

ACER



Agency for the Cooperation
of Energy Regulators

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Reliable Sustainable Connected

Regulatory framework for cross-border redispatching and countertrading

Joint Task Force ACER – ENTSO-E

- The need for an efficient and coordinated redispatch measures framework
- Current situation: Agreements between TSOs
- Redispatching and/or countertrading in CACM NC
- Main features of efficient and coordinated redispatching framework
- Cost-sharing methodologies for remedial actions
- Way forward

THE NEED FOR EFFICIENT AND COORDINATED REDISPATCH MEASURES FRAMEWORK

- Increasing the need for redispatch measures:
 - Growing intermittency;
 - Higher volatility of cross-border trade until last moment;
 - More efficient use of the existing grid.
- The most-commonly used remedies are:
 - preventive congestion management, i.e. allocation of the available cross-border capacities
 - congestion management after capacity allocation: remedial actions, such as redispatch measures.

An efficient framework for redispatch measures is an important component of a secure electricity system and an integrated EU electricity market

CURRENT SITUATION: AGREEMENTS BETWEEN TSOS

An internal EntsoE survey about the existing XB RD arrangements shows that more than 65% TSO/TSO borders are covered by agreements between TSOs that deal with remedial actions and 10% more are currently being negotiated.

- These agreements are mostly based on "requester pays" principle. In some cases the exception is the costs of remedial actions concerning cross border lines which are shared 50 : 50.
- Additionally to bilateral agreements, there are actually 3 multilateral agreements in Europe among TSOs:
 - » Pentalateral (northern borders of Italy)
 - » TSC (10 TSOs from AT, CH, CZ, DE, NL, PL, SLO)
 - » Nordic arrangements for countertrading

REDISPATCHING AND/OR COUNTERTRADING IN CACM NC (I)*

- TSOs, at least within a capacity calculation region, shall agree on redispatching and/or countertrading arrangements.
- A TSO shall be entitled to redispatch all available redispatching and/or countertrading resources according to local mechanisms.
- Redispatching and/or countertrading resources shall be used efficiently taking into account the impact on system security and economic efficiency.
- Pricing of redispatching and/or countertrading is based on:
 - ✓ market prices, which reflect the prices in the relevant electricity markets of the relevant timeframe; or
 - ✓ costs of redispatching and/or countertrading resources, which are calculated transparently on the basis of incurred costs.

*** ENTSO-E proposal final NC CACM code dated 27 Sep. They are subject to an ACER reasoned opinion**



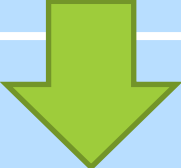

REDISPATCH AND/OR COUNTERTRADING IN CACM NC (II)*

- TSOs within a capacity calculation region have eighteen months to develop a common methodology; harmonisation of methodology between regions is foreseen in the future
- Methodology shall include rules
 - ✓ to define costs incurred for using costly remedial actions in capacity calculation
 - ✓ to define costs incurred to guarantee firmness; and
 - ✓ to share these eligible costs
- Methodology shall also include monitoring and improvement process for actions taken
- Methodology shall respect the general principles, such as correct incentives, efficient operation and development of transmission grid, fair distribution of costs and benefits, and consistency with other related mechanisms and TSO responsibilities

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MAIN FEATURES OF EFFICIENT AND COORDINATED REDISPATCHING FRAMEWORK

There is potential for improvement on redispatch measures via coordination and processes

Redispatch measures current status	Coordination and exchange of information mainly in D-2/D-1	Mainly Bilateral arrangements for redispatch measures	Distinction between "internal" and "cross-border" redispatching	Very basic principles of cost sharing
Target	 More ID coordination and exchange of information even closer to real-time	 Multilateral arrangements based on multilateral data exchange and Common regulatory framework	 More global approach	 More refined principles

Principles to share costs of remedial actions

- **Requester Principle**

TSO(s) calling for action bear(s) all costs and benefits from the participating generator(s), without being compensated by other TSOs.

- **Socialisation principle**

Costs of remedial actions are taken from a common fund.

- **Polluter pays principle**

The costs of remedial actions are shared between several parties according to their share in causing the problem.

→ **This list is provisional and not necessarily exhaustive**

→ **More refined cost sharing principles can also consist of combinations of several principles**

→ **Principles should be chosen after a careful evaluation against pre-defined criteria**

Criteria to evaluate cost bearing principles

- **Ease to implement, implementation time (centralisation needs etc), experience with a principle**
- **Setting the right incentives to TSOs and others**
- **Cost reflectivity**
- **Economic efficiency (market distortions)**
- **Transparency and possibility for a cost forecast**

→ This list is provisional and not necessarily exhaustive

→ A comprehensive list of criteria will have to be defined before evaluating refined cost sharing principles

- An efficient and coordinated framework for redispatching is an important component of a secure electricity system and an integrated EU electricity market
- A more general approach covering all kinds of redispatching is considered necessary.
- An improvement of the current practice is needed:
 - » Operationally, coordination is still being developed and shall be improved in order to allow more effective and efficient solutions. A more comprehensive view of the European grid has to be adopted.
 - » Potential for improvement exists: ongoing initiatives (such as TSC and Coreso) need to be supported, coordinated and ambitiously extended
 - » The Requester Principle for cost sharing has some limitations and may not be sustainable.
- Moving to more refined principles for cost sharing requires further examination. Cost reflectivity is considered a key criterion.
- CACM draft code provisions will be important in defining an appropriate regulatory framework.
- Beyond short-term remedies, stable and enduring solutions (i.e. market design and/or infrastructure development) are needed.

- Finalization of criteria to evaluate cost sharing principles.
- Assessment of the different cost sharing principles against the pre-agreed criteria.
- To consider defining a pilot for testing the implementation of the principles in practice in a concrete area.
- The TSC area, extended to all CEE countries, might be a candidate for this.
- Compiling overview of relevant operational and financial data on redispatching (cost, number of activation, volume, etc.) across Europe.

Back-up slides...

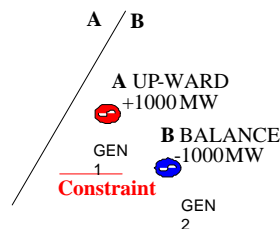
The main redispatch measures are **Redispatching** and **Countertrading**:

➤ **Redispatching**: Any 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. The precise generation or load pattern alteration is pre-defined. Redispatching can be:

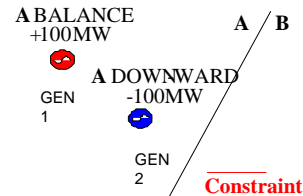
- **Internal Redispatching**: the Redispatching is performed in the Bidding Zone where the congestion is.
- **External Redispatching**: the Redispatching is performed in Bidding Zone A whereas the congestion is on Bidding Zone B.
- **Cross-border Redispatching**: the Redispatching is performed in different Bidding Zones

➤ **Countertrading**: Cross Zonal energy exchange initiated by System Operators between two Bidding Zones to relieve a Physical Congestion. The precise generation or load pattern alteration is not pre defined.

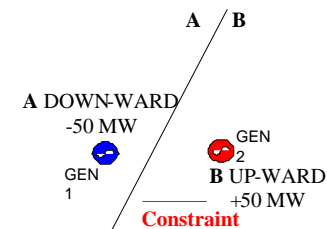
INTERNAL REDISPATCHING -
Commercial Exchange CONSTANT



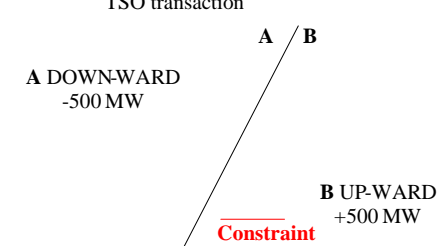
EXTERNAL REDISPATCHING
Commercial Exchange CONSTANT



CROSS BORDER REDISPATCHING
TSO transaction



COUNTERTRADING
TSO transaction



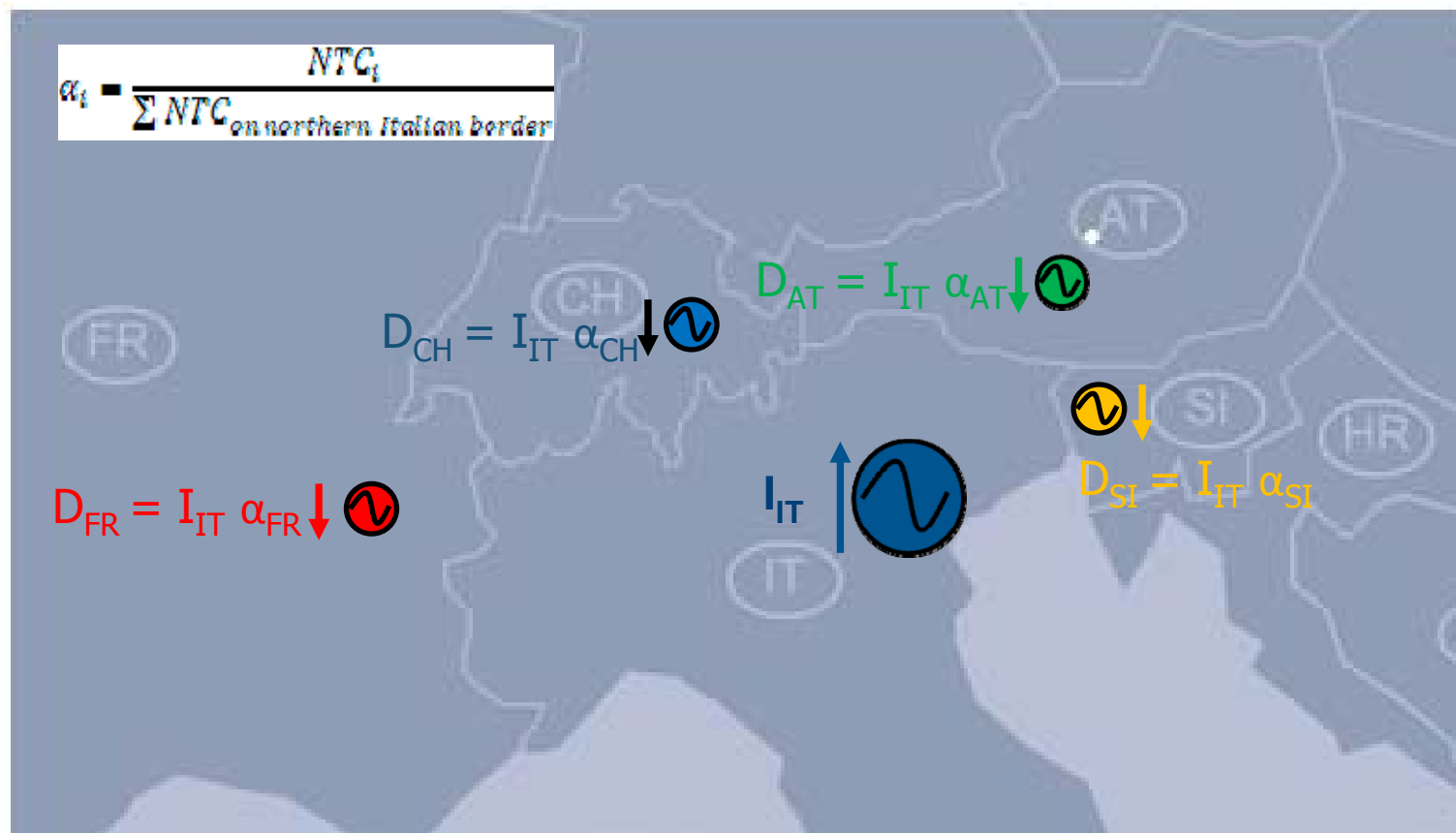
MULTILATERAL AGREEMENT: PENTALATERAL (I)

The Pentalateral procedure consists in a multilateral countertrading between Terna and its 4 neighbouring TSOs: RTE, Swissgrid, APG and Eles.

- Each TSO can trigger the procedure in case of security violation once all internal measures have been implemented in order :
 - to solve security violations which could potentially initiate cascading events on the interconnected grid and a **network split**,
 - to manage **voltage control** and avoid **dynamic instability** problems in Italy,
 - to manage of **defence plans in Italy**.
- A **warning is sent in day-ahead** if the problem is already spotted by a TSO at this time.
- The **procedure is activated in intraday**. The requester TSO specifies:
 - the considered contingencies and the related violations,
 - the best estimation of the physical flows reduction needed on its border with Italy,
 - the time interval related to the request.
- Once the procedure is activated:
 - 1/ TSOs proceed to the intra-day exchange capacities freezing.
 - 2/ Terna evaluates the amount of control program curtailment needed to satisfy the request, respecting a pro-quota splitting rule (see next slide).
 - 3/ Each TSO adjusts its generation program in order to respect the updated schedule provided by Terna.
- The Pentalateral procedure activation is followed by an **ex-post analysis** showing the causes and criteria of activation.
- The **costs are not shared**: each TSO bears its internal costs.

MULTILATERAL AGREEMENT: PENTALATERAL (II)

In order to decrease Italian import, generation is increased in Italy (I_{IT}) and decreased in each neighbouring TSO (D_i) respecting a pro-quota splitting rule:



MULTILATERAL AGREEMENT: TSC (I)

The TSC consists in a multilateral agreement between APG, TenneT GmbH, TenneT BV, Amprion, 50Hertz, TransnetBW, CEPS, ELES, PSE, Swissgrid. It can be activated both for cross-border and internal needs.

Agreements and Processes

MRAs identified as additional useful tools for operational security.

Assess operational and contractual arrangement options

Internal report on cost sharing principles:

- Analyse different models
- Recommendations

Trial Phase Agreement agreed and signed on January 2012 between all TSC TSO's

- Situation when MRAs are used
- Activation principles and process
- Cost sharing principles between TSO: **requester principle**
- Cost limits for each party
- Scheduling principles
- Operational handbook

Operational start of the Trial Phase on June 1st, 2012.

1st Workshop with regulators:

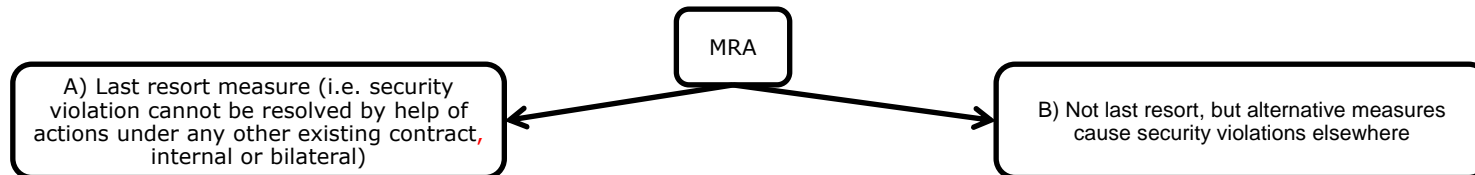
- NRA's welcomed the initiative
- Cost sharing solution should not lead to higher costs for any of the control areas relative to previous solutions.

2nd workshop with regulators

- Challenges on cost sharing solution recognised by NRAs and accepted the use of the requester principle during the trial phase.
- Subsequently NRA's decided on individual budgets for covering the costs of MRA's during trial phase.

Basic principles of the TSC trial phase

- Multilateral Remedial Actions (MRAs) are defined by trigger event



- Implementation of MRAs
 - The **Requesting TSO(s)** request(s) the preparation of the MRAs by the **Connecting TSOs**
 - In case of several Requesting TSOs a **Coordinating Requesting TSO** will be determined
- Distribution of costs and revenues for MRAs
 - The requesting TSO(s) bear(s) all the costs (and obtain(s) all the revenues) resulting from the MRAs
 - In case of several requesting parties such requesting parties bear the costs (and revenues) in equal parts
- Accounting and settlement
 - Costs payable resp. revenues receivable by requesting parties are the amounts invoiced resp. credited by the generators

MULTILATERAL AGREEMENT: NORDIC ARRANGEMENTS FOR COUNTERTRADING

The Nordic System Operation Agreement between Danish, Finnish, Norwegian and Swedish TSOs have provisions for countertrading

- Countertrading is used to manage transmission limitations between bidding zones for allocated trades only.
- Planning phase before DA gate closure
 - » TSOs will be able to agree to use countertrading between bidding zones for limited-duration of reduced transmission capacity
 - » Respective TSO is responsible for countertrading within a bidding zone.
- Operation phase after DA gate closure
 - » Counter trading takes place for the remaining time for DA and ID allocations to ensure that there is no curtailment in fixed PX trades due to disturbances in the grid
 - » Disturbance on interconnections between bidding zones: TSOs on both sides of interconnection bear technical, financial and operative liability for countertrading → TSOs across interconnection share the cost of countertrading based on average market price of these two bidding zones
 - » Disturbance within a bidding zone: respective TSO bears the full technical, financial and operative liability for countertrading → Each TSO bears cost of countertrading.