

A g r e e m e n t

on congestion management on bidding zone border Serbia-Croatia

between

EMS AD Beograd

Kneza Miloša 11
11000 Beograd – Serbia
(VAT identification number: RS103921661)
-hereinafter „EMS “-

and

Croatian Transmission System Operator Ltd.

Kupska 4
10000 Zagreb - Croatia
(VAT identification number: HR13148821633)
-hereinafter „HOPS “-

(both of which are hereinafter referred to as the “Parties”),

I. Scope of Agreement

1. Article 16 of 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-zonal exchanges in electricity and repealing Regulation (EC) No 1228/2003 (hereinafter: Regulation 714/2009) and Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation setting general principles of congestion management requires that network congestion problems shall be addressed with non-discriminatory market based solutions which give efficient economic signals to the market participants and transmission system operators involved.
2. By this Agreement EMS and HOPS agree to organize transparent allocation of the available transmission capacities at the bidding zone border Croatia - Serbia in order to allocate and assign Physical Transmission Rights (hereinafter called PTRs) to the market participants in a transparent and non-discriminatory way. The allocation refers to Cross Zonal Capacity on the bidding zone border Croatia – Serbia that is to be available to market participants for the period from 1st of January 2018 onwards, and which are to be governed by the EU law, Energy Community Treaty and relevant national legislation.
3. As agreed between the Parties yearly, monthly and daily capacity auctions on the bidding zone border Croatia – Serbia shall be operated by Joint Allocation Office S.A. (hereinafter: JAO), a public limited company incorporated under the laws of Luxembourg, having its registered office at 2, Rue de Bitbourg, L-1273 Luxembourg-Hamm, Grand Duchy of Luxembourg.
4. Allocation of the yearly and monthly capacities is regulated by the “Harmonised Allocation Rules for long-term transmission rights in accordance with Article 51 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a Guideline on Forward Capacity Allocation” and “Border Specific Annex for the Bidding Zone border Croatia – Serbia to the Harmonised Allocation Rules for long-term transmission rights” (both of which are hereafter referred to as HAR), which constitute integral parts of this Agreement, unless otherwise stipulated, attached as Annex ./1.

Allocation of the daily capacities is regulated by “Rules for explicit Daily Capacity Allocation on Bidding Zone border Croatia – Serbia” (hereinafter: DAR), which constitute an integral part of this Agreement, unless otherwise stipulated, attached as Annex ./2.

All rights and obligations of JAO as service provider and EMS and HOPS as service users and all relevant operational procedures between EMS, HOPS and JAO relating to the allocation of the yearly, monthly and daily capacities are set forth in Service Level Agreement for Explicit Allocation (hereinafter: SLA EXPALL).

5. Intraday Allocation for both directions shall be managed by EMS and HOPS where Parties agree to designate EMS to act as the Transmission Capacity Allocator for both directions on bidding zone border Croatia - Serbia.
Intraday allocation is regulated by “Rules for the Allocation of the Cross Zonal Intraday Capacity between the Bidding Zones of Croatian Transmission System Operator Ltd. („HOPS”) and EMS AD Beograd („EMS”)” (hereinafter: IAR), which constitute an integral part of this Agreement, unless otherwise stipulated, attached as Annex ./3.
6. The terms and conditions for the nomination of PTRs are defined in the “Nomination Rules for the Bidding Zone Border Croatia – Serbia” which constitute an integral part of this Agreement, unless otherwise stipulated, attached as Annex ./4.

II. Capacities

1. **General provisions for the auction/allocation of Available Transmission Capacity at the bidding zone border Croatia - Serbia**

The following auctions of Available Transmission Capacity at the border between the bidding zone border Croatia – Serbia (in both directions: from Croatia to Serbia and from Serbia to Croatia) will be operated by JAO, which shall act in its own name but for the account of EMS and HOPS:

- yearly explicit auctions of PTRs (according to the Auction Calendar published on the JAO Website);
- monthly explicit auctions of PTRs to be held before the beginning of each month of the year (according to the Auction Calendar published on the JAO Website);
- daily explicit auctions of PTRs to be held every calendar day.

Separate allocation process for the allocation of the intraday capacities, shall be organized by the Parties and operated by EMS, based on the continuous trading mechanism and according to the IAR.

2. Cross-Zonal Capacity Evaluation

Net Transfer Capacity (NTC) between the power systems of Croatia and Serbia shall be evaluated by HOPS and EMS according to ENTSO-E methodologies and applicable national legislation (as stated in Annex ./6).

The Parties agree to inform each other immediately on any disconnection of transmission components in their own grid, provided that these disconnections have an essential impact on the grid of the other Party (in case of an unplanned disconnection promptly and in case of the planned disconnection not later than two (2) working days before the deadline for publication of offered capacities for yearly auction as defined in HAR and in the SLA EXPALL.

The minimum yearly NTC values in both directions are presented in the Annex ./6 and are agreed as the yearly guaranteed NTC values (corresponding to the agreed coordinated maintenance plan and N-1 security criterion) for yearly auction.

The monthly NTC values for the period from the 1st day of the month (00:00 CET) till the last day of the month (24:00 CET) shall be calculated based on the actual operational conditions of the electrical power systems and defined with periods of reduced capacity due to the network topology. Maximum Monthly NTC values are presented in the Annex ./6.

The TRM value at the border is presented in the Annex ./6.

3. Net Transfer Capacity for Yearly Auction (NTC_{YEARLY}) Evaluation

The NTC_{YEARLY} for each Yearly Auction calculated based on the actual operational conditions of the electrical power systems and defined with periods of reduced capacity due to the network topology shall be agreed between HOPS and EMS not later than two (2) working days before the deadline for publication of offered capacities for yearly auction as defined in HAR and in the SLA EXPALL.

NTC_{YEARLY} could be modified before the actual auction in case of unexpected events through agreement between the Parties according to Annex ./7.

4. Net Transfer Capacity for Monthly Auction (NTC_{MONTHLY}) Evaluation

The NTC_{MONTHLY} for each Monthly Auction shall be agreed between HOPS and EMS not later than one (1) working day before the deadline for publication of the monthly offered capacities. The following procedure for monthly NTC evaluation shall be applied:

- 15 days before the deadline for the monthly evaluation forecast models of Croatian and Serbian electrical power system are exchanged in ENTSO-E official format, including active reserves for increasing/decreasing of the generation, exchange programs and data of maintenance programs for the investigated period;
- 10 days before the deadline for monthly NTC evaluation, calculation of TTC and NTC is preformed (each Party calculates the TTC values checking at least the n-1 criterion in its power system);
- 2 days before the deadline for monthly NTC evaluation TTC, TRM and NTC values are exchanged by e-mail and harmonized. If no agreement is reached a lower value of NTC shall be in force.

NTC_{MONTHLY} could be modified before the actual auction in case of unexpected events through agreement between the Parties according to Annex ./7.

5. Net Transfer Capacity for Daily Auction (NTC_{DAILY}) Evaluation

The NTC_{DAILY} for each Daily Auction shall be agreed not later than on the day D-1 until 8:00 in order to meet the deadline for delivery of NTC_{DAILY} to JAO which is set in the SLA EXPALL.

In the computation of the NTC_{DAILY} the planned or unplanned disconnections of critical network components are taken into account.

6. Available Transmission Capacity (ATC) Determination

The ATC_{YEARLY} is equal to the NTC_{YEARLY}.

The operational procedures related to the ATC_{MONTHLY} and ATC_{DAILY} calculation performed by JAO are defined in the SLA EXPALL and are calculated as:

$ATC_{MONTHLY} = NTC_{MONTHLY} - \text{already allocated capacity from yearly auction} + \text{returned capacity to respective monthly auction};$

$ATC_{DAILY} = NTC_{DAILY} - \text{confirmed netted long-term nominations}.$

ATC_{INTRADAY} is calculated by following formula:

$ATC_{INTRADAY} = \text{agreed } NTC_{DAILY} - \text{confirmed netted daily nominations}.$

ATC_{INTRADAY} values for the Day D (00:00 till 24:00) are published on D-1 at latest at 18:00, when the intraday allocation begins.

After each successful reservation ATC_{INTRADAY} is automatically reduced for reserved PTRs according to the following formula:

$ATC_{INTRADAY} \text{ for respective direction} = ATC_{INTRADAY} \text{ before reservation} - \text{reserved respective PTRs}.$

III. Submission to the Auction Procedures and Intraday Allocation

The Parties are willing to accept the results of the individual auction procedures operated by JAO and intraday allocation operated by EMS acting as Transmission Capacity Allocator provided that these procedures are consistent with the terms and conditions set out in the HAR, DAR and/or IAR and will carry out the transmission services according to the respective results in compliance with the legal requirements of grid access and applicable market rules.

IV. Data Exchange

The organisational procedure between EMS and HOPS related to the scheduling activities shall be in line with the Policy 2 "Scheduling and Accounting" of the ENTSO-E "Continental Europe Operation Handbook".

Data exchange between EMS, HOPS and JAO related to yearly, monthly and daily auctions is defined in detail in the SLA EXPALL.

Data exchange between EMS and HOPS related to intraday allocation is defined as follows:

1. After D-1 matching process is completed EMS will send ATC_{INTRADAY} through ECAN Capacity Document at least 15 min before Intraday allocation which starts at 18:00 D-1.
2. HOPS will confirm proposed ATC_{INTRADAY} by sending confirmation via e-mail containing acknowledgement document or manual message within 15 minutes.
3. EMS shall provide PTRs of intraday allocation to HOPS in ECAN Rights Document file at latest 10 min after allocation.

4. HOPS will confirm receipt of ECAN Rights Document by sending conformation via e-mail containing ACK document or Human message.
5. Data exchange backups are e-mail, fax or telephone.

V. Data Publishing

Data and information regarding yearly, monthly and daily allocation shall be published and delivered by JAO in accordance with SLA EXPALL.

Following data and information regarding the intraday allocation will be published and delivered by EMS:

- all data and information relevant to market participants and National Regulatory Authorities
- all data to ENTSO-E central information platform according to Regulation 714/2009 and Regulation (EU) No 543/2013.

HOPS will deliver data required by Regulation (EU) No 1227/2011C to ACER REMIT Information System according to Regulation (EU) No 1348/2014.

VI. Disputes and Applicable Law

For all disputes which may arise between the Parties, out of, or in relation to, or in connection with, this Agreement, including disputes concerning the existence and validity thereof, the Parties shall attempt to settle disputes in the first instance by mutual discussions conducted over a period of not less than fifteen (15) days and of no more than sixty (60) days, (hereinafter: the Amicable Settlement Period) such a period starting from the first notification in writing thereto by one of the Party to the other Party.

Upon failure to reach an amicable agreement at the end of the Amicable Settlement Period, the Parties agree that they will exclusively resort all disputes to arbitration under the Rules of Arbitration and Conciliation of the International Arbitral Centre of the Austrian Federal Economic Chamber in Vienna (Vienna Rules) appointed in accordance with these rules. The number of arbitrators shall be three. The substantive law of Austria shall be applicable. The language to be used in the arbitral proceedings shall be English.

VII. Severability

If any part or provision of this Agreement and/or its Annexes are or become invalid, illegal, void or unenforceable, the remaining part(s) shall continue to be valid and enforceable and shall not be affected thereby. EMS and HOPS hereby agree, that all invalid, illegal, void and/or unenforceable part(s) or provision(s) shall be replaced by valid, legal and/or enforceable part(s) or provision(s) in order to achieve the intended economic and legal effect as far as possible.

VIII. Notices

All notices and communications under this Agreement shall be served by e-mail, unless explicitly envisaged otherwise in this Agreement. In the event of difficulty in using e-mail, notices may be served in fax and/or writing and/or delivered in person or by courier or by post, which such service deemed effective on the date of receipt. All notices and communications shall be in writing and in the English language. The Parties shall inform each other immediately in case of a change of the e-mail or the postal addresses and/or in case of a change of telephone and fax numbers.

IX. Confidentiality

Information considered as confidential includes all commercially sensitive information, information clearly marked as "confidential" and information which by its nature must be considered or qualified as

confidential. No recipient of confidential information shall use or otherwise process the confidential information, without the prior consent of the Parties, obtained by it pursuant to this Agreement for any purpose except as strictly required for the performance of the obligations hereunder, or disclose any such information or the existence of the terms of this Agreement or related information to any third party other than those of its directors, employees, professional advisors and representatives, regulatory authorities, which have a strict need to know such information for the proper performance of this Agreement. EMS and HOPS are obliged to organise their data handling in such a way as to minimize the risk of misuse or unauthorized excess or the enclosure of confidential information.

This confidentiality obligation is not applicable if such information is required to be disclosed by law, judicial order, or any self-regulating or similar organization to whose rules the Parties are subjected.

X. Amendments

No amendment or modification of this Agreement and its Annexes shall take effect unless it is in writing, executed and delivered by the authorised representatives of EMS and HOPS and approved by the National Regulatory Authorities if such approval is required by national legislation.

In case that due to expected changes in the network topology other procedures than described in this Agreement and its Annexes have to be applied, the Parties shall negotiate an amendment to this Agreement.

The Parties will also amend this Agreement in case of any new laws and rules relating to or having an effect on congestion management and/or handling of bottlenecks.

In case modification or supplement of Annex ./6 is required, the Parties shall based on mutual agreement amend the Annex ./6 in due time in writing, signed by authorised representatives of EMS and HOPS, without amending the main body of this Agreement. Following the amendment of Annex ./6 the Parties shall inform JAO accordingly.

XI. Assignment of Rights and Obligations

EMS and HOPS hereby agree, that it is prohibited to transfer (including by means of merger, split of, or transfer or contribution of universality or a branch of activity or otherwise) all or a part of its rights and obligations arising under this Agreement to a third party without the prior and express consent of the other Party. This consent cannot be unreasonably withheld or delayed.

XII. Hardship

If there should occur any extraordinary event or circumstance, independent of the will of EMS and/or HOPS, unforeseeable at the time of the conclusion of this Agreement (including legislative changes or positions taken by the National Regulatory Authorities or any other authority) and which fundamentally reduces the benefits and the modalities of continuing the Agreement, EMS and HOPS shall seek to adjust the conditions of the Agreement in order to re-establish the initial contractual equilibrium while protecting the respective interests. As from the receipt of the request of the effected Party (EMS or HOPS) a period of two (2) months shall commence for the re-establishing of such equilibrium. During such period EMS and HOPS shall negotiate in good faith. Failing the successful completion of such negotiation, the Agreement may be terminated by common written action of EMS and HOPS. Upon such termination, EMS and HOPS shall be relieved from any other further obligations under the Agreement other than payment obligations already due or accrued and any other non-performed obligations under this Agreement, which were to be performed prior to and until such termination decision.

XIII. Use of Languages

EMS and HOPS acknowledge, that they have required the present Agreement and all notices and legal proceedings provided hereunder to be drawn up in the English language, to the extents permitted by rules of public policy relating directly or indirectly to these proceedings.

XIV. Nature of the Relationship

This Agreement shall in no event be considered a partnership or joint-venture or other association between EMS and HOPS.

XV. Liability

HOPS and EMS undertake to carry out the provisions set out in this Agreement and its Annexes with the diligence of a careful businessman and bidding zone manager in compliance with the applicable laws and regulations in the electricity sector. HOPS and EMS shall notify the respective other Party of risks and dangers appending the performance of this Agreement recognizable to a careful businessman and bidding zone manager and provide suggestion for solution.

Claims for damages based on the breach of material contractual duties of the Agreement and its appended Annexes are limited to the damages typical and foreseeable in the context of this Agreement, unless there has been willful misconduct or gross negligence on behalf of EMS and HOPS.

XVI. Validity

This Agreement is concluded for an indefinite period of time.

The Parties may terminate this Agreement by mutual agreement taking into account the obligations set in SLA EXPALL, with the provisions of this Agreement being applied to all PTRs allocated under this Agreement, use of the PTRs and the performance of the obligations of the Parties also after the termination of this Agreement.

XVII. Waiver

No act or omission by EMS or HOPS shall be deemed to be a waiver of any rights, if such a waiver is not declared explicitly and in writing.

XVIII. Common Understanding

The Parties agree to adapt the HAR, DAR, IAR and/or this Agreement amicably, if necessary. However, the Parties agree to keep the HAR, DAR and IAR transparent and non-discriminatory.

XIX. Miscellaneous

In case of any dispute between EMS and HOPS, in case there is any discrepancy between the wording of this Agreement and of the HAR, DAR and IAR, the wording of this Agreement shall prevail.

XX. Annexes

./1 Harmonised Allocation Rules for long-term transmission rights in accordance with Article 51 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a Guideline on Forward Capacity Allocation and Border Specific Annex for the Bidding Zone border Croatia – Serbia to the Harmonised Allocation Rules for long-term transmission rights

constitute an integral part of this Agreement.

./2 Rules for explicit Daily Capacity Allocation on Bidding Zone border Croatia - Serbia

constitute an integral part of this Agreement.

./3 Rules for the Allocation of the Cross Zonal Intraday Capacity between the Bidding Zones of Croatian Transmission System Operator Ltd. („HOPS”) and EMS AD Beograd („EMS”)

constitute an integral part of this Agreement.

./4 Nomination Rules for the Bidding Zone Border Croatia - Serbia

constitute an integral part of this Agreement.

./5 List of Contacts

constitutes an integral part of this Agreement.

./6: Cross-zonal capacities

constitutes an integral part of this Agreement.

./7: Notice of change of NTC on bidding zone border Croatia - Serbia

constitutes an integral part of this Agreement.

Date:

EMS AD Beograd

Aleksandar Kurćubić

Executive Manager for System
and Market Operation

(based on Authorization of EMS AD
General Manager no 132/6/20
dated 11.01.2017)

Date:

Croatian Transmission System Operator Ltd.

Miroslav Mesić, Ph.D.

President of the Management Board

Annex .J5 LIST OF CONTACTS

HOPS:

<p><u>Operation/Schedules/Auction Process:</u></p> <p>Siniša Piplica Tel.: +385 1 4545314 Fax : +385 1 4545187 E-mail: sinisa.piplica@hops.hr</p> <p>Ivan Ubrekić Tel.: +385 1 4545403 Fax : +385 1 4545187 E-mail: ivan.ubrekić@hops.hr</p> <p>Silvia Piliškić Tel.: +385 1 4545031 Fax : +385 1 4545187 E-mail: silvia.piliskic@hops.hr</p> <p>Đordana Miličić Tel.: +385 1 4545 550 Fax : +385 1 4545 179 E-mail: djordana.milicic@hops.hr</p> <p><u>Auction Process/Schedules:</u> E-mail: capacity-office@hops.hr schedule-office@hops.hr</p> <p>Operating (00:00 – 24.00 CET) Tel.: +385 1 4545 701 Fax : +385 1 6171 297 E-mail: nacionalnidispecerskicentarZagreb@hops.hr E-mail2: ndc-zagreb@hops.hr</p>	<p><u>Harmonization of the NTC values and Grid Calculation:</u></p> <p>Marijan Borić Tel.: +385 1 4545845 Fax : +385 1 4545187 E-mail: marijan.boric@hops.hr E-mail2: operational-planning@hops.hr</p>
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EMS:

<p><u>Operational Contact:</u></p> <p>Mr. Marko Janković Director of Market Division Tel.: +381 11 39 70 665 Fax: +381 11 39 70 695 E-mail : marko.jankovic@ems.rs</p> <p>Ms. Jadranka Janjanin Head of Scheduling and Procurement of losses Department Tel.: +381 11 39 70 299 Fax: +381 11 39 70 217 E-mail : jadranka.janjanin@ems.rs</p> <p>Mr. Nikola Tošić Head of Market Development and Administration Department Tel.: +381 11 39 57 177 Fax: +381 11 39 70 695 E-mail : nikola.tosic@ems.rs</p> <p><u>Schedules/Auction Process:</u></p> <p>Scheduling office Tel.: + 381 11 24 72 077 Fax: + 381 11 39 70 217 E-mail: schedule@ems.rs</p> <p>Intraday Scheduling operator Tel.: + 381 11 39 57 148 Fax: + 381 11 39 71 965 E-mail: schedule_intraday@ems.rs</p> <p>Auction office Tel.: + 381 11 39 57 177 Fax: + 381 11 39 70 695 E-mail: alokacija@ems.rs</p>	<p><u>Harmonization of the NTC values:</u></p> <p>Mrs. Marija Đorđević Head of Planning Department Tel.: +381 11 39 57 103 Fax: +381 11 39 70 217 E-mail: marija.djordjevic@ems.rs</p> <p><u>Network elements disconnection/Defining of the base case exchange/Creating of the network models:</u></p> <p>Mr. Stanko Vujnović Head of network elements disconnection planning Tel.: +381 11 30 91 122 Fax: +381 11 39 70 217 E-mail: stanko.vujnovic@ems.rs</p>
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Annex. /6: CROSS-ZONAL CAPACITIES

Table 1 – Cross Zonal Capacities

	TRM [MW]	
EMS → HOPS	100	
HOPS → EMS	100	

	NTC [MW]	
	Min. Yearly	Max. Monthly (including Yearly)
EMS → HOPS	150	700
HOPS → EMS	150	700

Yearly and Monthly NTC for period of maintenance Tie-line 400 kV Ernestinovo-Sr. Mitrovica will be put to zero.

The Total Transfer Capacity (TTC) is the maximum exchange programme between two bidding zones compatible with operational security standards applicable at each system if future network conditions, generation and load patterns are clearly known in advance.

The Transmission Reliability Margin (TRM) is a security margin that copes with uncertainties on the computed TTC values arising from:

- a) Unintended deviations of physical flows during operation due to the physical functioning of load-frequency regulation
- b) Emergency exchanges between TSOs so as to cope with unexpected unbalanced situations in real time
- c) Inaccuracies, e.g. in data collection and measurements
- d) Uncertainties on the base case used for computation (this base case is a forecast of the power system state for a given time period in the future).

The Net Transfer Capacity (NTC) that is defined as:

$$NTC = TTC - TRM$$

NTC is the maximum exchange program between two areas compatible with security standards applicable in both areas and taking into account the technical uncertainties on future network conditions.

The Already Allocated Capacity (AAC) that is the total amount of allocated transmission rights, whether they are capacity or exchange programs depending on the allocation method.

The Available Transmission Capacity (ATC) that is the part of NTC that remains available, after each phase of the allocation procedure, for further commercial activity. ATC is given by the following equation:

$$ATC = NTC - AAC$$

Signature - confirmation:

For EMS AD Beograd	For HOPS d.o.o.
Date:	Date:

Annex. 17: NOTICE OF CHANGE OF NTC ON BIDDING ZONE BORDER CROATIA - SERBIA

EMS AD Beograd

Planning Department (day and month ahead) Tel.: +381 11 39 57 103 Fax: +381 11 39 70 217 e-mail: marija.djordjevic@ems.rs	or	Operational Department (intra-day) Tel.: +381 11 309 1850 Fax: +381 11 3972 954 e-mail: schedule_intraday@ems.rs
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Hrvatski operator prijenosnog sustava d.o.o.

Planning Department (day and month ahead) Tel.: +385 1 4545 403 Fax: +385 1 4545 446 e-mail: schedule-office@hops.hr e-mail2: operational-planning@hops.hr	or	Operational Department (intra-day) Tel.: +385 1 4545 701 Fax : +385 1 4545 297 e-mail: ndc@hops.hr
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Change of NTC requested by:

- EMS
 HOPS

Border Direction:

- from Serbia to Croatia
 from Croatia to Serbia

Specification of NTC change:

Starting time	Ending time	new NTC

Reason for NTC change:

- Endangered security of operation

Reason explanation:

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Signature - confirmation:

Sender / Recipient: EMS AD Beograd	Recipient / Sender: HOPS d.o.o.
Date: Time:	Date: Time: