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**OPINION OF THE AGENCY FOR THE COOPERATION OF ENERGY
REGULATORS No 08/2013**

of 25 March 2013

**ON THE ENTSO-E WINTER OUTLOOK REPORT 2012/2013 AND
SUMMER REVIEW 2012**

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 Regulators¹, and, in particular, Article 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 1228/2003², and, in particular, Article 9(2) thereof;

HAVING REGARD to the favourable opinion of the Board of Regulators of 20 March 2013, delivered pursuant to Article 15(1) of Regulation (EC) No 713/2009,

WHEREAS:

- (1) On 20 February 2013, the European Network of Transmission System Operators for Electricity (“ENTSO-E”), pursuant to Articles 8(3)(f) and 9(2) of Regulation (EC) No 714/2009, submitted its annual winter generation adequacy outlook report for 2012/2013 to the Agency for the Cooperation of Energy Regulators (“the Agency”) for its opinion. The report is entitled “Winter Outlook Report 2012/2013 and Summer Review 2012” (WO&SR 2012/2013).
- (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 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). Furthermore, the Summer Review 2012 forms an integral part of the document containing ENTSO-E’s Winter Outlook 2012/2013 and is strictly

¹ OJ L 211, 14.8.2009, p.1

² OJ L 211, 14.8.2009, p.15

linked to it. In light of the above, it is appropriate therefore to consider in this opinion not only the Winter Outlook Report 2012/2013, but also the Summer Review 2012.

- (3) A presentation of the Winter Outlook Report 2012/2013 by ENTSO-E took place in the Florence European Electricity Regulatory Forum, on 21 November 2012. According to the conclusions³, the Forum stressed the importance of coordinated measures when dealing with critical grid situations,

HAS ADOPTED THIS OPINION:

1. Winter Outlook Report 2012/2013

The purpose of the Winter Outlook Report (WOR)⁴ is to present TSOs' views on any matters concerning security of supply (e.g. weather conditions, power system conditions, as well as availability of interconnections, gas supply issues, etc.) for the coming winter period. In addition, it also aims at identifying risks and countermeasures planned by TSOs in cooperation with their neighbours, and the possibility for neighbouring countries to contribute to the generation/demand balance where needed.

Furthermore, the WOR reports the outlook of the national and regional power balances between forecast generation and peak demand on a weekly basis for the upcoming winter period, from 5 December 2012 (week 49) to 31 March 2013 (week 13).

ENTSO-E indicates that the WOR is based on the information provided by ENTSO-E members on a qualitative and quantitative basis. The information provided in the WOR refers to the answers submitted by TSOs in response to the WOR questionnaire⁵.

Methodology for the adequacy assessment

1.1. On the assessment of probability of occurrence and on the use of a probabilistic approach

According to ENTSO-E, the WOR sets out its analysis and views for the coming winter period on the basis of a deterministic methodology applied for short-term adequacy reports. The methodology takes into account (i) normal conditions and (ii) severe load and generation conditions ('severe conditions': what each TSO would expect under a one-in-ten-year scenario)⁶.

³ "Conclusions of the 23th meeting of the European Electricity Regulatory Forum, Florence 20 and 21 November 2012".

http://ec.europa.eu/energy/gas_electricity/doc/forum_florence_electricity/meeting_023_conclusions.pdf

⁴ Section 1 of ENTSO-E, "Winter Outlook Report 2012/2013 and Summer Review 2012", 30 November 2012. <https://www.entsoe.eu/publications/system-development-reports/outlook-reports/>

⁵ Section 7.1 of the ENTSO-E WO&SR 2012/2013.

⁶ Section 3.2 of ENTSO-E WO&SR 2012/2013.

As already stated in the Agency's Opinion on the Summer Outlook Report (SOR) 2012⁷, the Agency believes that assessing the probability of occurrence of severe conditions, (e.g. based on historical data) would provide a better representation of the risks.

ENTSO-E recently⁸ stated that they are already committed to examining possible changes in generation adequacy assessments, with particular regard to treatment of renewable energy sources (RES). These range from small changes to existing methodologies to fully implementing probabilistic adequacy assessments in the short and long terms. However, any changes need to consider the conflicting objectives of depth of analysis with the associated need for increasing requirements against the timely production of useful Outlook Reports.

The Agency recommends that, while considering the possible transition to probabilistic approaches in the long term, ENTSO-E in a first step assesses the probability of occurrence of severe conditions.

1.2. On the issue of simultaneously importing countries

The regional adequacy analyses, already introduced by ENTSO-E in the SOR 2012, are an important addition to the long-standing national assessments. The current WOR⁹ also includes regional analyses focusing on groups of neighboring countries which may simultaneously require imports from abroad.

The Agency welcomes this enhancement, which formed one of its remarks in the Agency's Opinion on the SOR 2012.

1.3. On developing a glossary of key terms

The Agency would like to mention that a section defining key terms used in the Outlook Reports would further increase the readability of such reports. Consistency with terms used in the forthcoming Operational Planning and Scheduling Network Code should be ensured.

1.4. On displaying each country's remaining capacity

Furthermore, the Agency would like to positively acknowledge the introduction in Section 6 of the WO&SR 2012/2013 of a diagram displaying each country's remaining capacity as a percentage of the peak load, as well as the synthetic comparison of remaining capacity values in week 5, in Section 5.4 of the WO&SR 2012/2013.

⁷ Agency for the Cooperation of Energy Regulators, "Opinion on the ENTSO-E Summer Outlook Report 2012 and Winter Review 2011-2012", Opinion No. 07/2012, 8 October 2012.
http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Opinions/Opinions/ACER%20Opinion%2007-2012.pdf

⁸ ENTSO-E, "European Commission consultation on generation adequacy, capacity mechanisms and the internal market in electricity, ENTSO-E response paper", February 2013.
https://www.entsoe.eu/fileadmin/user_upload/library/position_papers/20130207_ENTSOE_Response_to_EC_Consultation_Gen_Adeq_FINAL.pdf

⁹ Section 5.5 of ENTSO-E WO&SR 2012/2013.

1.5. On the extent of coverage of potential threats to generation adequacy – the case of natural gas supply

According to ENTSO-E¹⁰, the main events reported with reference to the security of electricity supply concern weather conditions, power system conditions, as well as availability of interconnections. Furthermore, as already included in the conclusions section of the Summer Review and Winter Outlook Report 2009/10¹¹, ENTSO-E mentioned that gas supply concerns were raised by a non-negligible number of countries. In addition, in the last four consecutive Winter Outlooks (and also in the Summer Outlooks), ENTSO-E has consistently asked for information from TSOs on natural gas supply threats to generation adequacy.

Based on the quality of information provided through the questionnaires and on the experience of natural gas supply disruptions which occurred in 2009 (but also during the period January-February 2012, although to a more limited extent), the Agency believes that the subject needs to be brought to a greater level of attention, especially as gas supply disruptions are highly likely to also affect electricity cross-border flows (e.g. from countries less affected by reduced gas supply to those more affected).

Acknowledging the difficulties to fully analyse the implications from natural gas supply disruptions at a regional level, the Agency suggests considering the definition of appropriate indicators as an initial step. Such indicators, per TSO/country, could be: gas fueled generation capacity (in MW and % of total non-intermittent capacity), and number of equivalent days of normal power system operation under gas supply interruption. In addition, reference to national measures/coordinated measures/plans to be activated in case of shortage of gas supply shall be provided by TSOs in line with the guidelines for the WOR questionnaire, in order to facilitate access to information.

Downward analysis

1.6. On methodology for downward adequacy analysis

In the SOR 2012, ENTSO-E already introduced an overnight downward adequacy deterministic analysis in order to focus on the effects of intermittent generation.

The Agency welcomes the continuation of this analysis in the WOR 2012/13¹². The Agency believes that the use of a Pan-EU Climate Database by ENTSO-E could improve forecast capability based on historical data.

1.7. On extending the downward adequacy analysis to other periods of the year

Furthermore, as already mentioned in the Agency's Opinion on the SOR 2012, on the basis of an assessment of load and inflexible in-feed on a yearly period, ENTSO-E should consider extending the downward analysis to other periods during spring or autumn, which are currently not investigated by the Summer and Winter Outlooks.

¹⁰ Section 1 of the ENTSO-E WO&SR 2012/2013.

¹¹ <https://www.entsoe.eu/publications/system-development-reports/outlook-reports/>

¹² Sections 5.6 and 5.7 of the ENTSO-E WO&SR 2012/2013

Publication of data

1.8. On transparency and publication of datasheets

ENTSO-E publishes national datasheets for long-term adequacy forecasts, including generating capacity by type, total net generating capacity, non-usable capacity, maintenance and overhauls, outages, system services reserve, reliably available capacity, load, load management and remaining capacity¹³.

This ensures transparency and the dissemination of information to stakeholders. By analogy with other ENTSO-E adequacy publications, the Agency regards the public availability of similar national datasheets for the Outlook Reports as important. In addition to the aforementioned elements¹⁴ provided for the long-term adequacy forecasts, the WOR datasheets should provide explicit figures on:

- (a) load increase due to severe conditions (which corresponds, in the WOR questionnaire, to the net weekly peak load in severe conditions minus the net weekly peak load in normal conditions); and
- (b) generation constraints due to severe conditions (which corresponds, in the WOR questionnaire, to the planned reliably available capacity under normal conditions minus the planned reliably available capacity under severe conditions).

2. Summer Review 2012

2.1. On availability of quantitative information

ENTSO-E indicates that the Summer Review 2012 is prepared on the basis of the information provided by ENTSO-E members through a questionnaire, in order to present the most important events which occurred during this period and in comparison to the forecasts and risks reported in the previous Summer Outlook Report. The questionnaire¹⁵ requested information on:

- (i) weather conditions which prevailed and their consequences on the EU power systems (e.g. temperatures, hydro and wind conditions);
- (ii) availability of generating units and interconnectors, market conditions, imports of energy;
- (iii) any specific events that occurred, their causes, remedial actions and lessons learned;
- (iv) any Downward Adequacy problems, their causes, remedial actions and lessons learned.

¹³ ENTSO-E, “Scenario Outlook and Adequacy Forecast 2012-2030” and “SOAF 2012-2030 dataset”.

¹⁴ The term “load management” in the long term adequacy forecasts corresponds to the term “load reduction available at peak” in the outlook reports.

¹⁵ Section 7.2 of ENTSO-E Winter Outlook Report 2012/2013 and Summer Review 2012.

The Agency notes that the concerns expressed by TSOs in their qualitative descriptions vary significantly from country to country, due to different risk factors.

The Agency expects ENTSO-E to collect and publish quantitative information as an element of the Review Reports. Priority should be given to the actual weekly peak load and the actual average temperature and their deviation in relation to the forecasts¹⁶.

Availability of weekly national temperatures and load datasets could allow ENTSO-E and its TSO members to assess further and to know better the probability of occurrence of simultaneous severe weather conditions in neighboring countries and systems.

2.2. On structure of the Summer Review Questionnaire – mapping the events (causes, effects and countermeasures)

The Agency suggests considering the opportunity to classify the events (and thus the responses of TSOs) provided through the Review Questionnaires. The objective is, on the one hand, to help TSOs/countries organise their responses and to make them provide more responses as well as responses of improved quality. While on the other hand, it could contribute towards forming an organised inventory of events, thus allowing efficient processing of information in order to obtain trends and correlations, e.g. by analysing data per country, per region, per event, or examining them as a time sequence. Such analysis could also be combined with ex-post weather data.

An example of categorising causes of events could be as follows:

- Heat waves¹⁷;
- Forced outages of generators;
- Forced unavailability of interconnectors and interconnection capacities;
- Gas supply shortages;
- Exceptional variations in availability of primary energy (e.g. wind).

Similarly, a mapping of effects and adopted countermeasures could be developed. An example of categorising effects of events could be as follows:

- Peaks of load demand;
- Peaks of production from RES generation;
- Locally insufficient reserve margins;
- Voltage control and operational problems.

¹⁶ Publication of similar data (but on monthly or yearly basis) is already an ENTSO-E's practice in the yearly System Adequacy Retrospect (SAR). See ENTSO-E, "System Adequacy Retrospect 2011" and its dataset. https://www.entsoe.eu/fileadmin/user_upload/library/news/ENTSO-E_publishes_the_System_Adequacy_Retrospect_2011/120726_System_Adequacy_Retrospect_2011_Final.pdf Furthermore, daily average temperature and deviation from the normal temperature are provided by 29 countries in the ENTSO-E "System Adequacy Retrospect 2010" dataset. https://www.entsoe.eu/fileadmin/user_upload/library/publications/entsoe/SAR/ENTSO-E_SAR_2010.pdf

¹⁷ By analogy, cold spells for Winter Reviews.

With regard to remedial actions, a first distinction should categorise national measures and coordinated measures across borders. Further sub-categories (e.g. curtailment of RES generation, load shedding) could be identified by ENTSO-E.

2.3. On provision of detailed data on RES curtailments

Furthermore, and as the issue of high RES penetration into power grids becomes increasingly significant, the Agency would welcome ENTSO-E to provide comprehensive information in the event of curtailment of intermittent RES production (e.g. type of generation curtailed, estimate of energy curtailed, duration of the event, date/time, areas involved, load conditions). ENTSO-E could evaluate whether such a publication would be appropriate in the System Adequacy Retrospect (which has an annual timespan) or in Winter and Summer Reviews (which do not cover the entire year).

Done at Ljubljana on 25 March 2013.

For the Agency:


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Director



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