Contribution of the SEE RSC to System and Market developments at the SEE region

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1. Need and added value of RSCs - Regional Security Coordinators (1)

- The last few years it was noticed:

  ♦ Increasing number of renewables

  ♦ Increasing number of cross-border transactions and growing volatility of the market

  ♦ Loop flows that are difficult to be managed on bilateral basis, by neighboring countries.

All the above added complexity and uncertainties and introduced high risks to system

coordination that could not be managed by TSOs on bilateral basis. The necessity for

coordination was evident with the incident of UCTE system split in 2006 that was

attributed to poor coordination

- Regional Security Coordinators (RSCs):
    - ♦ Increase the security and efficiency of System Operation
    - ♦ Minimize the risk of large scale events
    - ♦ Reduce network costs
    - ♦ Facilitate the renewables integration

- Coordination has to combine operational and market functions that are provided as services to the TSOs.

- RSCs should be regionally geographically distributed to be able to face regional issues that may not appear in other regions

- Tight cooperation is necessary between RSCs.

2. SO GL and ENTSO-E MLA

- Regional Security Coordinators (RSCs) are:
  - ♦ Legally binding to member states by the SO GL, approved in May 2016, that obliges TSOs to participate at least in one RSC and set the maximum to 6 RSCs across the EU
  - ♦ enforced by ENTSO-E MLA, framework for TSO coordination that is in force pursuant to the Assembly Decision on 10th December 2015.

- The MLA is legally binding for all ENTSO-E members and covers:
  - ♦ obligation to set up or join an existing RSC.
  - ♦ A range of 5 standarized services to the TSOs. TSOs can be shareholders or service users
  - ♦ TSOs and RSCs responsibilities: TSOs remain responsible for the secure system operation and any operational decisions.
  - ♦ obligation to ensure operational coordination between RSCs (e.g remedial actions)

3. Necessity for regional coordination in the SEE region

- Six RSCs are in operation or in progress: TSCnet, Coreso, SCC, Nordic, Baltic, SEE RSC
- SEE RSC started as a regional cooperation in the SEE area, within the initiative of ADMIE (Greece) and ESO (Bulgaria), to meet the peculiarities of SEE area:
  - ♦ Not as many grid investments as in Central Europe. Security of supply can only be guaranteed in case common procedures and methodologies are adopted.
  - ♦ Need to enable TSOs to move faster towards market opening progression to reach rest European regions
  - ♦ Delay of most SEE TSOs to decide on RSC
  - ♦ Lack of common legal obligations among the TSOs in the area (SO GL is binding for EU Member states and ENTSO-E MLA is binding for members)
  - ♦ Delay in the development of market coupling. The implementation of market coupling in this region can only be feasible in case there is strong coordination and cooperation among TSOs.

- Advantages of the SEE RSC establishment:
  - ♦ Increased system security
  - ♦ Important step towards market opening and regional market coupling in the SEE
  - ♦ Contribution to the cooperation of the TSOs in the region

- The steps for the establishment of the RSC in the SEE region, plysically located in Thessaloniki, Greece, an EU member state, are as follows:
  - ♦ A high level meeting between ADMIE, ESO, Transelectrica, OST, KOSTT, MEPSO and TEIAS was held in Thessaloniki on 20th of November 2015, where the establishment of the new RSC was agreed and related MoU was signed between IPTO, KOSTT, OST, TEIAS, ESO and MEPSO (Transelectrica has reserved its position)
  - ♦ Three ad-hoc working teams (technical, legal, financial) have been set up with the mission to provide proposals for the establishment of SEE RSC
  - ♦ A high level meeting was held in Thessaloniki on 6th September 2016, where the proposal was presented and agreed. The TSOs (with the exception of MEPSO who declared legal restrictions) expressed their commitment to the establishment of RSC in Thessaloniki. Regarding the signatures of the legal documents (Share transfer agreement and articles of association), ADMIE, ESO and KOSTT expressed their readiness to sign, while OST and TEIAS informed that they have to wait for the internal approvals by their ministries.
  - ♦ Currently, ESO, KOSTT and ADMIE have already proceeded with internal signatures, signatures in front of a notary in Greece will follow in the very near future. The above procedures have to be completed from the rest of TSOs who have signed the MoU as soon as possible.

- In the meantime, ADMIE has made actions that will speed up the implementation of the company:
    - ♦ The company will make use of adequate space in the existing building infrastructure and telecommunication facilities in the same territory of premises with the north regional control centre which already operates in Thessaloniki.
    - ♦ Additional space will be available to the SEE RSC for hosting telecommunication devices, servers and other needed hardware infrastructure. In this way a significant amount of monthly expenses of the new company will be saved.

Based on the strict deadlines related to the SEE RSC establishment and full functioning of the company by the end of 2017, signatures of the official documents and the first BoD meeting are expected in the very near future (probably first half of January)

5. Functions and real benefits from SEE RSC

- South East Europe RSC will be fully operational by the end of 2017 based on state of the art, with fully redundant infrastructure and applications and fully interoperable with other RSCs with capabilities to add new applications and perform more functions in near future. The services will be provided in a cost efficient way.
- In SEE RSC implementation , following related discussions main operating RSCs TSC-Net and Coreso, will provide their support and transfer their experiences.

- SEE RSC will provide:

  ♦ Improved Individual Grid Model / Common Grid Model Delivery.
  ♦ Coordinated Security Analysis.
  ♦ Coordinated Capacity Calculation.
  ♦ Short and Medium Term Adequacy Forecasts
  ♦ Outage Planning Coordination.

6. Contribution of SEE RSC in system security and market development

- RSCs:
  - ♦ Identify and manage potential threats to secure system operations arising from large-scale regional power flows.
  - ♦ Propose coordinated remedial actions (cross-border relevant ones) and exchange the results with other adjacent RSCs.
  - ♦ Identify outage incompatibilities between assets whose availability status has cross-border impact and recommend solutions to relieve them.
  - ♦ Contribute to resolve regional and national medium-short term adequacy issues and to implement System Operation Guideline and thus meet TSO's Obligations.

- SEE RSC will enforce Market development and Market operation in the region, through the maximization of transmission capacities and effective implementation of the following CACM (DA and ID market) and FCA (long term market) requirements:
  - ♦ Coordinated Capacity Calculator establishment (CACM, FCA)
  - ♦ Capacity calculation methodology (CACM, FCA)
  - ♦ Redispatching methodology (CACM)
  - ♦ Redispatching cost methodology (CACM)

7. Conclusions

- A number of RSCs are already developed or going to be developed in the near future. RSCs contributes to important TSO functions related to system operation security and market operation

- The SEE RSC, physically located in Thessaloniki, will be a key entity for improving security of supply and maximizing the availability of transmission capacity to market participants at the SEE region

Thank you

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