Channel Capacity Calculation Region TSOs' proposal for redispatching and countertrading cost sharing methodology in accordance with Article 74(1) of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management

16 March 2018

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All Transmission System Operators of the Channel region taking into account the following,

Whereas

(1) Commission Regulation (EU) 2015/1222 establishes a guideline on capacity allocation and congestion management (hereinafter referred to as the "CACM Regulation"), which entered into force on 14 August 2015.

(2) This document is a common proposal developed by all Transmission System Operators (hereafter referred to as "TSOs") of the Channel Capacity Calculation Region as defined in accordance with Art. 15 of CACM Regulation (hereafter referred to as "Channel Region") regarding the proposal for the Redispatching and Countertrading cost sharing methodology (hereafter referred to as "Channel RD and CT Cost Sharing methodology") in accordance with the CACM Regulation. This proposal is required by Article 74(1) of the CACM Regulation.

(3) The TSOs of the Channel Region (hereafter referred to as "Channel TSOs") aim at ensuring consistency with the Redispatching and Countertrading cost sharing methodologies of other Capacity Calculation Regions in which same bidding zones are concerned whilst acknowledging the specific characteristics of the interconnectors within the Channel Region.

(4) This proposal takes into account the TSOs' proposal for a day-ahead and intraday capacity calculation methodology (hereinafter referred to as the "Proposed Channel DA and ID CC Methodology") in accordance with Article 20 of the CACM Regulation and submitted to the NRAs of the Channel Region for approval on 15/9/2017.

(5) This proposal takes into account the TSOs' proposal for the coordinated Redispatching and Countertrading methodology (hereinafter referred to as the "Proposed Channel RD and CT Methodology") in accordance with Article 35 of the CACM Regulation and submitted to the NRAs of the Channel Region for approval on 17/03/2018.

(6) Changing the flow over an HVDC interconnector in the Channel Region for Redispatching and Countertrading purposes results in an imbalanced situation in the control areas to which the interconnector is connected (since the HVDC interconnector is between two different Synchronous Areas). Therefore the TSOs at both ends of the HVDC interconnector need to activate energy in order to restore the balance (locally or cross-border). By doing so the TSOs need nevertheless to consider local physical congestion issues for finding the energy.

(7) The Channel Region is made of HVDC interconnectors of bidding zone borders between two synchronous areas. Therefore there are no unscheduled flows related to Channel trades because of the controllability of the HVDC. As there are no unscheduled flows from a Channel point of view, there is no "polluter". Hence the costs related to costly Remedial Action applied in the frame of Channel Region shall be borne to the Requesting TSO.

(8) The Channel RD and CT Cost Sharing Methodology contributes to and does not in any way hinder the achievement of the objectives of Article 3 of the CACM Regulation. In particular this Channel RD and CT Cost Sharing Methodology:

a. Establishes a common process for the Redispatching and Countertrading cost sharing by defining a set of harmonised rules for congestion management and as such serves the objective of promoting effective competition in the generation, trading and supply of electricity in accordance with Article 3(a) of the CACM Regulation;
b. Contributes to the objective of ensuring optimal use of the transmission infrastructure in accordance with Article 3 (b) of the CACM Regulation by ensuring TSOs to solve physical congestion at the least cost using last available inputs based on the best possible forecast of transmission systems and market results at the time of each security analysis, updated in a timely manner, for the detection of coordinated Redispatching and Countertrading needs;
c. Contributes to the objective of ensuring and enhancing the transparency and reliability of information in accordance with Article 3 (f) of the CACM Regulation by providing mechanism to verify the needs, monitor, assess the impact and allow improvement of Countertrading in the Channel Region in accordance with Article 74 (5) of the CACM Regulation; and
d. Contributes to the objective of respecting the need for a fair and orderly market and price formation in accordance with Article 3 (h) of the CACM Regulation by developing rules within this methodology that ensure a fair distribution of costs and benefits between the involved TSOs .

SUBMIT THE FOLLOWING PROPOSAL TO ALL NATIONAL REGULATORY AUTHORITIES OF THE CHANNEL REGION:

TITLE 1
General Provisions

Article 1
Subject matter

1. This Channel RD and CT Cost Sharing methodology is the common proposal of all TSOs of the Channel Region in accordance with Article 74(1) of the CACM Regulation.

Article 2
Definitions and interpretation

1. For the purposes of the Channel RD and CT Cost Sharing Methodology, the terms used shall have the meaning given to them in:
   a. Article 2 of the CACM Regulation;
   b. Article 3 of the SO GL Regulation; and;
   c. Article 2 of the Proposed Channel RD and CT Methodology

2. In this Channel RD and CT Cost Sharing Methodology, unless the context requires otherwise:
   a. the singular indicates the plural and vice versa;
   b. headings are inserted for convenience only and do not affect the interpretation of this RD and CT Cost Sharing Methodology; and
   c. any reference to legislation, regulations, directives, orders, instruments, codes or any other enactment shall include any modification, extension or re-enactment of it when in force.

Article 3
Scope

1. The scope of this Channel RD and CT Cost Sharing Methodology is limited to the cost sharing of the total cost of coordinated Redispatching and Countertrading within the Channel Region as defined in Article 4(3) of this Proposed Channel RD and CT Cost Sharing Methodology

2. Coordinated Redispatching and Countertrading in the Channel Region consist of the following aspects:
   a. Volume information and availability exchange and price information exchange;
   b. detection;
   c. coordination;
   d. selection of RD and CT Actions
   e. activation of RD and CT Actions and update nomination on the Channel Interconnector
   f. total cost calculation;
   g. reporting; and
   h. cost sharing & settlement

   Aspects (a) to (e) set out above are detailed in the separate Proposed Channel RD and CT Methodology, The scope of this RD and CT Cost Sharing Methodology refers to aspect (f) to (h).

3. In order to implement this RD and CT Cost Sharing Methodology, border-specific Coordinated Redispatching and Countertrading operational procedures (hereafter referred to as "RD and CT Procedures") will be established during the implementation phase between relevant TSOs of each

bidding zone border in the Channel Region. These RD and CT Procedures shall comply with the rules and principles laid out in this Channel RD and CT Cost Sharing Methodology.

TITLE 2
Cost Sharing

Article 4
Principles

1. As stated in Articles 4(2) and 4(6) of the Proposed Channel RD and CT Methodology, all coordinated Countertrading and Redispatching in the Channel Region are cross-border relevant.

2. In accordance with Article 35 (5) of CACM Regulation, the total cost of coordinated Redispatching and Countertrading will be determined transparently by summing the costs/incomes of Participating TSOs involved in Countertrading. The details and procedures of this total cost of coordinated Redispatching and Countertrading calculation process will be described in the relevant RD and CT Procedures that will be established during the implementation phase.

3. The costs and incomes considered for Countertrading and Redispatching are:

    a. Charges for RD & CT Actions, incurred by the Requesting and Assisting TSOs;

    b. Charges related to the change of flow for Countertrading and Redispatching purposes, incurred by the Facilitating TSO.

4. The Requesting TSO will incur the total cost of coordinated Redispatching and Countertrading.

5. This Channel RD and CT Cost Sharing Methodology, in accordance with Article 74 (6) of the CACM Regulation, provides incentives to manage congestion, including remedial actions and incentives to invest effectively:
    a. It is consistent with the responsibilities and liabilities of the TSOs involved;
    b. It ensures a fair distribution of costs and benefits between the TSOs involved as the total cost calculation, as specified in Article 4(3), is cost neutral for Assisting and Facilitating TSOs;
    c. It does not impact the methodology for sharing congestion income set out in Article 73 of the CACM Regulation;
    d. It facilitates the efficient long-term development and operation of the pan-European interconnected system and the efficient operation of the pan-European electricity market as it incentivises the Requesting TSO to invest effectively in order to reduce the number and magnitude of physical congestion caused by Channel bidding zone border exchange because of the cost sharing principle outlined in Article 4(4);
    e. It facilitates adherence to the general principles of congestion management as set out in Article 16 of Regulation (EC) No 714/2009;
    f. It allows reasonable financial planning due to the use of the Requestor pays principle and costs being limited to the number of congestions which each individual TSO faces;
    g. It is compatible across the day-ahead and intraday market time-frames, as explained in Article 5(3) of the Proposed Channel RD and CT Methodology; and
    h. It complies with the principles of transparency and non-discrimination, as specified in Article 5 of this Proposed Channel RD and CT Cost Sharing Methodology.

Article 5
Monitoring and Reporting

1. All coordinated Redispatching and Countertrading, including costs and volumes, will be reported as described in Regulation (EC) 543/2013 on submission and publication of data in electricity markets (hereinafter referred to as the "Transparency Regulation") and in Commission Regulation (EC) 1227/2011 for Energy Market Integrity and Transparency (hereinafter referred to as the "REMIT Regulation").
    a. In line with the REMIT Regulation, all coordinated Redispatching and Countertrading will be reported within 1 hour from the activation of the coordinated Redispatching and Countertrading.
    b. Coordinated Redispatching and Countertrading volumes and costs are to be reported according to the Transparency Regulation in order to monitor the use of remedial actions with costs. This mechanism will allow the assessment of impact of the remedial actions based on operational security and economic criteria in accordance with Article 74(5) (c) of CACM Regulation.
2. The Requesting TSO shall record their justification for requesting coordinated Redispatching and Countertrading, or the reason for the rejection of a coordinated Redispatching and Countertrading request, the associated impact and the cost of any related RD and CT Actions taken. Upon NRA request, the Participating TSOs shall provide further justifications, impacts and associated costs in a report for monitoring.
3. Once per year, the Requesting TSO reports will be shared amongst all Channel TSOs who will review the remedial actions and make improvements within the Operational Procedures where required, as required in Article 74 (5) (d) of the CACM Regulation.
4. In accordance with Article 74.5(a) of the CACM Regulation, the mechanism to verify the actual need for coordinated Redispatching or Countertrading between the TSOs involved is included in the detection and the coordination process described in Articles 8 (4, 6), 9 (5) and Article 10 of the Proposed Channel RD and CT Methodology.
5. Pursuant to Article 74.5(e) of the CACM Regulation, process allowing monitoring of Channel Region by the competent regulatory authorities will be effectively done by the monitoring mechanisms described in the Proposed Channel DA and ID CC Methodology and the monitoring report of Article 5(2) of this Channel RD and CT Cost Sharing Methodology.

TITLE 3
Miscellaneous

Article 6
Publication of the Channel RD and CT Cost Sharing Methodology

1. The TSOs shall publish the Channel RD and CT Cost Sharing Methodology without undue delay after all national regulatory authorities have approved the Proposed Channel RD and CT Methodology or a decision has been taken by the Agency for the Cooperation of Energy Regulators in accordance with Article 9 (10), Article 9(11) and 9(12) of the CACM Regulation.

Article 7
Implementation of Channel RD and CT Cost Sharing Methodology

1. This RD and CT Cost Sharing Methodology will be implemented upon implementation of the Proposed Channel CT and RD Methodology, according to Article 16 of the Proposed Channel RD and CT Methodology.

Article 8
Language

1. The reference language for this common capacity calculation Proposal shall be English. For the avoidance of doubt, where TSOs need to translate this Channel RD and CT Cost Sharing Methodology into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 9(14) of the CACM Regulation and any version in another language, the relevant TSOs shall be obliged to dispel any inconsistencies by providing a revised translation of this Channel RD and CT Cost Sharing Methodology to their relevant national regulatory authority.

Channel TSOs Explanatory note for the methodology for coordinated Redispatching and Countertrading and for the methodology for Redispatching and Countertrading Cost Sharing in accordance with Article 35(1) and Article 74(1) of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management

21 May 2018

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1. Introduction

The Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on Capacity Allocation and Congestion Management (hereafter referred to as "CACM Regulation") sets out rules to ensure optimal use of the transmission infrastructure, operational security and optimise the calculation and allocation of cross-zonal capacity.

To implement the CACM Regulation, each Capacity Calculation Region (hereafter referred to as "CCRs") is required to develop a common methodology for coordinated Redispatching and Countertrading as well as a common methodology for cost sharing of coordinated Redispatching and Countertrading. Pursuant to Article 35(1) and Article 74(1) of the CACM Regulation, all TSOs in the Channel CCR have established a proposal for a methodology for coordinated Redispatching and Countertrading (hereafter referred to as "Channel RD and CT Methodology") and a proposal for a methodology for coordinated Redispatching and Countertrading cost sharing (hereafter referred to as "Channel RD and CT Cost Sharing Methodology". This document provides additional information and explanations of these two proposals.

The following TSOs are submitting the proposed Channel RD and CT methodology and Channel RD and CT Cost Sharing methodology: RTE, NGET, NGIC, BritNed Development Ltd, Tennet NL, Nemo Link Ltd and Elia.

In accordance with Article 35(1) of CACM Regulation, the proposal for the Channel RD and CT Methodology has to be submitted for approval to all national regulatory authorities within the Channel CCR (hereinafter "Channel NRAs") no later than 16 months after the regulatory approval of capacity calculation regions referred to in Article 15 of the CACM Regulation. The date of submission of this proposal for Channel NRAs approval is therefore to be 17 March 2018 at the latest. Moreover, the proposal shall be subject to consultation in accordance with Article 12 of the CACM Regulation.

The proposed Channel RD and CT Methodology was publicly consulted on through the ENTSO-e website between 1 December 2017 and 12 January 2018. The consultation report is annexed to the proposal for the Channel RD and CT Methodology submitted for approval to Channel NRAs.

In accordance with Article 74(1) of CACM Regulation, the proposal for the Channel RD and CT Cost Sharing Methodology has to be submitted for approval to all Channel NRAs no later than 16 months after the regulatory approval of capacity calculation regions referred to in Article 15 of the CACM Regulation. The date of submission of this proposal for Channel NRAs approval is therefore to be 17 March 2018 at the latest.

2. Legal reference and requirements

2.1. Generalities in CACM Regulation

A number of relevant parts of the preamble of the CACM Regulation are cited here and should be taken into account in order to properly interpret the articles stated further below. No. 10 of the preamble of the CACM Regulation states that TSOs should:

"use a common set of remedial actions such as countertrading or redispatching to deal with both internal and cross-zonal congestion. In order to facilitate more efficient capacity

allocation and to avoid unnecessary curtailments of cross-border capacities, TSOs should coordinate the use of remedial actions in capacity calculation."

Followed by no. 12 of the preamble:

"TSOs should implement coordinated redispatching of cross-border relevance or countertrading at regional level or above regional level. Redispatching of cross-border relevance or countertrading should be coordinated with redispatching or countertrading internal to the control area."

2.2.coordinated Redispatching and Countertrading: link between CACM and SO GL Regulation

The basis for the proposed Channel RD and CT Methodology is Article 35 of the CACM Regulation:

> *"1. Within 16 months after the regulatory approval on capacity calculation regions referred to in Article 15, all the TSOs in each capacity calculation region shall develop a proposal for a common methodology for coordinated redispatching and countertrading. The proposal shall be subject to consultation in accordance with Article 12.*
>
> *2. The methodology for coordinated redispatching and countertrading shall include actions of cross-border relevance and shall enable all TSOs in each capacity calculation region to effectively relieve physical congestion irrespective of whether the reasons for the physical congestion fall mainly outside their control area or not. The methodology for coordinated redispatching and countertrading shall address the fact that its application may significantly influence flows outside the TSO's control area.*
>
> *3. Each TSO may redispatch all available generation units and loads in accordance with the appropriate mechanisms and agreements applicable to its control area, including interconnectors.*
> *By 26 months after the regulatory approval of capacity calculation regions, all TSOs in each capacity calculation region shall develop a report, subject to consultation in accordance with Article 12, assessing the progressive coordination and harmonisation of those mechanisms and agreements and including proposals. The report shall be submitted to their respective regulatory authorities for their assessment. The proposals in the report shall prevent these mechanisms and agreements from distorting the market.*
>
> *4. Each TSO shall abstain from unilateral or uncoordinated redispatching and countertrading measures of cross-border relevance. Each TSO shall coordinate the use of redispatching and countertrading resources taking into account their impact on operational security and economic efficiency.*
>
> *5. The relevant generation units and loads shall give TSOs the prices of redispatching and countertrading before redispatching and countertrading resources are committed.*
> *Pricing of redispatching and countertrading shall be based on:*
> *(a) prices in the relevant electricity markets for the relevant time-frame; or*
> *(b) the cost of redispatching and countertrading resources calculated transparently on the basis of incurred costs.*
>
> *6. Generation units and loads shall ex-ante provide all information necessary for calculating the redispatching and countertrading cost to the relevant TSOs. This information shall be shared between the relevant TSOs for redispatching and countertrading purposes only."*

The proposed Channel RD and CT Methodology following Article 35 of the CACM Regulation is also interlinked with Article 21 of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter

referred to as “SO GL Regulation”) specifying that each TSO shall apply principles when activating and coordinating remedial actions in accordance with Article 23 of the SO GL Regulation:

> *“for operational security violations which need to be managed in a coordinated way, a TSO shall design, prepare and activate remedial actions in coordination with other concerned TSOs, following the methodology for the preparation of remedial actions in a coordinated way under Article 76(1)(b) and taking into account the recommendations of a regional security coordinator in accordance with Article 78(4).”*

Further Article 23(2) of SO GL Regulation specifies that:

> *“When preparing and activating a remedial action, including redispatching or countertrading pursuant to Article 23 and 35 of Regulation (EU) 2015/1222, or a procedure of a TSO’s system defence plan which affects other TSOs, the relevant TSO shall assess, in coordination with the TSO concerned, the impact of such remedial action or measure within and outside of its control area, in accordance with Article 75(1), Article 76(1)(b) and Article 78(1), (2) and (4) and shall provide the TSOs concerned with the information about this impact.”*

Also relevant in this respect is the requirement for TSOs to develop common provisions for operational security coordination on a regional level in Article 76(1) of the SO GL Regulation:

> *“…all TSOs of each capacity calculation region shall jointly develop a proposal for common provisions for regional operational security coordination, to be applied by the regional security coordinators and the TSOs of the capacity calculation region.”*

Article 76(1) further specifies that:

> *“The proposal shall respect the methodologies for coordinating operational security analysis developed in accordance with Article 75(1) and complement where necessary the methodologies developed in accordance with Articles 35 and 74 of Regulation (EU) 2015/1222.”*

Lastly, Article 78(1) of the SO GL Regulation states:

> *“Each TSO shall provide the regional security coordinator with all the information and data required to perform the coordinated regional operation security assessment, including at least:*
> *…(b) the updated list of possible remedial actions, among the categories listed in Article 22, and their anticipated costs provided in accordance with Article 35 of Regulation (EU) 2015/1222 if a remedial action includes redispatching or countertrading, aimed at contributing to relieve any constraint identified in the region; and …”*

The methodologies from the CACM Regulation and the SO GL Regulation are thus highly interlinked. The following chapters provide a description of Channel CCR interpretation and scope of this proposal.

2.3. Redispatching and Countertrading cost sharing

The basis for the proposed Channel RD and CT Methodology is Article 74 of the CACM Regulation:

> *“1. No later than 16 months after the decision on the capacity calculation regions is taken, all TSOs in each capacity calculation region shall develop a proposal for a common methodology for redispatching and countertrading cost sharing.*

2. The redispatching and countertrading cost sharing methodology shall include cost-sharing solutions for actions of cross-border relevance.

3. Redispatching and countertrading costs eligible for cost sharing between relevant TSOs shall be determined in a transparent and auditable manner.

4. The redispatching and countertrading cost sharing methodology shall at least:
(a) determine which costs incurred from using remedial actions, for which costs have been considered in the capacity calculation and where a common framework on the use of such actions has been established, are eligible for sharing between all the TSOs of a capacity calculation region in accordance with the capacity calculation methodology set out in Articles 20 and 21;
(b) define which costs incurred from using redispatching or countertrading to guarantee the firmness of cross-zonal capacity are eligible for sharing between all the TSOs of a capacity calculation region in accordance with the capacity calculation methodology set out in Articles 20 and 21;
(c) set rules for region-wide cost sharing as determined in accordance with points (a) and (b).

5. The methodology developed in accordance with paragraph 1 shall include:
(a) a mechanism to verify the actual need for redispatching or countertrading between the TSOs involved;
(b) an ex post mechanism to monitor the use of remedial actions with costs;
(c) a mechanism to assess the impact of the remedial actions, based on operational security and economic criteria;
(d) a process allowing improvement of the remedial actions;
(e) a process allowing monitoring of each capacity calculation region by the competent regulatory authorities.

6. The methodology developed in accordance with paragraph 1 shall also:
(a) provide incentives to manage congestion, including remedial actions and incentives to invest effectively;
(b) be consistent with the responsibilities and liabilities of the TSOs involved;
(c) ensure a fair distribution of costs and benefits between the TSOs involved;
(d) be consistent with other related mechanisms, including at least:
(i) the methodology for sharing congestion income set out in Article 73;
(ii) the inter-TSO compensation mechanism, as set out in Article 13 of Regulation (EC) No 714/2009 and Commission Regulation (EU) No 838/2010 (5);
(e) facilitate the efficient long-term development and operation of the pan-European interconnected system and the efficient operation of the pan-European electricity market;
(f) facilitate adherence to the general principles of congestion management as set out in Article 16 of Regulation (EC) No 714/2009;
(g) allow reasonable financial planning;
(h) be compatible across the day-ahead and intraday market time-frames; and
(i) comply with the principles of transparency and non-discrimination.

7. By 31 December 2018, all TSOs of each capacity calculation region shall further harmonise as far as possible between the regions the redispatching and countertrading cost sharing methodologies applied within their respective capacity calculation region."

While Articles 74(2), 74(3), 74(4), 74(6) and 74(7) are related to the Redispatching and Countertrading Cost Sharing, Article 74(5) adds some specific requirements about monitoring, reporting and improvement of actual need of Redispatching and Countertrading and its use, impact and improvement of remedial actions within the Channel CCR.

3. Definitions of Redispatching and Countertrading

3.1.Countertrading

According to the Article 2(13) of Commission Regulation (EU) 543/2013 of 14 June 2013 on the submission and publication of data in electricity markets and amending Annex 1 to Regulation (EC) No 714/2009 of the European Parliament and of the Council (hereafter referred to as "Transparency Regulation"), Countertrading has the following definition:

> "*'countertrading' means a cross-zonal exchange initiated by system operators between two bidding zones to relieve physical congestion."*

Countertrading is therefore considered as a measure with the objective of relieving physical congestion between two bidding zones, where the precise generation or load pattern alteration is not pre-defined. This measure consists of a specific cross zonal exchange between the two TSOs (referred to as an "SO-SO trade") of the two bidding zones, and the activation by each TSO of compensation in each bidding zone, in order to restore the balance in their respective control area, where this compensation is independent of the geographical location within the bidding zone.

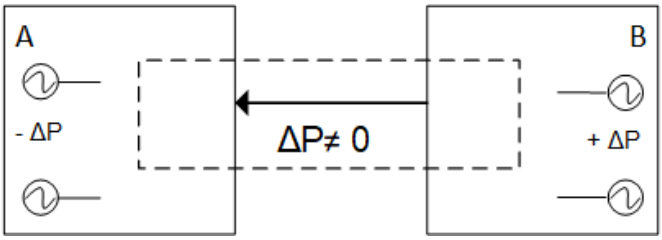

Figure 1 - Example of countertrading between 2 areas in the Channel Region

Application to Channel CCR: The cross-zonal exchange is materialised with the change of flow on the HVDC Interconnectors of a Channel bidding zone border. This action relieves effectively the physical congestion. Unlike for AC interconnectors, this change of physical flow will be similar to the value of the SO-SO trade[1]. This SO-SO trade leads to an imbalanced situation in both control areas that must be tackled by compensation actions (defined as "RD and CT Actions" in Article 2 of the Proposed Channel RD and CT Methodology) whose value is also identical to the SO-SO trade. In the specific case of Countertrading, these RD and CT Actions might be a market-based solution as the geographical location of these RD and CT Actions does not matter and are totally cross-border independent: the location of the RD and CT Actions in one Control Area has strictly no influence on the other Control Area implied in the Countertrading. Only the cross-zonal exchanges have an impact.

3.2.Redispatching

Article 2(26) of the Transparency Regulation further clarifies that:

[1] Not exactly identical, as there is e.g. ramping constraints management which will transform the 'rectangles' of commercial trades + SO-SO trades nominations to the Interconnector Reference Program (ICRP shape). However, this 'shape' will follow the schedule defined by the nominations, which is different in the case of an AC meshed grid.

"'Redispatching' means a measure activated by one or several system operators by altering the generation and/or load pattern in order to change physical flows in the transmission system and relieve a physical congestion."

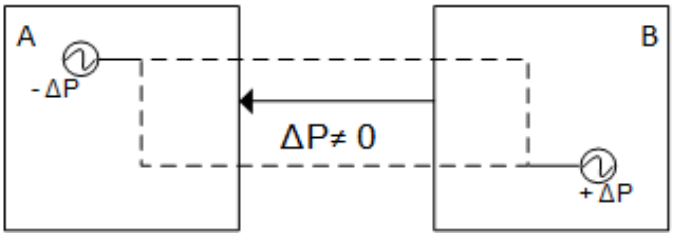

Figure 2 - coordinated Cross-border redispatching between 2 areas

Redispatching is therefore considered a measure with the objective of relieving physical congestions by altering a particular generation and/or load pattern. Specifically, this refers to one or several TSO(s) requesting, when congestion appears, specific generators (or specific consumers) to start or increase production (or consumption) and specific other generators (or loads) to stop or reduce production (or consumption), in order to maintain the network security.

Application to Channel CCR:
The cross-zonal exchange is materialised with the change of flow on the HVDC Interconnectors of a Channel bidding zone border. This action relieves effectively the physical congestion. Unlike for AC interconnectors, this change of physical flow will be similar to the value of the SO-SO trade. This SO-SO trade leads to an imbalanced situation in both control areas that must be tackled by RD and CT Actions whose value is also identical to the SO-SO trade. The only difference with Countertrading is that in case of coordinated Redispatching on a Channel bidding zone border, the RD and CT action in the Requesting TSO's area is localised. . However, the localisation of the RD and CT Actions in the Assisting TSO's area does not have any influence on the physical congestion.

The specific representation of the coordinated Redispatching in the Channel Region is thus represented on the figure 3.

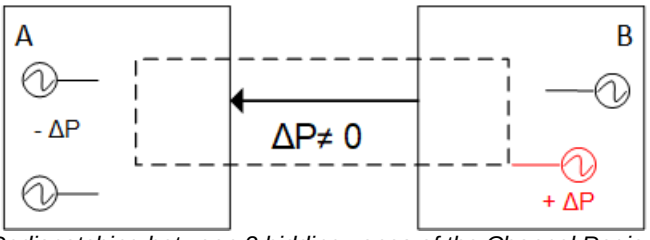

Figure 3 - coordinated Redispatching between 2 bidding zones of the Channel Region. RD and CT Actions is localized only in the area B (where the physical congestion is localized)

In the Channel Region, if a physical congestion should be relieved in the bidding zone of a Channel TSO (Requesting TSO), coordinated Redispatching and Countertrading on HVDC interconnector of the Channel CCR's bidding zone border with another Channel TSO (Assisting TSO) is thus made of[2]:

- *Change on flow on the HVDC interconnector* via a SO-SO trade;
- *RD and CT Actions* in the Assisting TSO's area; and
- *RD and CT Actions* in the Requesting TSO's area (localised in case of coordinated Redispatching, not localised in case of Countertrading).

[2] Art. 3(2) of the proposed Channel RD and CT Methodology

4. Scope and application of the proposed Channel RD and CT methodology

This section provides additional information and explanations related to Article 3 “Scope” and Article 4 “General principles for coordinated Redispatching and Countertrading” of the proposed Channel RD and CT Methodology

The scope of this proposed Channel RDCT Methodology is limited to the coordinated Redispatching and Countertrading on Channel Interconnectors because those constitute the Channel Region, which consists of the 3 bidding zone borders FR-GB, NL-GB and BE-GB.

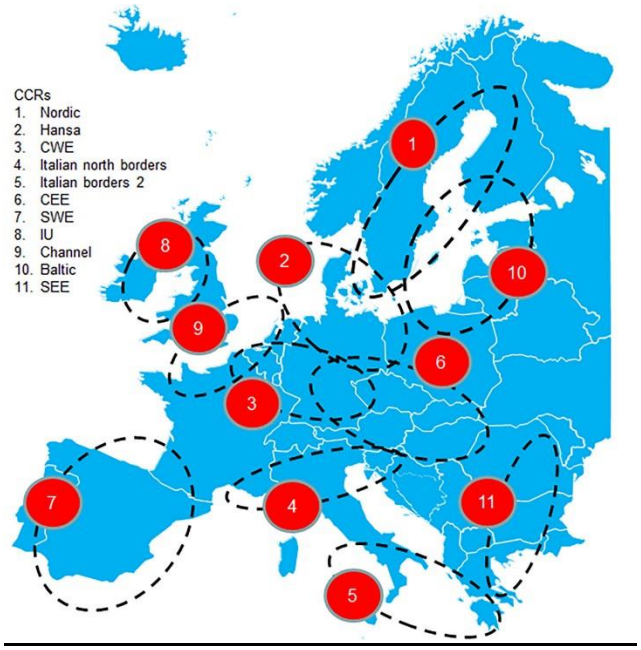

Figure 4 - Channel CCR localisation in Europe

The CACM art 2.3 defines ‘capacity calculation region’ as being the geographic area in which coordinated capacity calculation is applied;

As per Article 10 of the “All TSOs proposal for Capacity Calculation Regions (CCRs[3])” in accordance with Article 15(1) of CACM, the Channel CCR includes the bidding zone borders FR-GB, NL-GB and BE-GB and are attributed to TSOs RTE, NGET, NGIC, BritNed, Tennet, Nemo Link, Elia.

Channel TSOs consider that coordinated Redispatching and Countertrading activated for solving congestion on FR-BE, NL-BE of UK-SEM are actions on bidding zone borders of other CCRs, and in consequence these actions will follow the RDCT methodologies of those CCRs.

Redispatching or Countertrading on a particular HVDC Interconnector of the Channel Region can only be applied for solving congestions situated in the control areas of the TSOs this HVDC Interconnector links.

[3] in its current amended version, modified after inclusion of the BE-GB Bidding zone border which was approved by All NRA’s (ERF - 18th of September 2017)

This proposed Channel RDCT Methodology only applies to physical congestion occurring in the AC grid of the relevant Channel TSOs, which is detected between the Day-ahead Market Coupling Results and the Interconnector Countertrading Deadline.

As defined in Article 2(18) of CACM Regulation, a physical congestion is: *"any network situation where forecasted or realised power flows violate the thermal limits of the elements of the grid and voltage stability or the angle stability limits of the power system".*

The principle of coordinated Redispatching and Countertrading is to resolve physical congestion. This will ensure firmness of cross-border nominations and is to be applied before any curtailment after the Day Ahead Firmness Deadline.

The application of coordinated Redispatching and Countertrading occurs after the Day-Ahead capacity calculation and before, during, or after the Intraday Capacity Calculation. The result of this Intraday Capacity Calculation does not allow for a revised Net Transfer Capacity (NTC) below the Already Allocated Capacity (AAC) which could not be enough to solve the physical congestion.. The proposed Channel RD and CT Methodology could allow such a reduction (capping of NTC) in order to allow the countertrading process.

The failure or unplanned outage of a Channel Interconnector or constraints due to technical limits for stable operation of a Channel Interconnector fall outside of this methodology as this does not correspond to a physical congestion. Furthermore, any SO-SO trade initiated by TSOs on a HVDC interconnector of a Channel Bidding zone border for other purposes than relieving physical congestion (for instance, ramping constraint management, Replacement Reserve management (TERRE), Rate of Change of Frequency (ROCOF) management, …) does not fall under the definition of Countertrading or Redispatching as defined in Transparency Regulation and therefore falls also outside of the scope of this methodology.

A physical congestion on a network element that is significantly impacted by Channel cross-zonal flows (according to the Channel ID/DA CC Methodology) can be relieved by cross-border Redispatching or Countertrading on the HVDC interconnector. Cross-border Redispatching or Countertrading is thus a Remedial Action of Cross border relevance for which the cost sharing principles described in the proposed Channel RD and CT Cost Sharing Methodology apply.

In Channel Region, as Redispatching and Countertrading are only done via change of flow over the HVDC interconnector, it is not possible to have uncoordinated RD and CT Actions as per the coordination process described in the proposed Channel RD and CT Methodology.

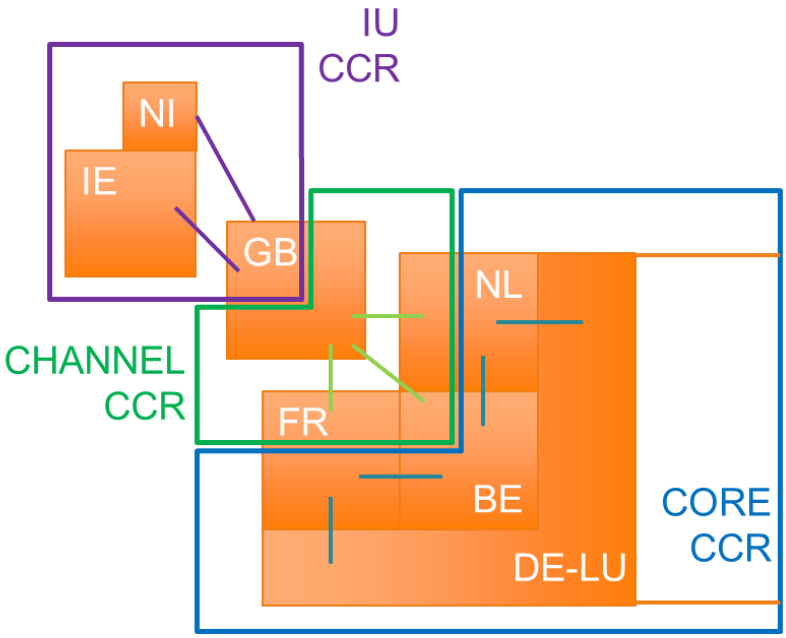

Figure 5 - Channel, IU and CORE CCRs

While some Channel Interconnector TSOs are only part of the Channel CCR, Channel "Onshore" TSOs have bidding zone borders belonging to more than one CCR, as shown on Figure 5.

As methodologies relating to CACM Regulation Article 35 and 74 are per CCR, there are overlaps for some bidding zones.

The scope of the Channel RD and CT Methodologies is limited to Countertrading and coordinated Cross-border Redispatching on the Interconnectors of the bidding zone borders of the Channel Region (i.e. modification of flow on the Interconnectors of FR-GB, NL-GB and BE-GB borders) that follow the description of article 3(2) of the proposed Channel RD and CT Methodology

> *"Art 3(2) coordinated Redispatching and Countertrading in the Channel Region are a set of Remedial Actions that must been considered as one package:*
>
> a. *Change of flow on the Interconnector of a bidding zone border of the Channel Region which significantly contributes to the relieving effect of the physical congestions. This change of flow has to be coordinated in all conditions;*
>
> b. *RD and CT Actions in the Bidding Zone of the Assisting TSO which might be coordinated if there is a cross-border impact;*
>
> c. *RD and CT Actions in the Bidding Zone of the Requesting TSO, localized in case of Redispatching and not localized in case of Countertrading, which might be coordinated if there is a cross-border impact."*

As explained in Article 4(3) of the proposed Channel RD and CT Methodology, "*a coordinated Redispatching and Countertrading remedial action that does not follow the description of Article 3(2) falls outside of the scope of this proposed Channel Methodology and have to be handled in the coordinated Redispatching and Countertrading methodologies developed in accordance with Article 35(1) of the CACM Regulation by the relevant CCR*".

For instance, cross-border Redispatching between France and Belgium should follow the methodologies and the cost sharing principles defined in the relevant Article 35 and 74 coordinated Redispatching and Countertrading Methodologies of the Core CCR. The same principle should apply for countertrading on Moyle or East-West Interconnector, following the methodologies developed in the IU CCR.

Similarly, if TSO(s) are members of both the Core and Channel Region and decide to use cross-border Redispatching/Countertrading (from the Core CCR) as a RD and CT Actions for Channel CCR, this RD and CT Actions should also be aligned with the Core CCR methodologies and the bilateral or multilateral TSOs agreements allowing such exchanges.

Finally, internal redispatching in the grid of an onshore Channel TSO is also out of scope of this Channel RD and CT Methodology. For instance, internal redispatching in Belgium won't have any cross-border impact on the National Grid (UK) control area, because of the HVDC specific context on the Channel Region bidding zone borders. However, if this internal redispatching has an impact on RTE Control Area, this internal redispatching should follow the processes that will be defined in the Core CCR coordinated Redispatching and Countertrading Methodologies, as such internal redispatching of cross-border relevance should be coordinated.

5. Coordinated Redispatching and Countertrading Processes

5.1. TimeTable overview

Article 5 and the Annex of the proposed Channel RD and CT methodology describes the timeframes associated to the coordination and activation processes. For the sake of clarity, the following table summarises the timings of Period 1 to Period 4 with more details

Timing	Timing description	RD and CT Methodology step	Comments
D-1 9h30 CET	LT GCT	No RD or CT	
D-1 11h00 CET	Day-ahead Firmness deadline	No RD or CT	
D-1 14h30 CET	SDAC results of day-ahead allocations and nominations are integrated in Nomination Platform and TSOs Systems.	Start of Period 1	Coordinated Redispatching or Countertrading cannot be initiated before SDAC results (and shipper nominations) are integrated in each TSO systems(deadline D-1 14h30).
D-1 20h00 CET	Deadline for "Input Data Gathering" phase of the Intraday Capacity Calculation (Exact Timing still to be confirmed in the implementation of the Channel ID CC Methodology)	End of Period 1 Start of Period 2	During Period 1, IGM is updated with the SO-SO trade, allowing this information to be taken into account in the ID Capacity Calculation Process
D-1 21h30 CET	"Validation" phase of the Intraday Capacity Calculation; (Exact Timing still to be confirmed in the implementation of the Channel ID CC Methodology)	End of Period 2 Start of Period 3	During Period 2, IGM is updated with the SO-SO trade. But this is too late to have it taken into account in the ID Capacity Calculation Process. If needed, TSOs will have to reject the ID NTC resulting from

			ID CC and propose an updated one.
XX' before delivery (RSC Coordination Deadline)	RSC Coordination deadline is the latest moment in time when the Channel RSCs are able to perform the coordination for coordinated Redispatching or Countertrading and the operational security assessment. This deadline (currently estimated between 60 and 120' before realtime) will be determined with the RSCs during the implementation of the Channel RD and CT methodology and the definition and implementation of the methodology for the preparation of remedial actions managed in a coordinate way in accordance with Article 76(1)(b) of SO GL Regulation.	End of Period 3 Start of Period 4	During Period 3, if SDIC is still open for the SO-SO trade concerned period, the NTC should be capped in order to allow the SO-SO trade to take place and not have the market cancelling the SO-SO trade effect by taking the new available capacity in SDIC due to netting.
55' before delivery (deadline for receiving XBID results) *(Only applicable to borders included in the TERRE project)*	Between the reception of the XBID results and the deadline for introducing TERRE inputs (30 minutes before delivery)	During Period 4	During this period, SOs participating in the TERRE project may submit interconnector constraints to the TERRE algorithm in order to perform countertrading. In such case, the coordination would be done directly between Channel TSOs without the participation of Channel RSCs as explained in Article 10 of the proposed Channel RD and CT mehodology
Interconnector deadline	Last limit to introduce a SO-SO trade instruction on RNP (minimum time needed for interconnector Dispatch System to update the Reference Program of the Interconnector based on the RNP nominations)	End of Period 4	During Period 4, the coordination process could exceptionally be done between Channel TSOs without the participation of Channel RSCs as explained in Article 10 of the proposed Channel RD and CT methodology

Here is an example of timeline in the case of a countertrade of 120 minutes between 3h and 5h CET in day D, with a ICRTU of 15 minutes, an Interconnector deadline of 30 minutes before physical delivery and a RSC Deadline of 90 minutes before realtime (example, as RSC deadline is not yet defined).

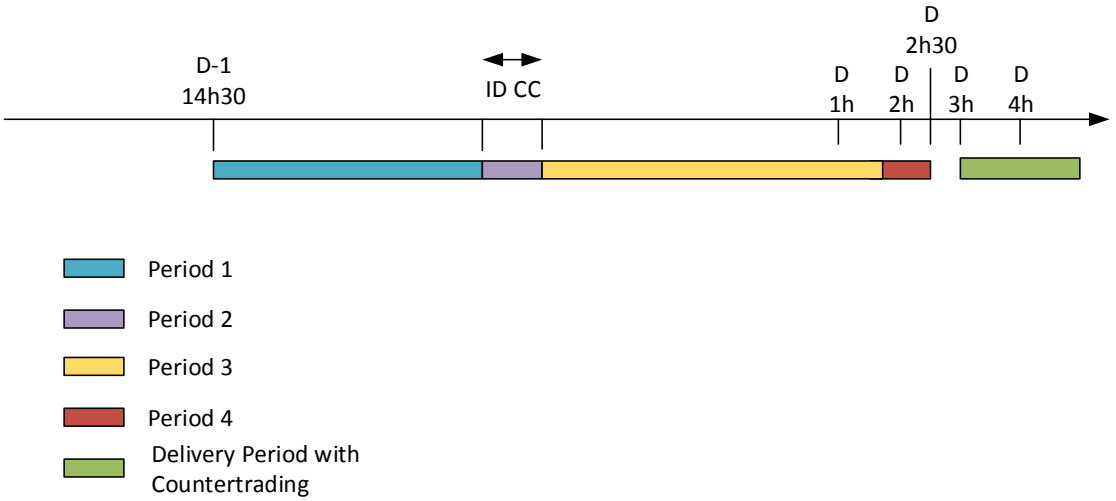

Figure 6 - Timeline for Nemo Link

Note: In the case where more than one ID Capacity Calculation will take place in the Channel region in the future, multiple sequences of Period 1 and Period 2 will follow, with Period 3 beginning after the last ID CC of the day.

5.2. Border-specific coordinated Redispatching and Countertrading operational procedures

The border-specific coordinated Redispatching and Countertrading operational procedures (hereafter referred to as “RD and CT Procedures”) are operational procedures implementing the proposed Channel RD and CT Methodology on each bidding zone border of the Channel CCR. They are not part of the methodology and will be written with the Participating TSOs during the implementation phase. They shall be compliant with the principles described in the proposed methodology and will at least detail the following aspects of the methodology:

- Indicative volume exchange and update;
- Indicative price exchange and update;
- Type of RD and CT Actions used in each Control Area;
- Detection and Coordination process between Participating TSOs;
- Final Pricing methodology; and
- Settlement process.

5.3. Process description

The proposed Channel RD and CT Methodology is centred on the cooperation of the TSOs in the Channel Region via the RSC. Specific requirements in the SO GL Regulation already require, to a large extent, coordination when implementing remedial actions. As coordinated Redispatching and Countertrading are remedial actions with cross-border impact, these are implicitly included in the coordination process.
Coordination is done during different timeframes in relation to different markets as described in the timetable overview section and in Article 5 of the proposed Channel RD and CT Methodology.

5.3.1. Volume information availability and Price information Exchange

Firstly, as defined in Article 6 and 7 of the proposed Channel RD and CT Methodology, TSOs shall individually assess the estimation of the available RD and CT Actions volume and provide it, including the estimated costs, to the RSC and the other Channel TSO on the channel bidding-zone Border[4].

This price and volume information is a non-binding estimation, provided at least once in Day-ahead, after the results of the SDAC. It is to be noted that the TSOs will provide an estimation of the available volume that could be used for coordinated Redispatching and Countertrading on all of its borders, without any specific reservation. This is why this volume availability will be confirmed again during the detection and coordination process.
The RSC also needs this information, amongst other data such as common grid models, the contingency list and the operational security limits, in order to carry out a coordinated regional operational security assessment. The RSC then delivers the results of the coordinated regional operational security assessment to the Channel TSOs.

5.3.2. Detection

The RSC shall, where it detects a physical congestion, recommend to the relevant TSOs the most effective and economically efficient remedial action. This will take place in the frame of the SO GL Art 76 methodology. If the proposed remedial action is coordinated Redispatching or Countertrading over a Channel Interconnector then the coordination falls under this proposed Channel RD and CT Methodology. This recommendation is the result of coordination across the borders of Channel Region, through coordination of the RSC with other RSCs.

Except in Period 4, if one TSO detects a physical congestion in its bidding zone either caused by the flow on a Channel Interconnector or that could be solved by a change of scheduled flow on a Channel Interconnector, this TSO should inform the RSC and the other Channel TSO linked by this Channel Interconnector. RSC will then perform the analysis and will confirm (or not) the TSO assumption by coming back with a remedial action recommendation.

Any recommendation received from the RSC for a particular Countertrading action shall be evaluated by the Participating TSO with regard to the elements involved in that action and located in its control area. The decision-making right on the implementation of countertrading action remains with the TSOs but there shall be a duty to inform and explain the TSOs' decision to the RSC in case the recommendation by the RSC for a particular action is not accepted.

The Requesting TSO (the one facing the physical congestion) can always propose to the Participating TSOs and RSCs to turn the Countertrading into coordinated Redispatching (as explained in Article 3 (2)(c) of the proposed Channel RD and CT Methodology) if the Requesting TSO can select and activate a RD and CT Actions that contributes (together with the change of the flow in the HVDC Interconnector) to the relieving effect on the physical congestion.

[4] Practically, the exchange between TSOs will be done respectively between NGET and Tennet, NGET and RTE, and NGET and Elia.

5.3.3. Coordination

The process described above leads to a considerable degree of coordination of redispatching and countertrading, as assessment for needed actions on a regional level will be performed by a third party, the RSC. Thus, this neutral entity will ensure a more efficient dispatching of relevant resources on a regional level in comparison to the current situation, where congestion is relieved bilaterally by involved TSOs.

As a RD and CT Action is considered as making part of the coordinated Redispatching/Countertrading Remedial Action in Channel, the concept of a cross-border impact as defined in the methodologies developed in accordance with Article 75/76 SO GL also apply on them. If a RD and CT Action has a cross border impact as defined in the methodologies developed in accordance with the Article 75/76 of SO GL, then the RSC must be included in order to analyse the effect of it on the neighbouring control area's element.

5.3.4. Fast Coordination

Closer to real time there will be less possibilities for regional coordination via the RSC. In order to ensure coordination of unforeseen events causing physical congestions happening after the last relevant coordinated operational security analysis (defining the RSC deadline) and until real time, the TSOs shall coordinate bilaterally with neighbouring TSO(s) in order to plan and carry out coordinated Countertrading and Redispatching. These TSOs will inform directly impacted TSOs in Channel Region as well as the Channel Region-appointed RSC, taking into account that Congestions in a third TSOs' grid as a result of a Countertrading or the coordinated Redispatching on a Channel Interconnector should be avoided.

5.3.5. Activation of coordinated Redispatching and Countertrading

Once the coordination process amongst the participating TSOs and the RSC is done, the the volume of the RDCT is firm and the SO-SO Trade nomination will be introduced on the Nomination Platform (after NTC update if needed). The prices of the RD and CT Actions are also firm at the end of the coordination process, in the case of a bilaterally agreed model between Participating and Assisting TSO based on the cost of resources available for the RD and CT Actions at that moment in time, in accordance with Article 35(5) of CACM Regulation.
The nominated SO-SO trade shall be included by the TSOs in the forthcoming Individual Grid Model (IGM).

An NTC Reduction will be needed before the SO-SO Trade introduction on the Nomination platform in the case where the SIDC is still open for the delivery period, to avoid market trades worsening the congestion.

Example: 800 MW flow from BE to GB between 10 and 11am on day D. NTC at this time is 1000 MW in both direction. AAC is 800MW and then ATC in direction BE-GB is thus 200MW and ATC in direction GB-BE is 1800MW, after netting
At 2am of Day D, a physical congestion is detected in GB, due to this import flow. During its analysis, the RSC concludes that the maximum import flow on the BE-GB Interconnector (in order to relieve the congestion) is 500MW.

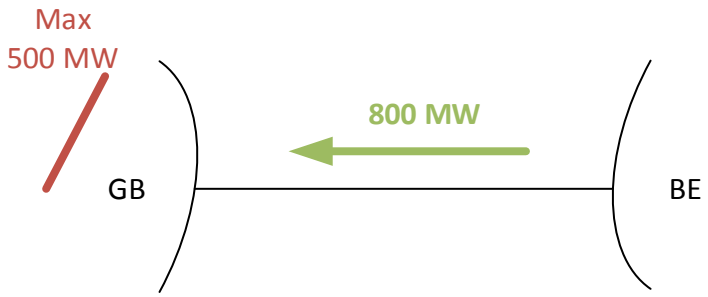

Figure 7 - Countertrading example: congestion in GB

RSC proposes a countertrading proposal of 300MW from NGET and Elia as remedial action. We are in period 3, after the ID CC. After coordination with Elia and Nemo Link, a countertrading of 300 MW is accepted, Elia and NGET having respectively the 300 MW down and 300MW up RD and CT Actions. This countertrading would reduce the final flow to 500 MW.

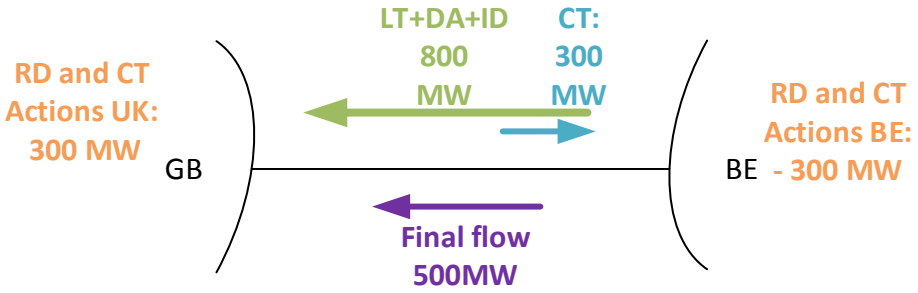

Figure 8 –Countertrading Example: Final flow after 200 MW of countertrading

In this example, the SO-SO trade nominations could be introduced in the Nomination Platform in parallel of SDIC platform. Therefore, for XBID, AAC is still 800 MW because it doesn't know that there is a countertrading of 300 MW.
If this 300MW countertrading is applied without NTC reduction, there is still a risk that the market will use the ATC of 200 MW still available on the BE→GB direction, cancelling the effect of the countertrading.

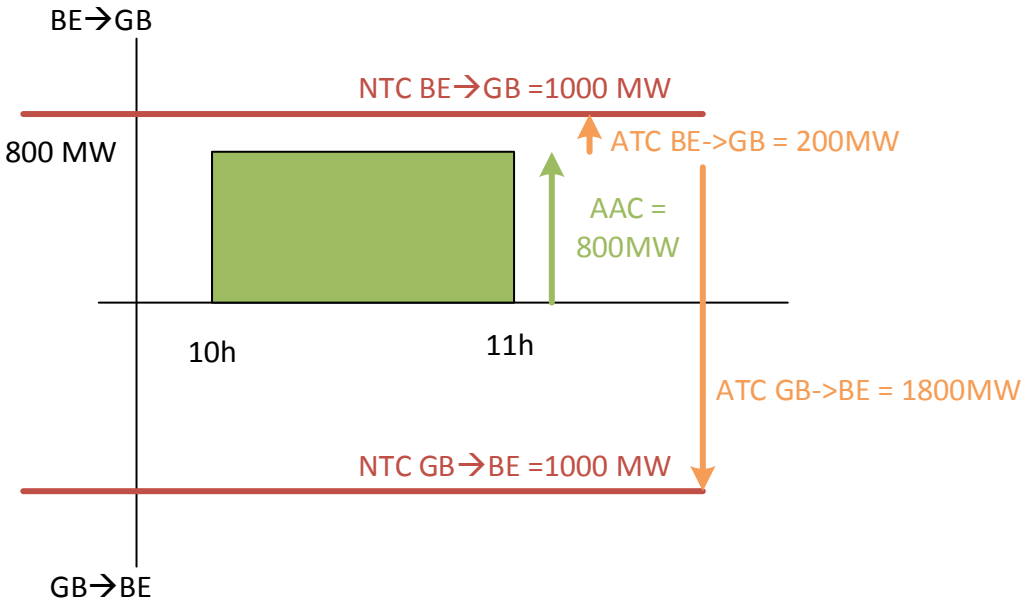

Figure 9 - Countertrading Example: visualisation of AAC, NTC and ATC before SO-SO Trade

This is why the NTC should be reduced to 800MW, in order to have an ATC of 0MW in the direction BE → GB. Similarly, the ATC in the opposite direction is still 1800MW. In order to allow room for the 300MW countertrading, the NTC in opposite direction should be reduced by the amount of the countertrade (new NTC in direction GB→BE = 700 MW = 1000 MW-300MW), leading to a new ATC in the direction GB→BE of 1500 MW.

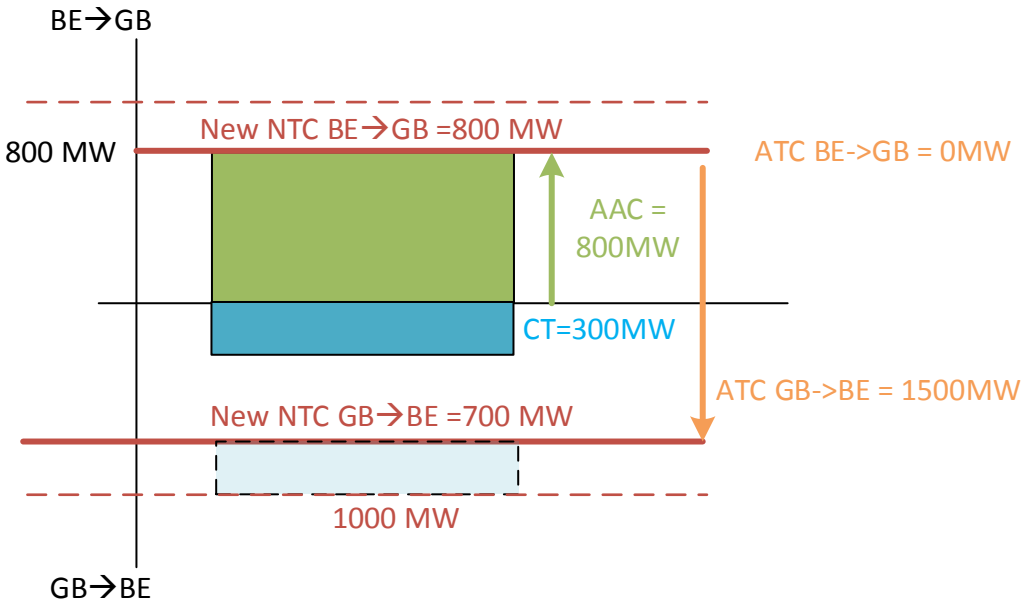

Figure 60 - Countertrading example: New NTC in both direction

Another NTC Reduction strategy could also be implemented: for instance, capping the NTC below the 800 MW AAC to 500 MW and then modifying AAC in XBID to 500 MW in order to have the same results without having to reduce the NTC in the opposite direction).
The exact NTC Reduction process will be designed during the implementation phase of this proposed RD and CT Channel Methodology.

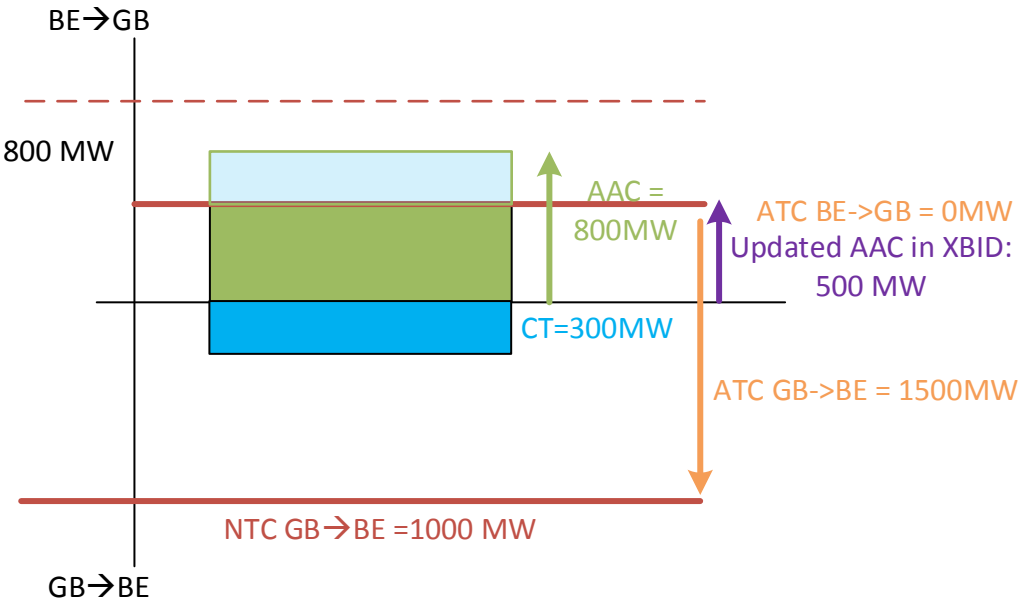

Figure 11 - Countertrading example: other NTC reduction strategy (Capping in the congested direction and update of AAC in XBID)

Once the NTC reduction phase is applied, countertrading could be introduced in the Nomination Platform via a SO-SO trade, and TSOs will prepare the RD and CT Actions.

5.3.6. Selection of RD and CT Actions

As explained in Article 12(3), the selection of the RD and CT Actions in each control area is the responsibility of the TSO operating each control area and based on local agreements or via a market-based solution applicable to its control area and approved by the national regulatory authority, while ensuring the economic efficiency of the selected RD and CT Actions. The RD and CT Actions must also respect the operational security constraints (in accordance with Article 12 of the Proposed Channel RD and CT Methodology).

In the context of Channel Region, the only difference between coordinated Redispatching and Countertrading is that in case of coordinated Redispatching the selection of the RD and CT Actions is localised in the Requesting TSO's Control Area because of the congestion-relieving effect this RD and CT Action has. In the case of Countertrading, the selection of RD and CT Actions could be market-based as defined in Article 12(4)(a) of the Proposed Channel RD and CT Methodology. It could also be a specific selection of RD and CT Actions (in this case, without localisation, and thus based only on economic criteria) and could also be implemented by other local mechanisms or via cross-border Redispatching/Countertrading.
However, in case of coordinated Redispatching, a specific selection of the RD and CT Actions based on their location (rather than only the economic criteria) will be needed. Similarly, even in case of Countertrading, if the activation of some RD and CT Actions selected by the Merit Order will cause operational issue in the Requesting or Assisting TSO, these RD and CT Actions could be discarded.

The process to select these RD and CT Actions will be described in the RD and CT Procedures, considering the rules and agreements applicable in the control area of each Participating TSO.

6. Cost Sharing process of the coordinated Redispatching and Countertrading

6.1. Total cost calculation

The total cost of a coordinated Redispatching and Countertrading is composed of the following:

- RD and CT Actions cost/revenue in the CA of the Requesting TSO
- RD and CT Actions cost/revenue in the CA of the Participating TSO

In addition, when calculated and provided by the Assisting TSO, the charges incurred by the Facilitating TSO due to the impact of the SO-SO trade (e.g. additional imbalance, additional interconnector losses, …) could be added to the total cost of the coordinated Redispatching and Countertrading.

6.2. Cost Sharing

The third “High Level Principle” in the Recommendation of the Agency for the Cooperation of Energy Regulators (ACER) no 02/2016 of 11 November 2016 on the Common Capacity Calculation and Redispatching and Countertrading Cost Sharing Methodologies states that “*As a general principle, the costs of remedial actions should be shared based on the ‘polluter-pays principle’, where the unscheduled flows over the overloaded network elements should be identified as ‘polluters’ and they should contribute to the costs in proportion to their contribution to the overload*”.

In the Channel Region, there are no unscheduled flows due to the Interconnectors of the Channel Bidding Zone borders being HVDC, and as such there is no direct “polluter” identified.

The assisting TSO is requested to help, by providing RD and CT Actions in order to compensate the imbalance of its grid due to the SO-SO trade. The Requesting TSO, who is facing the congestion, should thus logically bears the entire costs of the coordinated Redispatching or Countertrading.

7. Monitoring

Coordinated Redispatching and Countertrading will be reported to the Entso-e Transparency Platform (ETP) within one hour after the activation, in order to monitor the use of remedial actions with costs.

In addition, the Requesting TSO will record the justification of its request for coordinated Redispatching or Countertrading, as well as, if any, the reason of rejection provided by the assisting TSO. The Participating TSOs will also log the costs of the RD and CT Actions and the impact of the remedial Actions. Once per year they will share this log with other Channel TSOs in order to review these remedial actions and to improve the operational procedures. Channel TSOs will also share this information with NRAs upon request.

As explained in Article 5(4) of the Channel RD and CT Cost Sharing Methodology, the mechanism to verify the actual need for coordinated Redispatching or Countertrading between the TSOs involved exists in the detection and the coordination process.

Finally, the process for allowing monitoring of Channel Region by the competent regulatory authorities, in addition with the other reporting of the Channel RD and CT Methodology, will be effectively done by the monitoring mechanisms described in the Proposed Channel DA and ID CC Methodology as explained e.a. in

- Article 6(7) Proposed Channel DA and ID CC Methodology:
  A TSO of the Channel Region may decide to keep some of the CNECs which have a cross-zonal flow sensitivity below the threshold, in which case it will justify them to the other TSOs and shall furthermore provide them to the NRAs of the Channel Region for monitoring.

- Article 7(5) Proposed Channel DA and ID CC Methodology:
  Each TSO may apply an operational adjustment before practical implementation of the FRMs into their CNE definition. Each TSO shall submit to the NRAs for monitoring any new value of the FRM for each CNE.

- Article 9(3) Proposed Channel DA and ID CC Methodology:
  The external constraints shall be based on system study and shall be regularly reviewed and, in any case, at least once a year. The concerned TSO shall submit the system study justifying their application to the NRAs of the Channel Region for monitoring.