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Agency for the Cooperation of Energy Regulators

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Agency for the Cooperation of Energy Regulators

OPINION OF THE AGENCY FOR THE COOPERATION OF ENERGY REGULATORS No°10/2015

of 30 September 2015

ON THE ENTSO-E SUMMER OUTLOOK REPORT 2015 AND WINTER REVIEW 2014/2015

THE AGENCY FOR THE COOPERATION OF ENERGY REGULATORS,

HAVING REGARD to Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators[1], and, in particular, Articles 6(3)(b) and 17(3) thereof,

HAVING REGARD to Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003[2], and, in particular, Article 9(2) thereof,

HAVING REGARD to the favourable opinion of the Board of Regulators of 16 September 2015, delivered pursuant to Article 15(1) of Regulation (EC) No 713/2009,

WHEREAS:

(1) On 3 June 2015, the European Network of Transmission System Operators for Electricity ("ENTSO-E") submitted to the Agency for the Cooperation of Energy Regulators ("the Agency") its annual summer generation adequacy outlook report for 2015 together with the review of the main events which occurred during the winter 2014/2015, pursuant to Articles 8(3)(f) and 9(2) of Regulation (EC) No 714/2009. The report is entitled "Summer Outlook Report 2015 and Winter Review 2014/2015" (the "SOR 2015 & WR 2014/15")[3].

(2) Pursuant to Article 6(3)(b) of Regulation (EC) No 713/2009, the Agency shall provide an opinion to ENTSO-E in accordance with the first subparagraph of Article 9(2) of Regulation (EC) No 714/2009 on relevant documents referred to in Article 8(3) of Regulation (EC) No 714/2009. Point (f) of Article 8(3) of Regulation (EC) No

[1] OJ L 211, 14.8.2009, p. 1.
[2] OJ L 211, 14.8.2009, p. 15.
[3] ENTSO-E, "Summer Outlook Report 2015 and Winter Review 2014/2015", May 2015. https://www.entsoe.eu/Documents/SDC%20documents/SOAF/150527_SOR15_report.pdf

714/2009 refers to annual summer and winter generation adequacy outlooks to be adopted by ENTSO-E. It does not explicitly refer to the summer and winter reviews. However, such reviews are of utmost relevance for the preparation of future outlooks and, equally, constitute a long-standing practice of the associations of transmission system operators ("TSOs"). In light of the above, it is therefore appropriate to consider in this Opinion not only the Summer Outlook Report 2015 (the "SOR 2015"), but also the Winter Review 2014/2015 (the "WR 2014/2015").

HAS ADOPTED THIS OPINION:

1. Summer Outlook Report 2015

1.1 Objectives and main results

The SOR 2015 reports on the outlook of the national and regional power balances of forecast generation and load on a weekly basis for the upcoming summer period, from 1 June 2015 (week 23) to 20 September 2015 (week 38). It is based on the data provided by ENTSO-E's members during the period of February-March 2015, with the analysis performed both on a country and regional level.

As in its previous Opinion[4] on the topic, the Agency emphasised that the questionnaire used to gather information from TSOs, i.e. the basis for the development of the future outlook reports, should be included in the Annex to ensure transparency of the process.

The main objective of the SOR 2015 is to assess power balances and to present TSOs' views on the matters with regard to the security of supply for the forthcoming summer period. As such, the report raises awareness regarding system adequacy issues and reminds TSOs to implement the required measures to keep the system secure and demand uninterrupted.

According to the SOR 2015, under normal weather conditions, Europe has sufficient generation to meet its demand. However, under severe weather conditions (envisaged for, on average, one out of every ten years), several countries (Belgium, Denmark, Hungary, the FYR of Macedonia and Poland) would need imports to fulfil their peak load. The most severe case is Belgium, whose import needs could exceed its import capacity during September, with a significant probability of occurrence of 4-6 %.

Since the occurrence of non-adequacy in Belgium could influence the neighbouring TSOs, the Agency encourages ENTSO-E to provide further information on how Belgium's demand will be met - i.e. which measures could be taken - if severe weather conditions occur and what would the consequences of such an event be for the European system. Despite the fact that a market analysis is not envisaged in the SOR 2015, an understanding of the effect of such an adequacy crisis on electricity prices would be welcome.

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4 http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Opinions/Opinions/ACER%20Opinion%2005-2015.pdf

In addition to the issue of "upward" adequacy, the report also provides insights on the effects of variable generation on system operation and the expected needs of "downward regulation", especially in the case of a high Renewable Energy Sources (RES) infeed and a simultaneously low demand[5].
The Agency encourages ENTSO-E to provide more insight into the operational issues (e.g. voltage stability) raised by situations of high RES production exceeding national demand and how TSOs are planning to address them. This further assessment could be covered with a more detailed chapter on the "flexibility assessment", mentioned in the Seasonal Outlook Report Evolutions[6].

1.2 On the methodology for the Summer Outlook Report

As pointed out in the SOR 2015, the evolution of the adequacy methodology is governed by the integration of RES, the development of the internal energy market and new technologies, especially with regard to storage and demand response. Evolving policies are also mentioned as impacting the adequacy assessment, although no additional information is provided on how each of these aspects influences the methodology.
The Agency therefore proposes that ENTSO-E includes, in future adequacy outlook reports, further elaboration on how the above-mentioned developments could influence the adequacy and the methodology for its assessment.
The analysis of inputs, provided by TSOs, is done both on a country and regional basis. The latter enables a comprehensive assessment of the possible exchanges of energy between the countries in surplus and the countries in deficit, taking into account the best estimate of the minimum Net Transfer Capacities (NTC) between the countries in question. A similar exercise is performed also for the downward regulation scenario, utilising a different synchronous time. Regarding the inclusion of the RES infeed data, the Agency welcomes the use of the Pan-European Climatic Database. As already noted by ENTSO-E, the worst case scenario was defined using the 10th percentile of the RES infeed for each individual country, yielding a reduced probability of simultaneous occurrence in all countries. A more in-depth analysis of the critical region was thus performed, utilising a probabilistic approach.
The Agency welcomes the use of a probabilistic approach and encourages ENTSO-E further to develop its use within the future adequacy outlook reports, utilising uncertainties for all inputs, i.e. the probability of transmission capacity outage, the probability of severe weather occurrence, the unplanned outage of power plants, the variability of demand, etc.
In the Seasonal Outlook Report Evolutions, one of the foreseen methodological improvements was to have an hourly resolution "over the whole period covered by the study". Although an hourly resolution was investigated in a 2-hour interval before and after the reference time point, the Agency notes that this goal was not fully achieved in the SOR 2015.

[5] E.g. curtailments of surplus of energy could be required under certain conditions in Bulgaria.
[6] https://www.entsoe.eu/Documents/SDC%20documents/SOAF/141014_Seasonal_Outlook_Report_Evolutions_after_Consultation.pdf

The evolution of the methodology expected for the SOR 2015 predicted improvements in the description of cross-border exchange capacities (description of NTCs for different reference points during one week), simulation of forced outages of generators and interconnectors and an initial assessment of flexibility. The latter included a first step related to data collection of must-run generation at the different time points and a stand-alone simplified flexibility assessment to evaluate the ramp requirements to face load and RES volatility. It remains unclear whether such improvements have actually been implemented in the SOR 2015[7] and the Agency thus encourages ENTSO-E to clarify these points.

2. Winter Review 2014/2015

The WR 2014/2015 covers the period from 1 December 2014 (week 49) to 19 April 2015 (week 16). It outlines the main events during this winter period, which were relevant for security of electricity supply according to TSOs.

The WR 2014/2015 does not describe the impacts and the actions taken by TSOs to face the solar eclipse of 20 March 2015, which is mentioned only in the German national description, albeit anticipated in the ENTSO-E's Winter Outlook Report 2014/15 and Summer Review 2014. In the morning of 20 March, TSOs successfully faced the unusually fast loss of approximately 17 GW followed by an even faster reintegration of approximately 25 GW of solar generation. The Agency would have expected a description of the countermeasures adopted by TSOs, as similar situations may occur with more significant impacts in the future.

According to the WR 2014/2015, the average winter monthly temperature was close to the average values, thus the demand settled around the seasonal average, except in cases where higher industrial activities occurred. Apart from the damage to a part of the Serbian 110 kV network, causing limited supply interruptions, the report does not highlight any adequacy issues for the few countries which were affected by extreme weather conditions, namely Croatia, Greece and Serbia.

While information regarding individual countries is provided in Appendix 2, the Agency recommends ENTSO-E to draft a summary of the lessons learned when comparing the forecasts (seasonal outlook report) with the realisation (seasonal review). In this respect, the Agency considers that the presentation of the Belgian national review, which included figures showing the forecasted and the actual developments (e.g. the equivalent temperatures and the total load[8]), is a good practice for the national reviews. Such a comparison could provide an additional input for the future adequacy reports, especially with regard to further developments of the probabilistic approach.

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[7] ENTSO-E, "Summer Outlook Report 2015 and Winter Review 2014/2015", p. 5: "*ENTSO-E is therefore working to improve its existing adequacy methodology with a special emphasis on harmonised inputs, system flexibility and interconnection assessments.*"

[8] ENTSO-E, "Summer Outlook Report 2015 and Winter Review 2014/2015", p. 112

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Done at Ljubljana, on 30 September 2015.

For the Agency:

Alberto Pototschnig
Director

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