

REGULATORS AND INDUSTRY ANALYSE THE IMPACT ON THE POWER SYSTEMS OF INCREASING RENEWABLES UP TO 100% WITHIN THE EC FUNDED PROJECTS RESERVE AND SOGNO

24 July 2018, Dan PREOTESCU, Romanian Energy Centre¹

High level representatives of the Romanian National Energy Regulatory Authority – ANRE jointly meeting with a delegation of the Romanian Energy Center Association – CRE have deeply discussed the scenario of gradually increasing the penetration of renewables into the power system up to 100%, as well as a series of technical and regulatory challenges which may follow in the future. More than 20 managers and executives attended the meeting kindly hosted by ANRE at their premises in Bucharest on Tuesday 24th July.

The members of the CRE Department for Innovation and Development are currently involved in 6 EU funded projects addressing various challenges and options associated to the increase of the RES usage in the electric power systems from the present percentage of about 20% up to 100% in the future 10 to 20 years.

This bilateral meeting addressing the potential impact on the regulatory framework the results and findings of the projects RESERVE – “Regulatory, governance and legal issues of the transition towards 100% RES” and SOGNO – “Service Oriented Grid for the Network of the Future” may have in the near future created an excellent platform of exploring future developments the research activity may bring in the future. These developments are expected on the technical aspects of both frequency and voltage control, with the aim to balancing the energy system and targeting the expected and necessary changes / adjustments in the regulatory framework as well.

As one of the milestones of the drive towards completion of the Internal Energy Market and achieving the European Union targets of 20% renewable energy integration by 2020, a set of network codes (NCs) for electricity was defined in the Regulation (EC) No 714/2009².

Network Codes are a set of rules to facilitate the harmonisation, integration and efficiency of the European electricity market and renewable energy. Europe’s cross-border high voltage (HV) electricity networks are operated according to the rules that govern the actions of the system operators and determine how access is given to users. In the past, these grid operation and trading rules were drawn up nationally, or even sub-nationally. With increased interconnections between countries in the internal energy market, EU-wide rules have become increasingly necessary to effectively manage electricity flows.

In this context, in the framework of projects RESERVE and SOGNO, an assessment of not only the technical challenges raised by the significant increase of the RES in the power systems but also the necessary updates and adaptations of the regulations in order to facilitate the process while keeping or even improving the safety level of power systems in operation.

The discussions were organized in two sessions, one for each project followed by a common session for conclusions and final remarks. Each project session included a brief description of the project followed by questions and discussions.

RESERVE Project

The proposal for a new power network code dedicated to storage was received without major objections from the representatives of ANRE. It was mentioned that already ENTSO-E has made working groups to address this issue and it is very important to synchronize the efforts in order to achieve faster results.

The necessity for a new generation of inverters has been received with high level of interest by ANRE representatives and they requested a lot of details and information regarding the new technical capabilities and characteristic this new generation must have. CRE representatives have pointed out the theoretical

¹ dr. Dan PREOTESCU is currently Project Manager in Romanian Energy Centre Association (www.crenerg.org)

² Regulation (EC) No 714/2009: [Link](#)

developments achieved so far in the frame of RESERVE and the testing program included in the project with the purpose to validate the effectiveness of these developments.

ANRE representatives were concerned by the costs of this generation replacement and they highlighted the importance of the timing in this process.

The modification in the relationship between the TSO's and DSO's was also a subject of interest for both parties. CRE team has presented the results and findings of RESERVE that substantiate the need for changes in this relationship in frequency and voltage regulation. It was a general agreement that different aspects of this evolution have to be treated separately the timing of the actions being of particular importance.

SOGNO Project

ANRE representatives have expressed their opening regarding the implementation of new software platforms and they have mentioned several occasions in the recent past when they did that but the results so far were disappointing in the sense that significant costs reduction were not identified. CRE team has explained that SOGNO project proposes not only a new approach in the implementation of the software platform (as an integrated service) but also a set of new services that are foreseen to increase significantly the effectiveness of the software. ANRE representatives specified that in this environment the results and conclusions of the field trial programme in SOGNO project, will be of utmost importance in the process of exploiting the results and creating an impact on the regulatory framework.

One important aspect discussed in the meeting was the necessity to include ITC requirements in the distribution regulatory framework. Both parties agreed that a significant increase in the distributed generation is foreseen in the next decade and in this context the ITC requirements and standards will become more and more important. Acknowledging that regulatory stipulations cannot be very specific regarding one technology or another the participants agreed that several steps may be done by defining performance requirements for ITC devices.

The definition of the aggregator was another issue that triggered a round of discussions and the opinions were relatively diverse. Some of ANRE representatives expressed the opinion that aggregator may fulfil his job without a specific licence in that sense and therefore they are reluctant in defining such a new licence. CRE team highlighted that the existing of a licence will impose a minimal, decent level of service quality and therefore will avoid future damages to the aggregator's clients and even to the power systems.

In close relation with the aggregator is the problem of prosumer and the position of ANRE was somehow similar in the sense that they are reluctant in supporting a specific regulation unless they will not have strong enough inputs in that direction.



Discussions, Conclusions and Final Remarks – Joint Session

ANRE representatives expressed their support for the activity performed in RESERVE and SOGNO project and it was established a programme for a closer collaboration in the near future, including participation in workshops and other events.

Regarding the upgrades and changings of the regulatory framework ANRE representatives mentioned that one of their main concerns is to avoid overregulation. During the discussions, both parties that regulations cannot cover all the possible situations in real life and trying to going this path will lead to a failure. Nevertheless updates and changing of the existing regulatory framework it is and will be necessary, but a careful substantiation it is needed and the most significant arguments may be provided by the results and conclusion of the field trials.

In the end of the meeting the participants agreed on strengthening the collaboration between the two parties and consequently, a joint schedule for facilitating the exchange of CRE team with ACER representatives has been developed for the benefit of both organizations.

