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Explanatory note on the GRIT TSOs proposal for splitting long-term cross-zonal capacity in accordance with Article 16 of the Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a Guideline on Forward Capacity Allocation

Explanatory note for the common proposal developed by all Transmission System Operators within the Greece-Italy Capacity Calculation Region regarding the splitting of long-term cross-zonal capacity Long Term in Greece-Italy Region, pursuant to Article 16 of Regulation (EU) 2016/1719 on Capacity Forward Allocation

Contents

1. Introduction.....	2
2. Splitting Methodology.....	2
2.1. Process and interaction with the LT CCM	2
2.2. Input data	4
2.3. Proposed Splitting Methodology.....	4
2.4. FCA requirements and criteria used to define the methodology	4
2.5. Examples and results.....	5
3. Time schedule for implementation	6

1. Introduction

This document is the explanatory note accompanying the proposal developed by the Transmission System Operators of the Greece-Italy Capacity Calculation Region (hereafter referred to as “TSOs”) for a splitting methodology of long-term cross-zonal capacity in a coordinated manner between different timeframes (hereinafter “Splitting Methodology”) in accordance with Article 16 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a Guideline on Forward Capacity Allocation (hereafter referred to as the “FCA Regulation”).

The FCA Regulation lays down detailed rules on:

- forward capacity calculation of cross-zonal capacity;
- a methodology for splitting long-term cross-zonal capacity;
- cross-zonal capacity allocation in the forward markets
- the establishment of a single allocation platform at European level offering long-term transmission rights.

With reference to Article 16 of FCA Regulation, ADMIE and Terna, as the Transmission System Operators of Greece-Italy Capacity Calculation Region (hereafter referred to as ‘GRIT TSOs’), intend to jointly develop a Splitting Methodology.

According to Article 30(3) of FCA Regulation, and following a decision of the competent regulatory authority, long term transmission rights shall not be issued on Italian internal bidding zone borders. Following this fact and according to Article 30(7) of FCA Regulation, this Proposal shall not apply to the bidding zone borders listed below:

- Italy NORD – Italy CNORD;
- Italy CNORD - Italy CSUD;
- Italy CNORD – Italy SARD;
- Italy CSUD – Italy SUD;
- Italy SARD – Italy CSUD;
- Italy ROSN – Italy SICI;
- Italy SUD – Italy ROSN.

2. Splitting Methodology

2.1. Process and interaction with the LT CCM

The Splitting Methodology is strictly linked to the capacity calculation methodology for long-term timeframe in accordance with Article 10 of FCA Regulation (hereinafter “CCC-FCA methodology”). The two methodologies have been developed together by GRIT TSOs to ensure consistency on the various processes of the long-term allocation chain.

The following Figures (1 and 2) show how the yearly and monthly capacity calculation process are linked with the splitting of long-term cross-zonal capacity.

YEARLY CAPACITY CALCULATION AND SPLITTING PROCESSES

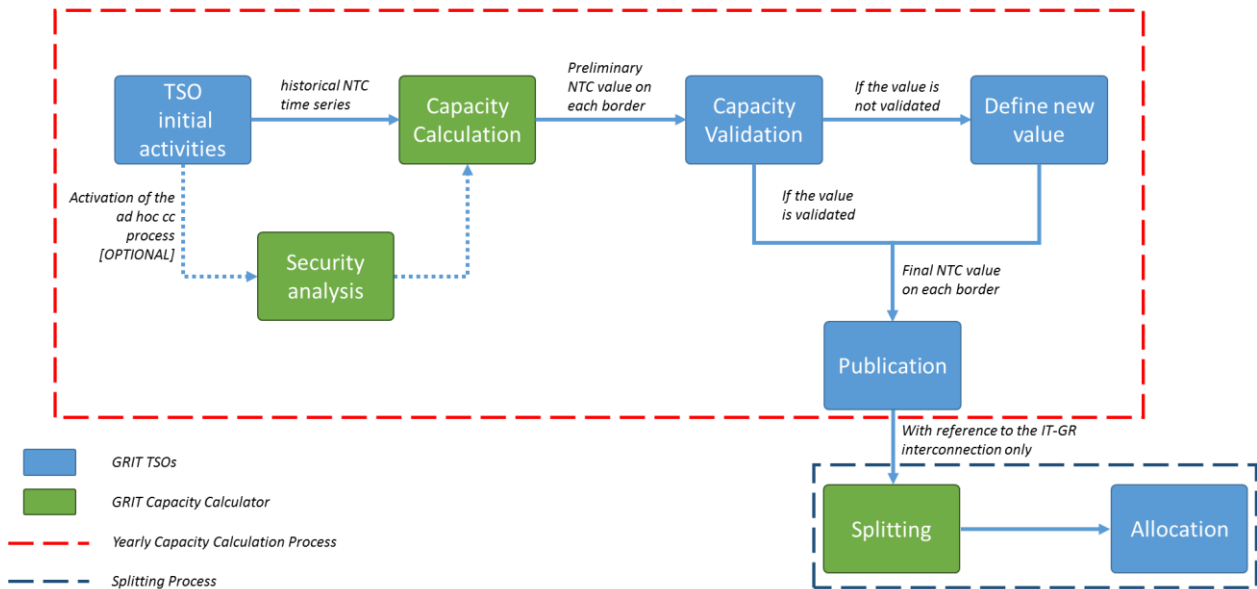


Figure 1 - Yearly Capacity Calculation and Splitting processes

MONTHLY CAPACITY CALCULATION AND SPLITTING PROCESSES

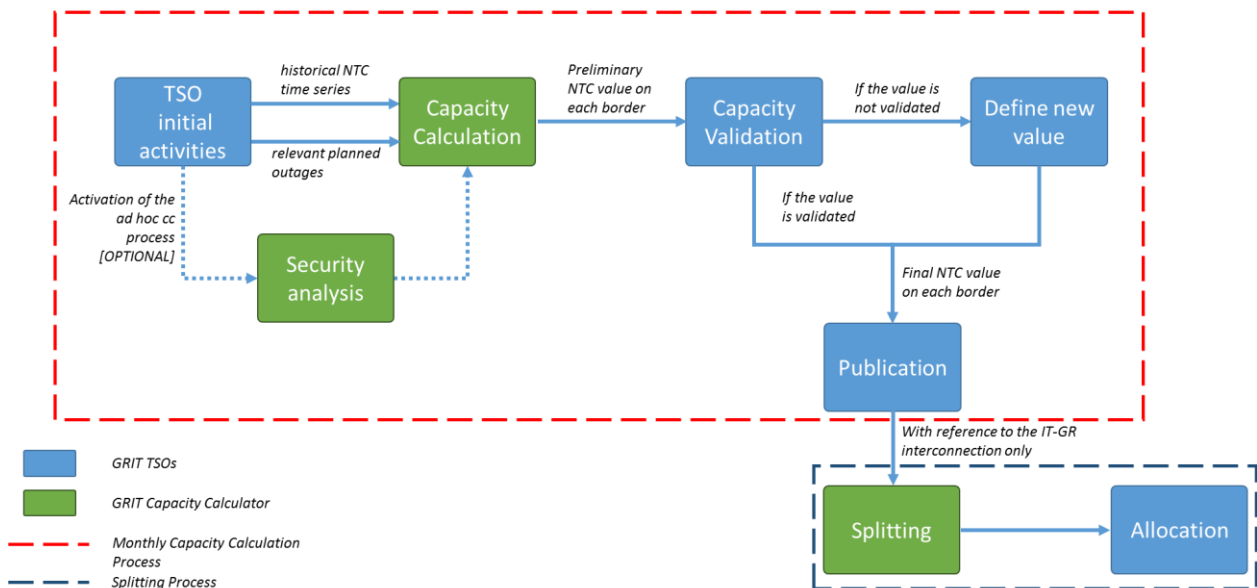


Figure 2 - Monthly Capacity Calculation and Splitting process

2.2. Input data

The Splitting methodology is based on the following input data:

- Y_{cc} : the results of the yearly capacity calculation according to the CCC-FCA methodology;
- historical NTC data: hourly NTC of the last two years;
- yearly planned outages of the connection cable between Greece and Italy.

2.3. Proposed Splitting Methodology

According to the regional design of the long-term transmission rights approved on GRIT CCR (art. 31 of FCA Regulation), the long-term capacity shall be offered on yearly and monthly timeframes in form of base load products that may include reduction periods.

The proposed Splitting Methodology is based on the following formula, in which the capacity to be allocated in the yearly auction Y_p is equal to:

$$Y_p = \min[50\% Y_{cc}; \max(Y_5; 10\% Y_{cc})]$$

and the monthly capacity allocated in the monthly auction M_p is a daily profile equal to:

$$M_p = M_{cc} - Y_p$$

Where:

- Y_{cc} : is the yearly capacity calculated according to the CCC-FCA methodology;
- Y_5 : is the 5th percentile of the historical distribution of NTC data, excluding the yearly planned outages. It corresponds to the NTC value that has been guaranteed in at least 95% of the hours;
- M_{cc} : is the monthly capacity calculated according to the CCC-FCA methodology.

Therefore, the yearly product has the following features:

- capacity: Y_p ;
- reduction period: days in which the cable is in a planned outage;
- product type: base load;

and, the monthly product has the following features:

- capacity profile: M_p (equal to 0 in case the cable is on planned outage);
- product type: base load.

2.4. FCA requirements and criteria used to define the methodology

According to Article 16(2) of FCA Regulation, the methodology for splitting long-term cross-zonal capacity shall comply with the following conditions:

- 1) it shall meet the hedging needs of market participants;
- 2) it shall be coherent with the capacity calculation methodology;
- 3) it shall not lead to restriction in competition, in particular for access to long-term transmission rights.

In order to meet the condition 1), the following criteria shall be met:

- a) the long-term products shall have a certain level of firmness;
- b) the possibility to get capacity on both yearly and monthly timeframe shall be given to market participants.

The Y_{cc} is calculated basing on the 50th percentile of the historical NTC data, it means that statistically the NTC could be lower than Y_{cc} on the 50% of the cases and, therefore, the allocation of Y_{cc} at yearly level could lead, statistically, to a curtailment on 50% of the year. Therefore, a product with a capacity equal to Y_{cc} cannot be considered firm.

In order to meet condition a), the 5th percentile of the historical distribution of NTC data (Y_5) has been taken into account. In fact, Y_5 corresponds to the NTC value that statistically is guaranteed in 95% of the year.

In order to meet condition b), at least a yearly product shall be ensured, but the Y_{cc} shall not be allocated all in the yearly auction because a capacity for the monthly auctions shall be ensured. Therefore:

- a minimum amount for the yearly product has been defined. In fact, in some cases Y_5 could be equal to zero, therefore, to ensure a yearly product, a minimum amount equal to $10\%Y_{cc}$ has been taken into account;
- a maximum amount for the yearly product has been defined. In order to ensure monthly products and to have an equal balance between the yearly and the monthly products, a maximum amount for the yearly product equal to $50\%Y_{cc}$ has been taken into account.

The $50\%Y_{cc}$ represents an equal balance between yearly and monthly capacity to be offered to the market. In this manner, Market Operators are able to fulfill their hedging needs on all the timeframes.

Based on the above observations, the formula for the calculation of the yearly product is:

$$Y_p = \min[50\% Y_{cc}; \max(Y_5; 10\% Y_{cc})]$$

In order to meet the condition 2), the two methodologies have been developed together by GRIT TSOs to ensure consistency on the various processes of the long-term allocation chain. In particular, this provision guarantees that the capacity allocated on yearly and monthly timeframe (Y_p and M_p) does not exceed the capacity values provided by CCC-FCA methodology.

Condition 3) is met as, in order to allow market participants to cover their hedging needs on both yearly and monthly basis, the methodology ensures that Yearly Capacity shall not be allocated for the entire volume in the yearly auction. In particular, not more than 50% of the Yearly Capacity is offered on yearly basis in order to guarantee an equal balance between yearly and monthly capacity to be offered to the market, thus allowing to Market Operator to compete on all the timeframes. Moreover, Long Term Products related to this methodology are allocated through Auctions, which rely on a mechanism described in public auction rules.

2.5. Examples and results

As an example, data analysis carried out on years 2016-2017, would show the following data:

$Y_5 = 0$ MW (outages of the cable last more than 5% of the hours);

$Y_{cc} = 500$ MW

consequently, the previous formula will give the following result for the yearly product of 2019:

$$Y_p = \min[50\% \cdot 500; \max(0; 10\% \cdot 500)] = 50 \text{ MW}$$

In case the reliability of the cable would increase in the future and outages last for less than 5% of the hours for two consecutive years, we would have to make the calculation according to the following data:

$$Y_5 = 500 \text{ MW}$$

$$Y_{cc} = 500 \text{ MW}$$

therefore, the previous formula will give the following result:

$$Y_p = \min[50\% \cdot 500; \max(500; 10\% \cdot 500)] = 250 \text{ MW}$$

3. Time schedule for implementation

The GRIT TSOs shall implement the methodology at the date of implementation of the capacity calculation methodology in accordance with Article 10 of the Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation.