

ČEPS position document:

TSO Security Cooperation: An initiative of 11 TSOs

Transmission System Operators (TSOs) in Central Europe face complex operating conditions within their transmission systems, primarily the massive expansion of wind and solar plants with variable power generation. Therefore ČEPS is actively involved in the TSO Security Cooperation¹ (TSC) initiative the aim of which is to intensify mutual cooperation and coordination between the TSOs concerned. ČEPS and a further 10 TSOs in the CEE region, the Netherlands and Switzerland committed themselves in 2008 to establishing a common platform for data exchange, harmonised calculations for operational situations and the coordination of potential remedial action. The first achievement of this cooperation initiative was the launch of an expanded Real-time Awareness & Alarming System² (RAAS) in 2009.

Current situation

Responsibility for the safe and reliable operation of the transmission system is a key statutory obligation for every TSO. With the gradual liberalisation of the European electricity market we are witnessing the intensification of cross-border electricity trading and an increase in the proportion of total capacity taken up by intermittent renewable energy sources built in locations remote from main consumption centres. Consequently, many TSOs are increasingly having to deal with dangerous operational situations. The Czech Republic with a transit transmission system in the very heart of continental Europe is exposed to such impacts much more than peripheral regions.³

Project objectives and expected benefits for ČEPS

Transmission System Operators in Central and Eastern Europe launched the TSC project with the aim of managing critical operational situations. With a view to a number of recent dangerous incidents the initiative satisfies the requirements of electricity market participants, political representatives and regulators with regard to the enhancement of system operation reliability and closer cooperation between TSOs. The objective is to improve cooperation between dispatchers of the TSOs concerned and to mitigate, by means of coordinated action, the impacts of high levels of

¹ <http://www.tso-security-cooperation.eu>

² The former Regional Awareness System (RAS) has been replaced by the Real-time Awareness & Alarming System (RAAS).

³ For example, the N-1 security criterion, on which transmission system operational planning is based, cannot be fulfilled. However, in the event of the outage of an important system element (a transmission line, a power plant, a large consumer etc.), the safety and reliability of the power supply must not be jeopardised. In short, the safe operation of the system must be maintained at all times.

generation by wind plants in Germany and in the North Sea and Baltic regions on the transmission networks concerned.

11 TSOs in 7 European countries with a total population of approximately 180 million are involved in the project: Austria – APG and VKW Netz; Germany – Amprion, EnBW TNG, TenneT GmbH and 50 HzT; Switzerland – Swissgrid; The Netherlands – TenneT; Poland – PSE Operator, the Czech Republic – ČEPS and Slovenia – ELES. The TSC consists of two parts. A **permanent expert forum** (a TSO Security Panel of Experts) has been tasked with compiling a list of tools for congestion management in all the transmission systems involved thus fulfilling the requirement to establish a regional expert group for the management of dangerous operational situations. Each TSO is required to transfer its forecast data to a **common IT platform**⁴. This data is used for performing joint network calculations; the results are subsequently distributed to all the TSOs involved so that each of them have the same data available and can quickly and in a coordinated manner implement adequate pre-agreed remedial measures. The regional warning system was extended to several other TSO control centres at the end of July 2009; information on the operational situation and possible problems in neighbouring systems is currently available to 14 TSOs.

ČEPS, in compliance with the Operational Handbook of European TSOs, is involved in regional operational agreements and data exchange between individual TSOs. Bilateral agreements relate to mutual assistance and measures for the prevention of dangerous situations. Not all TSOs, however, have always been concerned with impacts on other systems. Non-coordinated measures implemented during adverse situations have often worsened the situation in a neighbouring network or even nullified the measures already taken by another TSO. Thanks to everyday contacts between control centres and the improved exchange of information on system operation and the use of joint network calculations and analysis, the response to critical situations in the future is expected to be both more efficient and more economically effective and to lead to the more efficient utilisation of cross-border capacities and, primarily, to improvements in system management in crisis situations and, consequently, to the enhancement of operational security. ČEPS believes that this cooperation will reduce the number of potential enforced wind plant outages in Germany and prevent the implementation of extreme measures for the protection of the ČEPS infrastructure against damage, i.e. the tripping of ČEPS critical interconnecting lines.

ČEPS assumes that, with regard to the expected growth of intermittent power sources, the importance of TSO cooperation will continue to increase. We also support TSC involvement in congestion management within transmission systems. We believe that adequate measures will be introduced to reduce unplanned power flows and electricity exchanges. Finding an efficient solution to the substantial shortcomings of the current market structure, however, is beyond the remit of the TSC project.

ČEPS's proposals

With regard to the issues of cost allocation and payments, ČEPS considers that at least a six-month or preferably a year-long trial operation period for the IT platform is necessary. A key factor in terms of the success of the project is the involvement of national regulatory authorities in tackling

⁴ Based on an IT system for the development of forecast models called CTDS (*Common Tool for Data Exchange and Security Assessment*).

issues surrounding the compensation of costs for coordinated remedial measures. ČEPS, in compliance with European legislation, supports the idea that costs for remedial measures be compensated for by revenues from congestion management (auctions). These revenues, however, will not cover all the costs incurred by remedial measures. Although the main expected benefit of the project is the prevention of crisis situations which might lead, in extreme cases, to a total collapse of the network (a blackout), the financial impact of remedial measures on end consumers must be optimised.

ČEPS views the common IT platform as an operational tool for managing critical situations, not for enhancing tradable cross-border capacities for market player needs. We disapprove of the automatic application of the so-called *requester pays* principle (according to which the costs of remedial measures are paid for by those TSOs who have asked other TSOs for assistance regardless of whether they have or have not caused the problem). This principle can be applied only if discrimination is minimised and the impact on individual TSOs and end consumers is assessed with the highest possible level of accuracy. In terms of determining the most efficient process for the settlement of coordinated remedial measures we prefer the use of actual costs and not values derived e.g. from market prices. The economic optimisation of remedial measures within the TSC needs to be further discussed, particularly with national regulatory authorities. ČEPS does not consider coordinated remedial measure settlement a priority issue since the need for such settlements is relatively rare.

ČEPS also supports the concept of a Common Grid Model, i.e. the potential future use of data from Day-Ahead Congestion Forecast (DACF) models or data refined during a given day for the needs of the intra-day market. This concept, however, requires cooperation with the Transmission Capacity Allocator.