



Reduction Periods

Calculation of the quantity of Long Term Transmission Rights to be allocated to individual Registered Participants

Introduction

- (1) Joint Allocation Office S.A. (hereinafter JAO) carry out Auctions in line with "Allocation Rules for Forward Capacity Allocation" (hereinafter the Allocation Rules).
- (2) Capitalized terms defined in the Allocation Rules shall have the meaning ascribed to them in the Allocation Rules unless otherwise defined herein.
- (3) JAO may announce in line with the Allocation Rules one or more Reduction Periods in the Auction Specification. In this case, the Auction Specification shall include for each Reduction Period information on the duration of the Reduction Period and the amount of Offered Capacities.
- (4) Where a Reduction Period is indicated in the Auction Specification for an Auction, JAO shall determine the Auction Results in accordance with the provisions of paragraphs 3 to 5 of Article 35 of the Allocation Rules, modified as follows:
 - a) winning Bids and Marginal Prices for respective Bidding Zone border and direction are determined according to paragraphs 3 to 5 of Article 35 of the Allocation Rules;
 - b) for each Reduction Period the quantity of Long Term Transmission Rights to be allocated to individual Registered Participants shall be calculated on a pro-rata basis taking into account the quantity of Long Term Transmission Rights corresponding to the respective winning Bids of each Registered Participant and the respective reduced Offered Capacities.

Calculation for Bidding Zone border with one constraint

For given day, for which a Reduction Period is defined, the quantity of Long Term Transmission Rights to be allocated to individual Registered Participants is determined by following procedure:

- a) The reduction coefficient is determined according to the formula:

$$RC_{BD,N} = \text{Min} \left[\frac{OC_{BD,N}}{AC_{BD}}; 1 \right]$$

$RC_{BD,N}$ - coefficient of reduction on Bidding Zone border BD and direction for Reduction Period N

$OC_{BD,N}$ - value of reduced Offered Capacity announced for Bidding Zone border direction BD and Reduction Period N



AC_{BD} – Long Term Transmission Rights to be assigned to the Registered Participants at the Bidding Zone border and direction BD in case no Reduction Period announced.

- b) Long Term Transmission Rights to be allocated to individual Registered Participant (Party X) in Reduction Period are determined according to the formula:

$$RAC_{BD,Party X} = RC_{BD,N} * AC_{BD,Party X}$$

RAC_{BD} – Long Term Transmission Rights to be assigned to the individual Registered Participant at the Bidding Zone border and direction for duration of the Reduction Period N.

The resulting value is rounded down to an integer.

Calculation for Bidding Zone border where Technical Profiles shall be considered

For given day, for which at least one Reduction Period is defined, the level of reduction is determined by following procedure:

- a) The reduction coefficients for all considered Technical Profiles and directions are determined according to the formula:

$$RC_{PD,N} = \text{Min} \left[\frac{OC_{PD,N}}{AC_{PD}}; 1 \right]$$

$RC_{PD,N}$ - coefficient of reduction on Technical Profile and direction PD for Reduction Period N

$OC_{PD,N}$ - value of reduced Offered Capacity announced for given Reduction Period N and Technical Profile and direction PD

AC_{PD} – Long Term Transmission Rights to be assigned to the Registered Participants at the Technical Profile and direction PD in case no reduction period announced.

- b) Reduction coefficient $RC_{PD,N}$ is applicable to all Bidding Zone borders and directions related to a given Technical Profile and direction PD. Within Bidding Zone borders, any Long Term Transmission Rights to be allocated are reduced using the reduction coefficient $RC_{PD,N}$. From the set of all Technical Profiles and directions related to given Bidding Zone border, the $RC_{PD,N}$ with minimum value will be used for reduction first. As the minimum reduction coefficient is selected, none of the remaining Technical Profiles and directions can cause further reduction.

- c) In case of application of reduction – use of $RC_{PD,N}$ on one Technical Profile – can affect reduction on other Technical Profiles. Therefore the reduction procedure proceeds from the minimum reduction coefficient $RC_{PD,N}$ and the reduction coefficients are recalculated according to the formula:

$$RC_{PDReduced,N} = \text{Min} \left[\frac{OC_{PD,N} - AC_{P1}}{AC_{P2}}; 1 \right]$$

$RC_{PDReduced,N}$ - coefficient of reduction on Technical Profile P applicable only to Bidding Zone borders, for which no reduction has been performed yet



AC_{P1} – Long Term Transmission Rights assigned at the Bidding Zone border and direction related to Technical Profile and direction PD and other Technical Profile, for which the reduction has been performed already

AC_{P2} - Long Term Transmission Rights assigned at the Bidding Zone border and direction related to Technical Profile and direction PD, for which no reduction has been performed yet

- d) Long Term Transmission Rights to be allocated to individual Registered Participant (Party X) in Reduction Period are determined according to the formula:

$$RAC_{BD,Party X} = RC_{PD,N} * AC_{BD,Party X}$$

RAC_{BD} – Long Term Transmission Rights to be assigned to the individual Registered Participant at the Bidding Zone border and direction BD for duration of the Reduction Period N.

The resulting value is rounded down to an integer.

Above described procedure is applied for all days, for which a Reduction Period is announced.

Example

Technical Profile	Offered Capacity (MW)	Reduced Offered Capacity in Reduction Period (MW)	Quantity within winning Bids (MW)	Reduction Coefficient
P		OC_p	AC_p	RC_p
PSE → 50HzT+CEPS+SEPS	110	66	110	0,6
PSE→SEPS	50	25	50	0,5

Reduction coefficient for Technical Profile PSE →50HzT+CEPS+SEPS would be equal to $66/110 = 0,6$

The process of reduction begins by use of the reduction coefficient with minimum value:

Technical Profile	Reduction Coefficient
PSE→SEPS	0,5



The only one Bidding Zone border related to the Technical Profile PSE→SEPS is PSE→SEPS. The reduction coefficient is applied to all Registered Participants, whose Bids were allocated on this Bidding Zone border, e.g.:

Auction Participant	Bidding Zone border	Assigned PTR (MW)	Reduction Coefficient	Capacity after reduction (MW)	RAC _{P1} (MW)
A1	PSE → SEPS	23	0,5	11,5	11
A2	PSE → SEPS	27	0,5	13,5	13

Total Long Term Transmission Rights on Bidding Zone border PSE→SEPS within Reduction Period would be 24 MW.

The reduction coefficient for Technical Profile PSE →50HzT+CEPS+SEPS would be recalculated:

Technical Profile	Reduced Offered Capacity in Reduction Period (MW)	RAC _{P1} (MW)	Quantity within winning Bids (MW)	Reduction Coefficient
P	OC_P	AC_{P1}	AC_{P2}	RC_{PReduced}
PSE0 → 50HzT+CEPS+SEPS	66	24	60	0,7

Reduction coefficient for Technical Profile PSE → 50HzT+CEPS+SEPS applicable to Bidding Zone borders and direction PSE → 50HzT and PSE → CEPS would be equal to $(66 - 24)/60 = 0,7$.