 20

1000 Brussels

[Date DD/MM/YYYY]

### Subject: Designation of a VSP by the Elia Grid User

	Elia Grid User	VSP
<i>Name</i>		
<i>Address</i>		

The Elia Grid User declares that:

- He designates [VSP] as VSP for the delivery period of [DD/MM/2022] to 31/12/2022 to VSP located at [ADDRESS].
- He is aware of the content of the concerned contract to be concluded by Elia and VSP.
- He will not take other commitments with respect to, nor be in charge of the above mentioned contract between Elia and VSP regarding the delivery of the Voltage and Reactive Power Control Service (hereinafter “the Service”), without prejudice to what is stated in the last paragraphs of this Declaration.

The Elia Grid User recognizes and agrees that the contract between Elia and VSP for the delivery of the Service is without prejudice to its rights and obligations regarding any other contract signed between Elia and the Elia Grid User or a third party related to the Technical Units, such as (but not limited to) a connection contract, access contract, OPA contract, SA contract or contract for restoration or balancing services.

The Technical Units covered by this agreement are the following:

Technical Unit	EAN

The Elia Grid User and the VSP recognize that Elia is not accountable for:

- A disagreement between the Elia Grid User and the VSP regarding the production of energy and the delivery of the service voltage and Reactive Power control.

## Annex 11 Elia Grid User Declaration

- A disagreement between the Elia Grid User and the VSP related to penalties, as provided in the contract for the Service.
- A disagreement between the Elia Grid User and the VSP in regards to tarification of Reactive Power related to provision of the Service.

The VSP declares that he will inform the Elia Grid User and the Access Contract Holder in case of any modification regarding the delivery of the Service. The present agreement between the Elia Grid User and the VSP is terminated in case the Elia Grid User notifies the VSP and Elia either of the designation by him of a new third party as VSP for the above mentioned Technical Unit(s) for the remaining term of the delivering period and upon signature by this new third party of a contract regarding the delivery of the Service with Elia, or of his willingness to act as the VSP himself for the above mentioned Technical Unit(s) for the remaining term of the delivering period. In the latter case the Elia Grid User recognizes and agrees to take over the rights and obligations of the contract regarding the delivery of the Service from the VSP.

If the present agreement between the Elia Grid User and the VSP is terminated for any other reason, including following a termination by the VSP of the contract with Elia in accordance to Art. I.10.1, or if a certain Technical Unit is deleted from the above list, and if the Elia Grid User is obliged to provide the Service, the Elia Grid User recognizes and agrees to take over the rights and obligations of the contract regarding the delivery of the Service from the VSP for the concerned Technical Unit(s) until he would appoint a new third party as VSP.

**The Elia Grid User**, represented by:

Name:

Function:

Date:

**The VSP**, represented by:

Name:

Function:

Date:

## ANNEX 12. REMUNERATION FOR ACTIVATION

### 12.A PRICE STRUCTURE

The price ( expressed in €/MVArh) for the Service is set according to:

- The Technical Control Band within which the Technical Unit is producing or absorbing MVARs at the specific moment of the activation;
- The ability of the Technical Unit to operate in Injection Mode and/or in Compensator Mode;
- Whether the Technical Unit is Controlling or Non-controlling;

The Parties have identified the following options:

- a) Technical Units that can supply Reactive Power in Injection Mode when they:
  - i. inject Active Energy beyond the Minimum Active Power Threshold in Injection during a certain 15-minute period ( $\% P_{\text{tech\_max}} \times 15$  minutes; specified for each Technical Unit in Annex 1) ; and/or
  - ii. perform offtakes of Active Energy beyond the Minimum Active Power Threshold in Offtake for reasons other than the supply of Reactive Power (e.g. a hydraulic Technical Unit in pump mode for storage reasons)
- b) Technical Units that can supply Reactive Power in Compensator Mode and respond to a request from Elia to activate Reactive Power by offtaking a small quantity of Active Energy between the Minimum Active Power Threshold in Compensator Mode and the Maximum Active Power Threshold in Compensator Mode (specified for each Technical Unit capable of supplying this service in Annex 1);

The following figures illustrate the possible options (with related thresholds and operation modes) for different types of Technical Units.

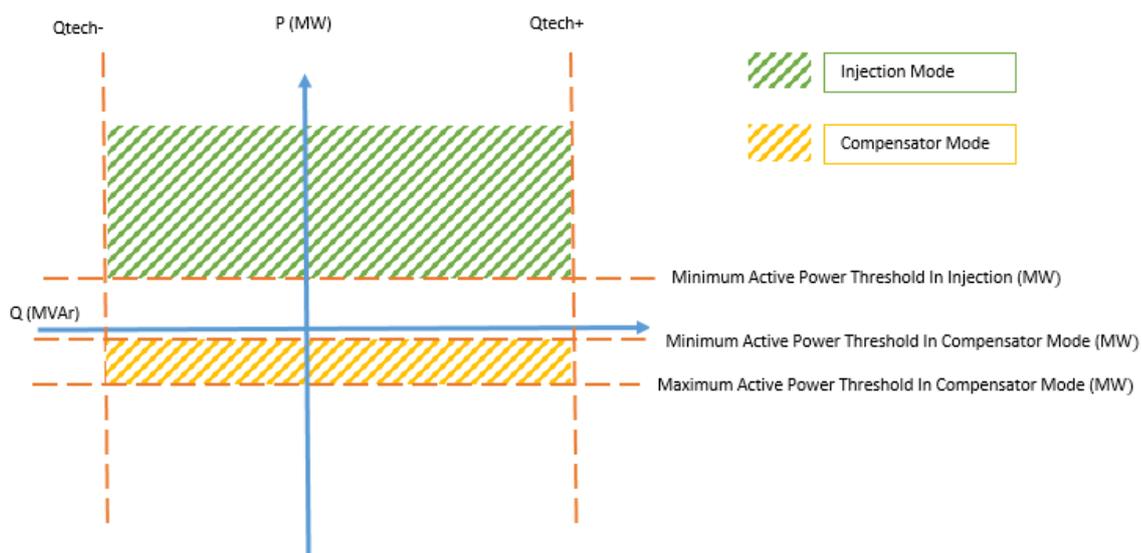


Figure 7: Technical Unit able to provide the Service in Injection Mode while injecting Active Energy (option a(i)) only and able to provide the Service in Compensator Mode (option b)

## Annex 12 Remuneration for Activation

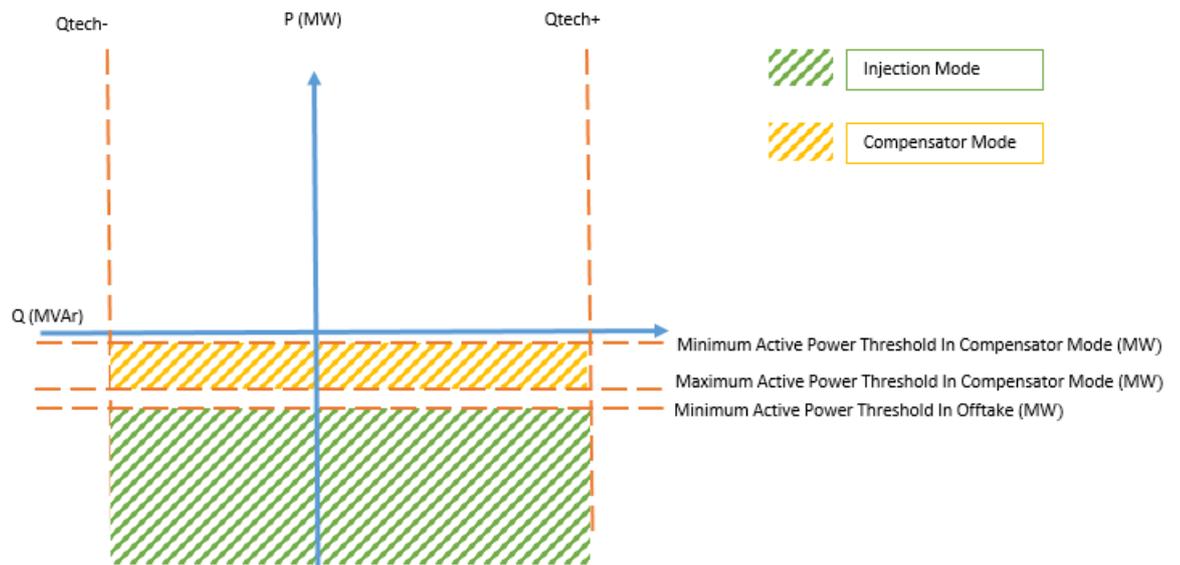


Figure 8: Technical Unit able to provide the Service in Injection Mode while offtaking Active Energy (option a (ii)) only and able to provide the Service in Compensator Mode (option b)

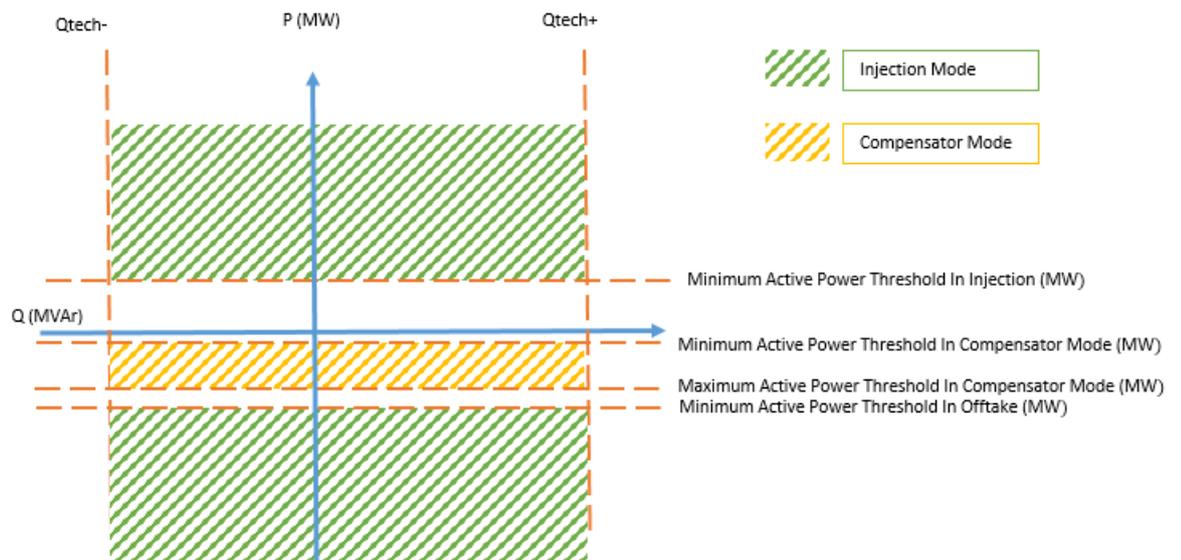


Figure 9: Technical Unit able to provide the Service in Injection Mode while injecting or offtaking Active Energy (option a (i) and a(ii)) and able to provide the Service in Compensator Mode (option b)

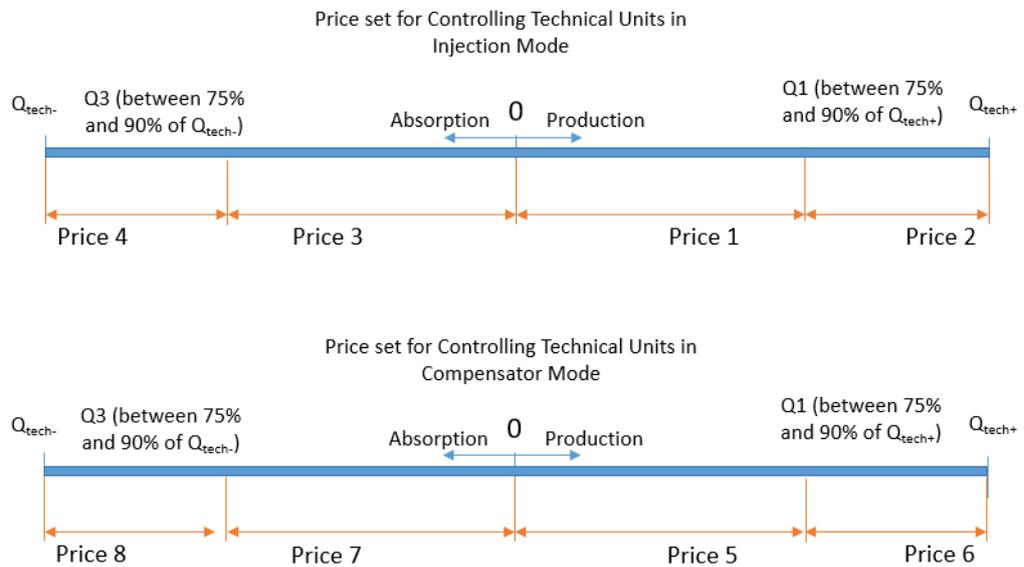
The VSP has the right to set different sets of prices according to the aforementioned criteria.

In particular:

- 1) For Controlling Technical Units, the VSP may set up to 2 prices for production or absorption. Technical Units that can provide the Service within Technical Control Bands equal to or larger than 20 MVar (whether in production or absorption) may split their Technical Control Band (in the side of production and/or absorption) in 2 price bands. The value of the Reactive Power defining the limit between the two price bands (referred as “Q1” and “Q3” in the following figure) can be chosen by the VSP between 75 % and 90% of  $Q_{tech\ max}$  in production and between 75 % and 90% of  $Q_{tech\ min}$  in absorption upon technical justification of the chosen

## Annex 12 Remuneration for Activation

limit. The VSP may propose different prices for Injection Mode and Compensator Mode as follows:



### Where:

- Q1 and Q3 are set for each Technical Unit in Annex 1;
- For Controlling Technical Units that have Technical Control Bands lower than 20MVAR on the production and/or absorption side, VSP's may propose 1 price per side:
- Price 1 (P1) for the production side of Controlling Technical Units in Injection Mode ;
  - Price 3 (P3) for the absorption side of Controlling Technical Units in Injection Mode;
  - Price 5 (P5) for the production side of Controlling Technical Units in Compensator Mode;
  - Price 7 (P7) for the absorption side of Controlling Technical Units in Compensator Mode;
- 2) For Non-Controlling Technical Units, the VSP may set one price for production (P9) and one for absorption (P10) of Reactive Power.



Annex 12 Remuneration for Activation

**12.B APPLICABLE PRICES**

12.B.1 Controlling Technical Units

Technical Units	Price in Injection Mode (€/MVArh)				Price in Compensator Mode (€/MVArh)			
	Production		Absorption		Production		Absorption	
	P1	P2	P3	P4	P5	P6	P7	P8

12.B.2 Non controlling Technical Units

Technical Units	Price (€/MVArh)	
	Production	Absorption
	P9	P10

## ANNEX 13. PREQUALIFICATION PROCEDURE

The Prequalification Procedure is performed before delivery of the Service and aims at measuring and determining the main characteristics and parameters used for the Service delivery and settlement.

In particular, the Prequalification Procedure will consist of the following steps:

a) Determination of available Technical Control Band

The VSP and Elia shall determine together based on technical documentation the Technical Control Band that the Technical Unit may put at Elia's disposal for the Service. This estimation is to be confirmed afterwards by the Prequalification Test.

b) Determination of local grid influence, Service Measurement Point and characteristics of the Service;

The VSP and Elia shall determine together the reference Service Measurement Point that will be used for the remuneration, Service steering and delivery control (among others for calculation of  $Q_{req}$ ,  $Q_{failed}$  and  $Q_{manual\_missing}$  as per Annex 2, Annex 6 and Annex 7 respectively). The VSP and Elia shall also determine together how local grid topology affects delivery of Reactive Power to the Service Measurement Point. They will assess together influence of cables, production units, loads and/or other grid elements such as batteries that may have such an influence. If, for any reason due to the local grid, the effect of both Automatic and Manual Control Service Types at the Service Measurement Point is not identifiable or effective, the Technical Unit may not provide the Service to Elia.

### Automatic Control Service Type

As defined in II.3.3 a) and Annex 5, a Sensitivity Coefficient is determined by Elia in the contract following discussions between Elia and the VSP. This Sensitivity Coefficient defines the relation between the Grid Voltage and the Reactive Power produced or absorbed at the Service Measurement Point which is by default the Access Point or the Interconnection Point.

If, for any reason due to the local grid, this coefficient cannot be determined at the Access Point, Elia and the VSP will put everything in place to be able to find an alternative solution for the provision of the Service. Based on the discussions with the VSP, Elia may:

- either request to move the Service Measurement Point at a point located downstream the Access point<sup>7</sup> in order to be able to determine this coefficient at a Service Measurement Point located between the Access Point and the connection point of the Technical Unit to the internal grid of the Elia Grid User. This option is subject to the agreement of the VSP (for example if appropriate measurement devices of the voltage and the Reactive Power and a metering device of the Reactive Power exist at this point and measurement values can be communicated to Elia in real-time). Under these conditions, this point can then be defined as the Service Measurement Point as per Art II.3.4.
- Or to allow only the delivery of the Manual Control Service Type by the concerned Technical Unit at the Service Measurement Point

### Manual Control Service Type

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<sup>7</sup> This option is not applicable for a Technical Unit providing the Service at an Interconnection Point i.e. located in a Public Distribution grid

## Annex 13 Prequalification Procedure

The Manual Service Type requires that the Reactive Power produced or absorbed at the output of the Technical Unit has a visible impact on the Reactive power measured at the Service Measurement Point.

For any Technical Unit delivering the Service this relation must remain stable in time. Should this relation change in any way, the VSP commits to immediately notifying any change to Elia.

c) Determination of delivery control modalities

According to results of analyses in all previous steps, Elia and the VSP shall determine together the modalities regarding the location of the Service Measurement Point according to dispositions of Art.II.3.4, Annex 6 and Annex 7, in relation to the Service Measurement Point and local grid influence.

As a result of this analysis Elia and the VSP(s) shall decide also on whether provision of the Service by more than one VSP shall be made possible downstream of an Access Point, and whether it is possible to consider cumulated measures of several Technical Units (as per Art. II.3.4 b)).

d) Prequalification Test

In order to validate all above modalities, the VSP and Elia must agree to execute a Prequalification Test.

During this test, the VSP shall perform an activation of the Automatic and/or Manual Control Service Type (depending on which of the Service Types he is providing).

In particular for the Automatic Control Service Type, he must, for the whole duration of the test, regulate his production or absorption of Reactive Power according to Grid Voltage according to requirements in Art. II.4. Moreover, during this same period, Elia will send one Setpoint as per Annex 8 to which the VSP must react accordingly.

The test is considered successful if :

- e) the Technical Unit delivering the Automatic Control Service Type has correctly delivered the Service for all quarter-hours during a 10 hour period (as per rules in Annex 3), and has correctly reacted to the Setpoint request (as per rules in Annex 4);
- f) the Technical Unit delivering the Manual Control Service Type has correctly reacted to the Setpoint request (as per rules in Annex 4);

The test may be executed at a moment in time selected by the VSP and validated by Elia. The test is performed at the expenses of the VSP.