Grid access model for regional electric markets revisited

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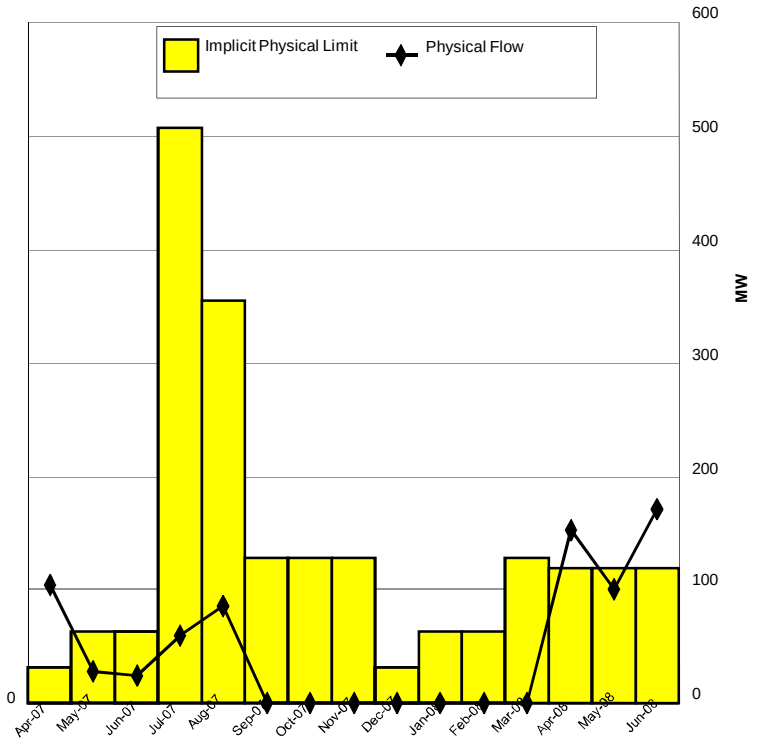
Unpredictable pow er flows limits of interconnectors

- Variable intensity and direction of power flows
- TSOs are often solving internal bottlenecks by moving congestion to the country border

Capacity limits and line - flows of Bulgaria-to-Romania Interconnectio n



Commitments in S-E Europe under "Energy Community" Treaty

- In 2005, regional TSOs decided to implement explicit Co-ordinated Auctioning (CA)
- CA Office (CAO) would organize yearly, monthly and daily auctions, and administrate procedure of compensation payment
- Assistance by Consentec and APCS consultants
- Support by Energy Community Regulatory Board (ECRB), EC, USAID, WB and BERD.

Dry-runs of Co-ordinated Auctioning

- Since 2006, Dry-run of CA was yearly performed with participation of RO, RS, ME, MK, BG, GR, AL, BiH, HR; the model includes also HU, SL, UA, AT

- 1st auction approach: Total Border Capacity as maximum flow: vulnerable to exchange scenarios

- 2nd auction approach: Net Maximum Flow (critical outages associated to each critical branch):

  vulnerable to topology, transactions and national constraints.

Overlasting Dry-runs of CA

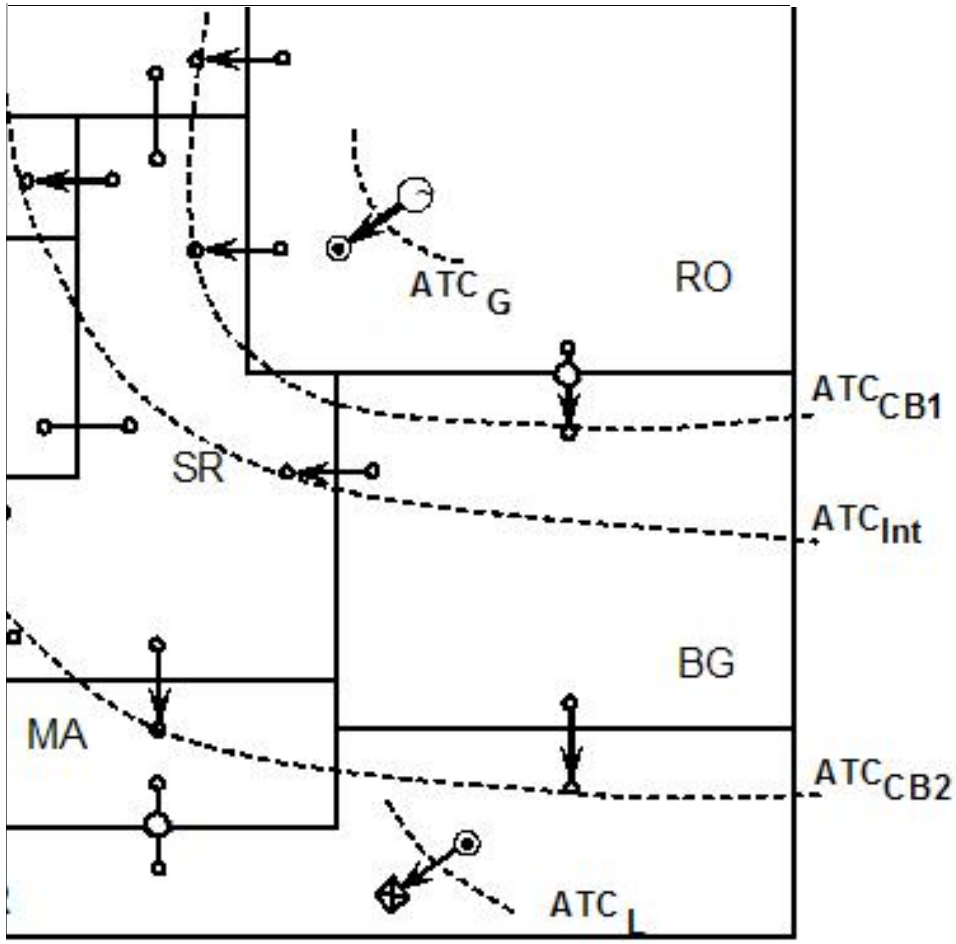
- After 5 years, the Dry - runs are not finalized while the CAO is not operational

- Allocating assets owned by different countries/companies and revenue sharing are sensitive issues.

Regional power transmission capabilities

Commercial capacity (a market design issue):
transfer capability at grid connection point ("Driving " Point")

Operational capacity
(a PS security issue):
transfer limits of grid's critical paths
("Point " to " Point").



Market design: the “nodal” model

- Transactions, prices, and transmission capacity (TC) as well
- Congestions defined as (node) transactions changes for releasing the grid constraints
- TSO reimburses its customers for the TC non-compliance based on G and L nodal transmission rates.

II. PS operational security: the "source - to - sink" power transfer capability

- Management of network constraints is TSOôs operational issue only
- TSO prepares the PS Schedule and ensures the PS dispatch while sharing data with regional TSOs
- Clearing grid bottlenecks with resources from the Balancing Markets.

Instead of CAO, a new institutional approach for the regional coordination

CM and Monitoring Office (CMMO) assisting:

- TSOs to coordinate PS scheduling to maximise use of the network
- TSOs to take remedial actions when constraints involving several TSOs are detected
- Regulators to gather monitoring data and interpret market signals that indicate market manipulation.

Capacity allocation: explicit versus implicit

ÅSeparate trade of grid capacity and energy through explicit auctions is difficult and would result in an inefficient utilisation of interconnectors (ETSO/EuroPEX Report, 2008)

ÅRepealing Directive 2003 / 54 / EC and new Regulation (EC) No 1228 / 2003:

ñTSOs shall pay due attention to the merits of implicit auctions for short ï term allocationsé ò

Conclusions

- New approaches of regional grid capability and coordination are necessary; market players should understand the capacity calculation process

- Nodal pricing and transmission capacity would be salutary market design paradigms

- To limit capacity pancaking, with congestions moved to the borders, TSOs only should be involved in the operation of interconnectors, including clearing of interconnectors' constraints.

Thank you very much for attention!

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