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Uw referentie
Onze referentie BN19-016
Bijlage(n) 4
Onderwerp Common Settlement Rules for all exchanges of energy

Geachte heer Henk Don,

Please find alongside this cover letter BritNed Development Limited's submission of the proposal for Common Settlement Rules for Exchanges of Energy between synchronous areas. It should be noted that BritNed voted against the proposal at the ENTSO-E Market Committee. Included are:

- All asynchronously connected TSOs' proposal for Common settle rules for all unintended exchanges of energy in accordance with the Article 51(2) of Commission Regulation 2017/2195
- A asynchronously connected TSOs' proposal for Common settlement rules for intended exchanges of energy between synchronous areas as a result of frequency containment process and of ramping restrictions in accordance with the Article 50(4) of Commission Regulation (EU) 2017/2195 of 23 November 2017
- Explanatory document to the All asynchronously connected TSOs' proposals for Common settlement rules for exchanges of energy between synchronous area in accordance with Articles 50(4) and 51(2) of Commission Regulation 2017/2195
- A memo with our concerns regarding exchanges of energy as a result of ramping restrictions for active power output pursuant to Article 137(3) of Regulation 2017/1485. HVDC Interconnector TSOs were not in scope for the proposals and this memo explains why we believe they should be in scope.

Datum 07/03/2017
Uw referentie BN 17-005
Pagina 2 van 2

Met vriendelijke groeten,

BRITNED DEVELOPMENT LIMITED



Regulatory Manager

All asynchronously connected TSOs' proposal for Common settlement rules for all unintended exchanges of energy in accordance with the Article 51(2) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing

18 June 2019

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ALL ASYNCHRONOUSLY CONNECTED TSOS, TAKING INTO ACCOUNT THE FOLLOWING:

Whereas

- (1) This document is a common proposal developed by all asynchronously connected TSOs (hereafter referred to as “**the TSOs**”) regarding the development of common settlement rules applicable to all unintended exchanges of energy (hereafter referred to as “**unintended exchanges of energy**”) between asynchronously connected TSOs in accordance with Article 51(2) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter referred to as “**EBGL**”). This proposal is hereafter referred to as “**these settlement rules**”.
- (2) These settlement rules take into account the general principles and objectives set in the EBGL as well as 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 (hereafter referred to as “**Electricity Regulation**”) as well as Regulation (EC) No 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as “**SOGL**”).
- (3) These settlement rules take into account the general principles adherent to settlement processes in accordance to Article 44(1) of the EBGL that require that the settlement processes shall inter alia:
 - a. *Provide incentives to TSOs to fulfil their obligations pursuant to Article 127, Article 153, Article 157 and Article 160 of the SOGL.*
 - b. *Avoid distorting incentives to BRPs, BSPs and TSOs.*
 - c. *Ensure the financial neutrality of all TSOs.*
- (4) These settlement rules take into account the requirement of Article 44(4) of the EBGL that injections or withdrawals must be settled either under TSO-BRP imbalance settlement or under TSO-TSO settlement, but not under both.
- (5) Articles 51(2), 51(3) and 51(4) of the EBGL define the deadline for the submission of these settlement rules to the relevant regulatory authorities and several specific requirements to its content:
 2. *By eighteen months after the entry into force of this Regulation, all asynchronously connected TSOs shall develop a proposal for common settlement rules applicable to all unintended exchanges of energy between asynchronously connected TSOs*
 3. *The proposals of common settlement rules of unintended exchanges of energy between TSOs shall ensure a fair and equal distribution of costs and benefits between them.*
 4. *All TSOs shall establish a coordinated mechanism for adjustments to settlements between them.*
- (6) These settlement rules contribute to the objective of proportionality and non-discrimination pursuant to Articles 3(2)(a) of the EBGL, since these settlement rules will apply to all asynchronously connected TSOs.
- (7) These settlement rules contribute to the objective of transparency pursuant to 3(2)(b) of the EBGL, since these settlement rules will be publicly available.

- (8) These settlement rules were developed taking into account the consistency with the settlement rules of intended exchanges of energy as a result of the frequency containment process and ramping restrictions between synchronous areas in accordance with Article 50(4) of the EBGL.
- (9) These settlement rules were developed taking into account the consistency with the settlement rules of intended exchanges of energy within a synchronous area in accordance with Article 50(3) of the EBGL and of unintended exchanges of energy within a synchronous area in accordance with Article 51(1) of the EBGL.
- (10) In conclusion, these settlement rules contribute to the general objectives of the EBGL.

Abbreviations

The list of abbreviations used in these settlement rules is the following:

- ACER: Agency for the Cooperation of Energy Regulators
- EBGL: Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing
- DK1: bidding zone Western Denmark
- Electricity Regulation: 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
- LFC area: load-frequency control area
- LFC block: load-frequency control block
- NO2: bidding zone Southern Norway
- SE3: bidding zone Stockholm
- SE4: bidding zone Malmö
- SOGL: Regulation (EC) No 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation
- TSO: Transmission System Operator

SUBMIT THE FOLLOWING SETTLEMENT RULES TO ALL RELEVANT REGULATORY AUTHORITIES:

Article 1

Subject matter and scope

- (1) The common settlement rules for all unintended exchanges of energy as determined in these settlement rules are the common proposal of all asynchronously connected TSOs in accordance with Article 51(2) of the EBGL.
- (2) These settlement rules shall apply to all asynchronously connected TSOs exchanging energy in accordance with the relevant annex of these settlement rules.
- (3) The following other common settlement rules are out of scope of these settlement rules:
 - (a) the common settlement rules for all intended exchanges of energy in accordance with Article 50(1) of the EBGL;
 - (b) the common settlement rules for all intended exchanges of energy in accordance with Article 50(3) of the EBGL;
 - (c) the common settlement rules for all intended exchanges of energy between synchronous areas in accordance with Articles 50(4) of the EBGL;
 - (d) the common settlement rules for unintended exchange within a synchronous area in accordance with Article 51(1) of the EBGL.

Article 2

Definitions and interpretation

- (1) For the purposes of these settlement rules, the terms used shall have the definitions given to them in Article 2 of the EBGL and Article 3 of the SOGL.
- (2) In addition, in these settlement rules the following terms shall apply:
 - (a) 'all asynchronously connected TSOs' refers to the TSOs submitting this proposal;
 - (b) 'the relevant asynchronously connected TSOs' refers to the connecting TSOs of HVDC interconnectors between two synchronous areas and/or the TSOs exchanging energy in accordance with the relevant annex of these settlement rules;
 - (c) 'accounting data' are data agreed between two TSOs concerning the physical energy exchanged over a physical line or considered via a virtual tie-line if applicable;
 - (d) 'TSO-TSO settlement period' means, in the context of these settlement rules, the time unit for which unintended exchanges of energy and intended exchanges of energy as a result of the frequency containment process and ramping restrictions are calculated.
- (3) Settlement according to these settlement rules follow the sign convention in Table 1:

Table 1 Payment for TSO TSO settlement pursuant to these settlement rules

	TSO-TSO settlement price: positive	TSO-TSO settlement price: negative
TSO settlement volume: positive (TSO exports)	Payment to TSO	Payment from TSO
TSO settlement volume: negative (TSO imports)	Payment from TSO	Payment to TSO

- (4) In these settlement rules, unless the context requires otherwise, prices for unintended exchanges of energy are indicated in EUR/MWh.
- (5) In addition, unless the context requires otherwise:
 - (a) the singular indicates the plural and vice versa;
 - (b) the table of contents and headings are inserted for convenience only and do not affect the interpretation of these settlement rules;
 - (c) 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.

Article 3

High-level design of the common settlement rules

- (1) The relevant asynchronously connected TSOs shall jointly foresee the accounting, settlement and invoicing in accordance with these settlement rules.
- (2) For each TSO-TSO settlement period in accordance with Article 4 of these settlement rules, all volumes of unintended exchange calculated for that TSO-TSO settlement period in accordance with Article 5 of these settlement rules shall be settled at the price calculated for that TSO-TSO settlement period in accordance with Article 6 of these settlement rules.
- (3) The relevant asynchronously connected TSOs shall accept the financial flows and are obliged to pay, or receive payments, accordingly.
- (4) After implementation of these common settlement rules, a reviewal mechanism shall start by end of 2022, in which all asynchronously connected TSOs will review these settlement rules. A review shall take place at least every three years after the first review. In the reviewal mechanism, the possibility for evolving to a harmonised price calculation method for all asynchronously connected TSOs shall be evaluated. In addition, the reviewal mechanism could affect, for example, technical details such as data collection. Any changes to these settlement rules shall be submitted to the relevant regulatory authorities for approval.

Article 4

Settlement period

- (1) The TSO-TSO settlement period shall be set at 15 minutes, unless the relevant asynchronously connected TSOs jointly decide otherwise. The reviewal according to Article 3(4) shall harmonise the TSO-TSO settlement period.
- (2) The TSO-TSO settlement period of each day shall begin right after 00:00 of the time zone agreed by the relevant asynchronously connected TSOs. The TSO-TSO settlement periods shall be consecutive and not overlapping.

Article 5

Volume determination per TSO-TSO settlement period

- (1) For the relevant asynchronously connected TSOs, the volume of intended exchange pursuant to Article 50(1) and Article 50(4) of the EBGL is determined as follows:
 - (a) The volume of intended exchange as the result of the reserve replacement process pursuant Article 50(1)(a) of the EBGL is contained in the aggregated netted external schedule.

- (b) The volume of intended exchange as the result of the frequency restoration process with manual activation pursuant to Article 50(1)(b) of the EBGL is equal to the volume as reported in the aggregated netted external schedule and/or the accounting data by the relevant asynchronously connected TSOs.
 - (c) The volume of intended exchange as the result of the frequency restoration process with automatic activation pursuant to Article 50(1)(c) of the EBGL is equal to the volume as reported in the accounting data by the relevant asynchronously connected TSOs.
 - (d) The volume of intended exchange as the result of the imbalance netting process pursuant to Article 50(1)(d) of the EBGL is equal to the volume as reported in the accounting data by the relevant asynchronously connected TSOs.
 - (e) The volume of intended exchange as the result of the frequency containment process pursuant to Article 50(4)(a) of the EBGL is calculated per TSO-TSO settlement period in accordance with the settlement rules under Article 50(4)(a) of the EBGL.
 - (f) The volume of intended exchange as the result of ramping restrictions pursuant to Article 50(4)(b) of the EBGL is calculated per TSO-TSO settlement period in accordance with the settlement rules under Article 50(4)(b) of the EBGL.
- (2) The volume of intended exchanges of energy between the relevant asynchronously connected TSOs as the result of bilateral or multilateral agreements that are not covered by the previous points is equal to the volume as reported in the accounting data by the relevant asynchronously connected TSOs. This volume may include the exchanges of energy as a result of the ramping restrictions for active power output pursuant to Article 137(3) of Regulation (EU) 2017/1485.
- (3) 'Unintended exchange of energy' equals the difference between the metering data and the sum of intended exchanges of energy between the relevant asynchronously connected TSOs according to the aggregated netted external schedule between the relevant asynchronously connected TSOs, intended exchange according to Article 50(1) and 50(4) of the EBGL, and intended exchange as a result of bilateral or multilateral agreements in accordance with Article 5(2) of these settlement rules.

Article 6

Pricing rules for unintended exchange of energy between asynchronously connected TSOs

The price for unintended exchanges of energy in accordance with Article 51(2) of the EBGL shall be calculated by the relevant asynchronously connected TSOs according to the relevant annex of these settlement rules.

Article 7

Publication and implementation of these settlement rules

- (1) All asynchronously connected TSOs shall publish these settlement rules without undue delay after all relevant regulatory authorities have approved the proposed settlement rules or a decision has been taken by the Agency for the Cooperation of Energy Regulators in accordance with Article 5(7), 6(1) or 6(2) of the EBGL.
- (2) The relevant asynchronously connected TSOs shall implement these settlement rules within 12 months after the approval of these settlement rules, in accordance with Article 5(5) of the EBGL.

Article 8

Language

The reference language for this proposal shall be English. For the avoidance of doubt, where TSOs need to translate this proposal into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 7 of the EBGL and any version in another language, the relevant TSOs shall, in accordance with national legislation, provide the relevant regulatory authorities with an updated translation of the proposal.

Annex 1 - TenneT NL/Statnett

Unintended exchanges of energy shall be generally settled at the average of the day-ahead price of the Netherlands and NO2 per TSO-TSO settlement period.

Annex 2 - Energinet/Statnett

Unintended exchanges of energy shall be settled at the average of the regulating power price in the dominating direction of DK1 and NO2 per TSO-TSO settlement period.

Annex 3 - Energinet/Svenska kraftnät

Unintended exchanges of energy shall be settled at the average of the regulating power price in the dominating direction of the Danish bidding zone DK1 and the Swedish bidding zone SE3 per TSO-TSO settlement period.

Annex 4 - Energinet/Energinet

Unintended exchanges of energy shall be settled at the average of the regulating power price in the dominating direction of the Danish bidding zones DK1 and DK2 per TSO-TSO settlement period.

Annex 5 - Energinet/50Hertz Transmission

Unintended exchanges of energy shall be settled at the average of the day-ahead price of DK1 and Germany per TSO-TSO settlement period.

Annex 6 - PSE/Svenska kraftnät

Unintended exchanges of energy shall be settled at the average of the Polish imbalance price and the imbalance price in the Swedish bidding zone SE4 per TSO-TSO settlement period. For SE4, the imbalance price refers to the imbalance price of consumption until Sweden changes to single position used for imbalance calculation in accordance with EBGL Article 54(3)(a).

Annex 7 - PSE/Litgrid

Unintended exchanges of energy shall be settled at the average of the Lithuanian imbalance price and the Polish imbalance price per TSO-TSO settlement period.

Annex 8 - Litgrid/Svenska kraftnät

Unintended exchanges of energy shall be settled at the average of the Lithuanian imbalance price and the imbalance price in the Swedish bidding zone SE4 per TSO-TSO settlement period. For SE4, the imbalance price refers to the imbalance price of consumption until Sweden changes to single position used for imbalance calculation in accordance with EBGL Article 54(3)(a).

Annex 9 - Elering/Fingrid

Unintended exchanges of energy shall be settled at the average of the Estonian imbalance price and the imbalance price in Finland per TSO-TSO settlement period. For Finland, the imbalance price refers to the imbalance price of consumption until Finland changes to single position used for imbalance calculation in accordance with EBGL Article 54(3)(a).

**All asynchronously connected TSOs' proposal for
Common settlement rules for intended exchanges
of energy between synchronous areas as a result
of the frequency containment process and of
ramping restrictions in accordance with the
Article 50(4) of Commission Regulation (EU)
2017/2195 of 23 November 2017**

18 June 2019

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ALL ASYNCHRONOUSLY CONNECTED TSOs, TAKING INTO ACCOUNT THE FOLLOWING:

Whereas

- (1) This document is a common proposal developed by all asynchronously connected TSOs (hereafter referred to as “**the TSOs**”) regarding the development of common settlement rules applicable to intended exchanges of energy (hereafter referred to as “**intended exchanges of energy**”) between asynchronously connected TSOs in accordance with Article 50(4) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter referred to as “**EBGL**”). This proposal is hereafter referred to as “**these settlement rules**”.
- (2) These settlement rules take into account the general principles and objectives set in the EBGL as well as 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 (hereafter referred to as “**Electricity Regulation**”) as well as Regulation (EC) No 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as “**SOGL**”).
- (3) These settlement rules take into account the general principles adherent to settlement processes in accordance to Article 44 of the EBGL that require that the settlement processes shall inter alia:
 - a. *Provide incentives to TSOs to fulfil their obligations pursuant to Article 127, Article 153, Article 157 and Article 160 of the SOGL,*
 - b. *Avoid distorting incentives to BRPs, BSPs and TSOs*
 - c. *ensure the financial neutrality of all TSOs*
- (4) Articles 50(4) and 50(8) of the EBGL define the deadline for the submission of these settlement rules to the relevant regulatory authorities and several specific requirements to its content:
 4. *By eighteen months after the entry into force of this Regulation, all asynchronously connected TSOs intentionally exchanging energy between synchronous areas shall develop a proposal for common settlement rules applicable to intended exchanges of energy, as a result of one or both:*
 - (a) *frequency containment process for active power output on synchronous area level pursuant to Articles 172 and 173 of Regulation (EU) 2017/1485;*
 - (b) *ramping restrictions for active power output on synchronous area level pursuant to Article 137 of Regulation (EU) 2017/1485.*
 8. *All TSOs shall establish a coordinated mechanism for adjustments to settlements between all TSOs.*
- (5) These settlement rules contribute to the objective of proportionality and non-discrimination pursuant to Articles 3(2)(a) of the EBGL, since these settlement rules will apply to all asynchronously connected TSOs.
- (6) These settlement rules contribute to the objective of transparency pursuant to Article 3(2)(b) of the EBGL, since these settlement rules will be publicly available.

- (7) These settlement rules were developed taking into account the consistency with the settlement rules of intended exchanges of energy within a synchronous area in accordance with Article 50(3) of the EBGL and of unintended exchanges of energy within a synchronous area in accordance with Article 51(1) of the EBGL.
- (8) In conclusion, these settlement rules contribute to the general objectives of the EBGL.

Abbreviations

The list of abbreviations used in these settlement rules is the following:

- ACER: Agency for the Cooperation of Energy Regulators
- EBGL: Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing
- Electricity Regulation: 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
- LFC area: load-frequency control area
- LFC block: load-frequency control block
- SOGL: Regulation (EC) No 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation
- TSO: Transmission System Operator

SUBMIT THE FOLLOWING SETTLEMENT RULES TO ALL RELEVANT REGULATORY AUTHORITIES:

Article 1

Subject matter and scope

- (1) The common settlement rules for intended exchanges of energy as determined in these settlement rules are the common proposal of all asynchronously connected TSOs in accordance with Article 50(4) of the EBGL.
- (2) These settlement rules shall apply to all asynchronously connected TSOs exchanging energy in accordance with the relevant annex of these settlement rules.
- (3) The following settlement rules are out of scope of these settlement rules:
 - (a) the common settlement rules for all intended exchanges of energy in accordance with Article 50(1) of the EBGL;
 - (b) the common settlement rules for all intended exchanges of energy in accordance with Article 50(3) of the EBGL;
 - (c) the common settlement rules for unintended exchanges of energy within a synchronous area in accordance with Article 51(1) of the EBGL.
 - (d) the common settlement rules for unintended exchanges of energy between synchronous areas in accordance with Article 51(2) of the EBGL.

Article 2

Definitions and interpretation

- (1) For the purposes of these settlement rules, the terms used shall have the definitions given to them in Article 2 of the EBGL and Article 3 of the SOGL.
- (2) In addition, in these settlement rules the following terms shall apply:
 - (a) 'all asynchronously connected TSOs' refers to the TSOs submitting this proposal;
 - (b) 'the relevant asynchronously connected TSOs' refers to the connecting TSOs of HVDC interconnectors between two synchronous areas and/or the TSOs exchanging energy in accordance with the relevant annex of these settlement rules;
 - (c) 'accounting data' are data agreed between two TSOs concerning the physical energy exchanged over a physical line or considered via a virtual tie-line if applicable;
 - (d) 'TSO-TSO settlement period' means, in the context of these settlement rules, the time unit for which intended exchanges of energy as a result of the frequency containment process and ramping restrictions are calculated.
- (3) Settlement according to these settlement rules follow the sign convention in Table 1:

Table 1 Payment for TSO-TSO settlement pursuant to these settlement rules

	TSO-TSO settlement price: positive	TSO-TSO settlement price: negative
TSO settlement volume: positive (TSO exports)	Payment to TSO	Payment from TSO
TSO settlement volume: negative (TSO imports)	Payment from TSO	Payment to TSO

- (4) In these settlement rules, unless the context requires otherwise, prices for unintended exchanges of energy are indicated in EUR/MWh;
- (5) In addition, unless the context requires otherwise:
 - (a) the singular indicates the plural and vice versa;
 - (b) the table of contents and headings are inserted for convenience only and do not affect the interpretation of these settlement rules;
 - (c) 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.

Article 3

High-level design of the common settlement rules

- (1) The relevant asynchronously connected TSOs shall jointly foresee the accounting, settlement and invoicing in accordance with these settlement rules.
- (2) For each TSO-TSO settlement period in accordance with Article 4 of these settlement rules, the volumes of intended exchanges of energy calculated in accordance with Article 5 of these settlement rules shall be settled at the price calculated for that TSO-TSO settlement period in accordance with Article 6 of these settlement rules.
- (3) All relevant asynchronously connected TSOs shall accept the financial flows and are obliged to pay, or receive payments, accordingly.
- (4) After implementation of these common settlement rules, a review mechanism shall start by end of 2022, in which all asynchronously connected TSOs will review these settlement rules. A review shall take place at least every three years after the first review. In the review mechanism, the possibility for evolving to a harmonized price calculation method for all asynchronously connected TSOs shall be evaluated. In addition, the review mechanism could affect, for example, technical details such as data collection. Any changes to these settlement rules shall be submitted to the relevant regulatory authorities for approval.

Article 4

Settlement period

- (1) The TSO-TSO settlement period shall be set at 15 minutes, unless the relevant asynchronously connected TSOs jointly decide otherwise. The review according to Article 3(4) shall harmonise the TSO-TSO settlement period.
- (2) The TSO-TSO settlement period of each day shall begin right after 00:00 of the time zone agreed by the relevant asynchronously connected TSOs. The TSO-TSO settlement periods shall be consecutive and not overlapping.

Article 5

Volume determination per TSO-TSO settlement period

- (1) The volume of intended exchanges of energy as the result frequency containment process for active power output on synchronous area level pursuant to Articles 172 and 173 of the SOGL according to Article 50(4)(a) of the EBGL between the relevant asynchronously connected TSOs is calculated according to the relevant annex per TSO-TSO settlement period, in accordance with Article 4 of these settlement rules.

- (2) The volume of intended exchanges of energy as the result of restrictions for the active power output of HVDC interconnectors between synchronous areas pursuant to Article 137(1) of the SOGL shall be defined when such restrictions apply. An amendment to these settlement rules shall then be submitted to the relevant regulatory authorities for approval.

Article 6

Pricing rules for intended exchanges of energy between relevant TSOs

- (1) The price for intended exchanges of energy according to Article 50(4)(a) of the EBGL shall be calculated by the relevant asynchronously connected TSOs according to the relevant annex.
- (2) The price for intended exchanges of energy as the result of restrictions for the active power output of HVDC interconnectors between synchronous areas pursuant to Article 137(1) of the SOGL shall be defined when such restrictions apply. An amendment to these settlement rules shall then be submitted to the relevant regulatory authorities for approval.

Article 7

Publication and implementation of these settlement rules

- (1) All asynchronously connected TSOs shall publish these settlement rules without undue delay after all relevant regulatory authorities have approved the proposed settlement rules or a decision has been taken by the Agency for the Cooperation of Energy Regulators in accordance with Article 5(7), 6(1) and 6(2) of the EBGL.
- (2) The relevant asynchronously connected TSOs shall implement these settlement rules within 12 months after the approval of these settlement rules, in accordance with Article 5(5) of the EBGL.

Article 8

Language

The reference language for this proposal shall be English. For the avoidance of doubt, where TSOs need to translate this proposal into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 7 of the EBGL and any version in another language, the relevant TSOs shall, in accordance with national legislation, provide the relevant regulatory authorities with an updated translation of the proposal.

Annex 1 - Elering/Fingrid

- (1) The volume of energy exchanges of energy resulting from the exchange of frequency containment reserves is determined according to the volume of agreed frequency containment reserve frequency response times the frequency deviation during the respective TSO-TSO settlement period.
- (2) The settlement price for intended exchanges of energy is defined according to the costs of imbalance energy and/or costs related to balancing for the provider of FCP energy.

Explanatory document to the All asynchronously connected TSOs' proposals for Common settlement rules for exchanges of energy between synchronous areas in accordance with the Articles 50(4) and 51(2) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing

18 June 2019

DISCLAIMER

This document is submitted by all transmission system operators (TSOs) to all NRAs for information purposes only accompanying the all asynchronously connected TSOs' proposals for Common settlement rules for exchanges of energy between synchronous areas in accordance with the Articles 50(4) and 51(2) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing.

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1. Introduction

AC interconnectors are passive elements. The flow over an AC interconnector results from the given power equilibrium on either side and of electrotechnical laws. A trip on an AC interconnector circuit under N-1 security affects neither frequency nor ACE with any TSO, but does affect parallel flows and grid security.

HVDC interconnectors are by contrast active grid elements, and HVDC flows are as such independent from the power equilibrium on either side, and therefore also independent from flows on parallel HVDC links. Flow on an HVDC link between synchronous areas however contributes to the power equilibrium in both connected synchronous areas.

Although flows of HVDC interconnectors are generally intentional, unintended exchange may still occur. A trip of the interconnector (before countertrade is performed) and inaccuracy in the actual technical operation are expected to be the main causes of unintended exchange.

For asynchronously connected TSOs, TSO-TSO exchange only takes place between these parties. For this reason, exchange between asynchronously connected TSOs is today a bilateral issue.

2. The asynchronously connected TSOs

Both Article 50(4) and 51(2) of the EBGL refer to the “asynchronously connected TSOs” as the TSOs that must develop a proposal for “common settlement rules”.

The asynchronously connected TSOs for the two proposals that have been developed are the following: *50Hertz, BritNed, Eirgrid, ElecLinK, Elering, Elia, Energinet, Fingrid, Litgrid, Moyle, National Grid ESO, NGIL, PSE, RTE, SONI, Statnett, Svenska kraftnät, TenneT DE and TenneT NL.*

3. The energy exchanges to be settled and scope of the proposals

3.1. Settlement of FCP energy

According to Article 50(4)(a) of the EBGL, the settlement rules should be applicable to energy exchange resulting from the frequency containment process pursuant to SOGL Article 172 and 173.

Article 172 of the SOGL gives all TSOs in different, connected synchronous areas the right to implement a frequency coupling process. Article 173 of the SOGL gives all TSOs involved in such a frequency coupling process the right to exchange FCR capacity. Article 174 of the SOGL, which gives TSOs involved in such a frequency coupling process the right to share FCR capacity, is not mentioned in Article 50(4)(a) of the EBGL and is therefore considered out of scope of the article.

The settlement parties to the energy exchange resulting from FCP are the asynchronously TSOs exchanging the FCR capacity. The effect of frequency coupling within the relevant synchronous areas will be handled in the proposals according to EBGLs Article 50 (3) (a).

Currently, the only asynchronously connected TSOs that are expected to be engaged in exchange of FCR capacity when these settlement rules will be implemented are Fingrid and Elering.

3.2. Settlement of ramping energy

According to Article 50(4)(b) of the EBGL, the settlement rules should be applicable to energy exchange resulting from “ramping restrictions for active power output on synchronous area level pursuant to Article 137” of the SOGL (underlining added).

Article 137(1) of the SOGL states that (underlining added):

“1. All TSOs of two synchronous areas shall have the right to specify in the synchronous area operational agreement restrictions for the active power output of HVDC interconnectors between synchronous areas to limit their influence on the fulfilment of the frequency quality target parameters of the synchronous area [emphasis added] by determining a combined maximum ramping rate for all HVDC interconnectors connecting one synchronous area to another synchronous area.”

The added emphasis shows that Article 137(1) of the SOGL refers to restrictions specified in the synchronous area operational agreement aiming at limiting the influence on parameters at the synchronous area level in line with the requirement in Article 50(4)(b) of the EBGL that the ramping restrictions should apply to output “on synchronous area level”.

Article 137(3) of the SOGL states that (underlining added):

“3. All connecting TSOs of an HVDC interconnector shall have the right to determine in the LFC block operational agreement common restrictions for the active power output of that HVDC interconnector to limit its influence on the fulfilment of the FRCE target parameter of the connected LFC blocks by agreeing on ramping periods and/or maximum ramping rates for this HVDC interconnector. Those common restrictions shall not apply for imbalance netting, frequency coupling as well as cross-border activation of FRR and RR over HVDC interconnectors. All TSOs of a synchronous area shall coordinate these measures within the synchronous area.”

As such Article 137(3) does not refer to restrictions on output on the synchronous area level, and consequently Article 50(4)(b) is interpreted to leave ramping energy resulting from SOGL 137(3) out of scope of the settlement of intended exchange.

The proposal is therefore only relevant for exchange of ramping energy resulting from SOGL 137(1). However, there is no such exchange today, and no such exchange where such restrictions would give actual restrictions for the exchange is currently foreseen¹. Article 50(4) of the EBGL allows all asynchronously TSOs to develop common settlement rules applicable to intended exchange “as the result of one or both” a) FCP energy and b) ramping energy.

As there is no requirement to develop settlement rules for both, and as no such exchange from ramping exists today or is currently foreseen, the TSOs have chosen not to include settlement of ramping energy in the proposal for intended exchange of energy in accordance with 50(4).

Settlement rules for intended exchanges of energy as the result of restrictions for the active power output of HVDC interconnectors between synchronous areas pursuant to Article 137(1) of the SOGL shall be defined when such restrictions apply. As indicated in Articles 5(2) and 6(2) of the proposal for settlement rules for intended exchanges of energy between synchronous areas, an amendment shall then be submitted for approval to the relevant regulatory authorities. All TSOs of the relevant synchronous areas will be part to this amendment process.

¹ Currently, only the synchronous area operational agreement of Ireland/Northern Ireland is expected to include a combined maximum ramping rate according to Article 137(1) of the SOGL. However, the LFC block operational agreement of Ireland and Northern Ireland imposes maximum ramping rates on the two interconnectors between Ireland and Northern Ireland and Great Britain. The sum of these individual ramping restrictions is equal to or less than the combined maximum ramping rate in the synchronous area operational agreement. This implies that simultaneous ramping according to the LFC block operational agreement maximum ramping rate on both interconnectors will not violate the maximum ramping rate in the synchronous area operational agreement. As such, the ramping restriction according Article 137(1) of the SOGL does not impose a binding restriction on ramping whereby it does not lead to exchange of ramping energy between synchronous areas.

3.3. Settlement of unintended exchange

The EBGL provides no definition of unintended exchange. As explained in the introduction, unintended exchange can occur for example due to a trip of the interconnector (before countertrade is performed) and inaccuracy in the actual technical operation of the interconnector.

In short, the unintended exchange on an interconnector is the difference between the metered exchange and all intended exchanges. Both the metered exchange and intended exchange will refer to a reference point, which is determined for each interconnector. The reason for the need for a reference point is losses, which are not part of the scope for this proposal.

The EBGL consistently refers to the SOGL for identification of the intended exchanges that must be settled under the EBGL:

- Article 50(1) of the EBGL refers to Articles 146, 147, and 148 of the SOGL (Imbalance Netting, FRR and RR),
- Article 50(3) of the EBGL refers to Articles 136 and 142 of the SOGL (Ramping Period and FCP);
- Article 50(4) of the EBGL refers to Article 137, 172, and 173 of the SOGL (Ramping restrictions and FCP).

However, these references to the SOGL do not map all intended exchanges of energy. Such exchange also occurs in accordance with the CACM and FCA guidelines and in addition other TSO-TSO exchange than mentioned above. The latter is understood to include the energy exchange resulting from FCR sharing according to Article 174 and the exchange of ramping energy according to Article 137(3) of the SOGL, which are not included in Article 50 (4) (a) and (b) as explained earlier.

All HVDC interconnectors will have unintended exchange. However, according to Article 44(4) of the EBGL, if a BRP is introduced as the entity settled for the injection and withdrawal of energy of the interconnector towards one or both of the connecting TSOs, there can be no settlement of this same energy under TSO-TSO settlement. As such, settlement of unintended exchange under EBGL Article 51(2) between the involved TSOs is out of scope when a BRP is introduced for the interconnector at one or both ends.

The settlement of unintended exchange is out of scope of the settlement rules under Article 51(2) of the EBGL for the following HVDC interconnectors:

HVDC interconnector	Connecting TSO1	Connecting TSO2
East-West Interconnector	EirGrid	National Grid ESO
Moyle	SONI	National Grid ESO
IFA1&2	RTE	National Grid ESO
ElecLink	RTE	National Grid ESO
NEMO link	Elia	National Grid ESO
BritNed	TenneT NL	National Grid ESO
Baltic Cable	Tennet DE	Svenska kraftnät

4. Overview of the settlement proposals

4.1. High-level design

Any exchange of energy settled according with these proposals are an exchange between defined asynchronously connected TSOs. As such any exchange of energy results in a payment from one TSO to another TSO.

4.2. Sign convention

The sign convention applying to energy volumes is the following:

- A positive energy volume corresponds to an export of energy by the TSO, i.e. if the TSO is long, the unintended exchange is positive.
- A negative energy volume corresponds to an import of energy by the TSO, i.e. if the TSO is short, the unintended exchange is negative.

The settlement amount per TSO-TSO settlement period, corresponding to the multiplication of the energy volumes and the price are therefore governed by the following sign convention:

- A positive settlement amount corresponds to a payment owed to this TSO: an export of energy when the price is positive leads to a gain.
- A negative settlement amount corresponds to a payment from this TSO: an import of energy when the price is positive leads to a cost.

4.3. Settlement period

A TSO-TSO settlement period of 15 minutes has generally been agreed upon, although the proposal allows for TSOs to set a different settlement period. This general TSO-TSO settlement period corresponds to the time unit, for which accounting and settlement of FCP energy and unintended exchange is performed. For each TSO-TSO settlement period, the volumes of these energy exchanges as well as a price are calculated.

Despite differences across the asynchronously connected TSOs in market time units and the imbalance settlement period, a harmonized TSO-TSO settlement period in the proposal is in theory possible already now. The price base of the settlement price can be mapped to each imbalance settlement period (which has a higher time granularity) within each market time unit. As such, harmonization of the settlement period could technically be introduced.

However, a general transition to 15 minutes for the TSO-TSO settlement period, (say) the balancing market time unit, and the imbalance settlement period will allow TSOs to more efficiently implement this transition. As the imbalance settlement period is reduced to 15 minutes according to Article 53 of the EBGL and market time units are similarly reduced to higher time granularity, all TSOs will in time transition to 15-minute TSO-TSO settlement period.

4.4. Volume determination for FCP

Energy exchange due to FCP according to Article 50 (4) (a) of the EBGL will result from an exchange of FCR capacity over an HVDC interconnector. The actual energy exchange will depend on the type of FCR capacity that is being exchanged and the technical requirement for the relevant FCR capacity product. For example, in the Nordic synchronous area two FCR capacity products are procured. In the continental European synchronous areas, only one FCR capacity product is procured. As such if there is exchange of FCR capacity from Continental Europe to the Nordics, it must be determined which of the two types is exchanged in order to calculate intended exchange correctly. If the exchange of FCR capacity is instead from the Nordics to continental Europe, a different calculation of volumes is necessary.

Based on this, the volume determination of FCP energy is defined in a specific annex per interconnector if there is such exchange. In other words, there is no general volume determination in the main body of the proposal.

4.5. Volume determination for unintended exchange

Unintended exchange is defined in the same principal way for all interconnectors included in the proposal. The volume determination is therefore included in the main body of the proposal.

4.6. Price determination for both FCP and unintended exchange

Article 50(3) and 50(4) in the EGBL require development of “common settlement rules”. By this is interpreted a requirement to develop a harmonized price calculation method for each of these articles.

The exchange of the energy between asynchronously connected TSOs covered in the two proposals for Article 50(4) (a) and 51(2) in the EGBL is today generally settled based on either balancing energy or imbalance prices. For both articles, the balancing energy prices are therefore generally (a significant part) of the price base for the current price calculation for different interconnectors.

However, both balancing energy pricing and imbalance pricing will be unharmonized until the proposals in accordance with Article 30 (1) and 52 (2) of the EGBL are implemented. Developing a common methodology for calculating the settlement prices in the two proposals now could therefore give unintended consequences which can be difficult to foresee. For this reason, the settlement rules are proposed to be kept separate per interconnector and included as separate annexes to the proposal, until such time that informed harmonized price calculation methods can be developed. In both legal proposals, a review mechanism is proposed to be started by the end of 2022 in order to develop a common methodology for calculating the settlement prices.

Memo regarding the intended exchanges of energy as a result of ramping restrictions for active power output pursuant to Article 137(3) of Regulation (EU) 2017/1485

Article 50(4) of the EBGL states that *“By eighteen months after the entry into force of this Regulation, all asynchronously connected TSOs intentionally exchanging energy between synchronous areas shall develop a proposal for common settlement rules applicable to intended exchanges of energy, as a result of one or both:*

- (a) frequency containment process for active power output on synchronous area level pursuant to Articles 172 and 173 of Regulation (EU) 2017/1485;*
- (b) **ramping restrictions for active power output on synchronous area level pursuant to Article 137 of Regulation (EU) 2017/1485”.***

ENTSO-E legal have advised that these *“ramping restrictions for active power output on synchronous area level”* refer to the ramping restrictions defined in accordance with Article 137(1) of SOGL and this does not include the ramping restrictions defined in accordance with SOGL Article 137(3).

Therefore, the proposal required under EBGL Article 50(4) does not define the common settlement rules for intended exchanges of energy as a result of the ramping restrictions for active power output pursuant to Article 137(3) of Regulation 2017/1485.

Overview of the concern

All TSOs agree that the intended exchanges of energy as a result of the ramping restrictions for active power output pursuant to Article 137(3) of Regulation 2017/1485 should be subject to clearly defined settlement rules. However, while some TSOs consider that these rules should be defined under the EBGL Article 50(4) proposal, other TSOs believe these rules should be defined in bilateral or multilateral agreements (which may or may not be subject to regulatory approval depending on the member state).

Some TSOs consider that the existing bilateral/multilateral agreements should be subject to regulatory approval, to ensure coherence with other EU market rules and to establish a fair, transparent and non-discriminatory approach.

In particular, the financial settlement rules for these intended exchanges of energy over the interconnectors connecting to GB are different to many other EU settlement rules.

For GB interconnector TSOs, the SOGL Article 137(3) ramping restrictions are defined by the onshore TSOs (e.g. National Grid ESO, RTE). However, bilateral/multilateral arrangements typically define the interconnector TSO (e.g. ElecLink) as being financially responsible for the resulting intended energy exchange volumes.

- **Some TSOs believe that the TSO(s) introducing the ramping restriction should be financially responsible for the resulting intended exchanges of energy [polluter pays principle].**
- **Other TSOs believe that the interconnector TSO(s) should be financially responsible for the resulting intended exchanges of energy as the interconnector TSO collects the congestion income.**

Please note that all TSOs agree that the interconnector TSO should be financially responsible for unintended energy exchanges which result from the unavailability of the interconnectors asset. This provides an appropriate incentive to the interconnector TSO to maintain its asset.

Supporting regulatory analysis

TSOs have identified the following regulatory concerns relating to the interconnector TSO remaining financially responsible for the intended energy exchanges resulting from the SOGL Article 137(3) ramping restrictions.

1. Distorts the incentive for the interconnector TSO to be in balance or help the system to restore its balance.

EBGL Article 44(1)(c) states that the settlement processes shall *“provide incentives to balance responsible parties to be in balance or help the system to restore its balance”*.

Under the bilateral/multilateral arrangements mentioned above, the interconnector TSO is incentivised to over or under deliver at other times to reduce the costs introduced by the ramping restrictions. This will introduce additional imbalances in the connecting transmission systems.

Therefore some TSOs do not believe the proposed approach is consistent with EBGL Article 44(1)(c).

Furthermore, EBGL Article 44(1)(f) states that the settlement processes shall *“avoid distorting incentives to balance responsible parties, balancing service providers and TSOs”*.

As the ramping restrictions result in a net financial cost for the interconnector TSOs they are incentivised to find other methods to limit these costs. These could include over or under delivery in other settlement periods, or by distorting the losses calculation.

Therefore some TSOs do not believe the proposed approach is consistent with EBGL Article 44(1)(f).

2. Removes the financial neutrality for the interconnector TSO

EBGL Article 44 states that the settlement processes shall *“ensure the financial neutrality of all TSOs”*.

The payments and costs associated with the financial settlement of these intended energy exchanges do not net to zero. For example, RTE have calculated that, for the ElecLink interconnector, ElecLink should expect a net cost of around 125,000 EUR per year due to the ramping restriction imposed upon ElecLink.

Therefore some TSOs do not believe the proposed approach is consistent with EBGL Article 44(1)(i).

Furthermore Article 44(2) states that *“each relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC shall ensure that all TSOs under its competence do not incur economic gains or losses with regard to the financial outcome of the settlement”*

Therefore some TSOs do not believe the proposed approach is consistent with EBGL Article 44(2).

3. Interconnector TSOs typically cannot pass costs through network tariffs

EBGL Article 44(2) that the settlement processes shall *“shall be passed on to network users in accordance with the applicable national rules”*.

Unlike onshore TSOs, interconnector TSOs cannot pass costs to network users¹.

Therefore some TSOs do not believe the proposed approach is consistent with EBGL Article 44(2).

4. No financial incentive for the interconnector TSO to improve the restriction

The interconnector TSO does not define the ramping restriction. For instance, BritNed does not have any mechanism to improve the ramping restriction. If the TSO introducing the ramping restriction is not financially responsible for the costs introduced by these restrictions, there is not any reason for these restrictions to be reviewed/improved in the future.

5. Does not facilitate harmonisation of imbalance settlement mechanisms

EBGL Article 44(1)(d) states that the settlement processes shall *“facilitate harmonisation of imbalance settlement mechanisms”*.

Across Europe it is only the HVDC interconnectors to GB where the financial costs are borne by the interconnector owner. Elsewhere in Europe these costs are recovered from network users through network charges.

Therefore, some TSOs do not believe the proposed approach is consistent with EBGL Article 44(1)(d).

¹ Note that while there is an interaction with the national tariffs for some interconnectors operating under the cap and floor regime, not all GB interconnectors operate under the cap and floor regime.