

Position Paper

ENTSO-E consultation on the “Deterministic Frequency Deviation Report”

Berlin, 31st January 2020

1. Introduction

The German Association of Energy and Water Industries (BDEW) represents about 1,900 members of the electricity, gas and water industry. In the energy sector, BDEW speaks for companies active in generation, trading, transmission, distribution and retail.

BDEW welcomes the opportunity to comment on the European Transmission System Operators' (TSOs) report on deterministic frequency deviations and appreciates the effort undertaken.

As the German TSOs organised within BDEW are, among other TSOs, responsible for the drafting of this consultation paper, the following BDEW comments have been developed without the German TSOs.

The structure of the ENTSO-E consultation is designed to be answered by energy suppliers. Therefore, BDEW as an association focuses on general comments on the report.

2. Response to questions in detail

2.1. Do you see any effects of Deterministic Frequency Deviations on consumers or generation units in your portfolio today?

Frequency deviations seem to have been rising within the European internal market for the last couple of years. As network stability and security of supply are high commodities and essential to the system stability, measures should be found to reduce these deviations.

However, BDEW is very concerned that the measures described in the report to reduce deterministic frequency deviation include interventions in the market such as the implementation of residual central dispatch and the application of ramping on load and generation schedules.

Also, there has been no clear evaluation of the reasons for this increase. This would be helpful to better address potential solutions. In an evaluation, the following questions should be answered:

- What are the reasons for the increase of the rate of change of frequency and the increase of Deterministic Frequency Deviation (DFD) since 2016, considering that frequency deviations have constantly decreased from 2011 until 2016?
- Is an influence on frequency deviations with the introduction of 6x4 hour blocks for Frequency Containment Reserve (FCR) towards the end of the blocks expected?

BDEW welcomes the mentioned alternatives in the report such as the further development of already existing balancing products the introduction of new products such as very fast reserves for example from battery storage. In general, the development and implementation of new products should be open to all technologies. We support a further development of solutions in this manner not only by TSOs but also by other stakeholders such a producers and balancing service providers (BSPs).

2.2. Are you already participating in any initiative to reduce frequency variations in Continental Europe? If so, which one(s)?

No comment.

2.3. One of the proposed solutions is to move towards 15 minute Market Time Unit for internal and cross-border energy exchanges. What would be the positive or negative effects of this on your business?

BDEW clearly welcomes the proposal to move towards 15 minute Market Time Unit (MTU) for internal and cross border energy exchanges in all control blocks and for all schedules. As also stated in the report the German market shows positive impacts of a 15 minute MTU on frequency deviations.

Given that, the Imbalance Settlement Period (ISP) is already mandatory set for 15 minutes from 2025 onwards, the shift to a 15 minute MTU seems obvious. In addition, it should be the first measure taken to reduce frequency deviations as an important step towards the harmonisation of market rules.

2.4. What do you see as main (remaining) hurdles to move towards 15 Minute Market Time Unit for Intraday and Day-Ahead energy markets?

BDEW does not see any hurdles to move towards a 15 minute MTU and supports the shift. We are convinced that the change towards a 15 minute MTU is necessary for a better integration of renewable energy sources in the energy market. In addition, the energy exchange should establish possibilities to make use of block orders (e.g. for 1h) for Balancing Responsible Parties (BRPs) and power supply companies which do not have flexible generations (e.g. thermal power plants).

2.5. One of the proposed solutions is to set requirements on ramping for Generation units. Do you have fast-acting generation units (ramping up or down in less than 5 minutes) in your portfolio?

No comment.

2.6. Would you be willing to enable slower ramp up and ramp down (5 minutes or more) of these fast-acting generation units? What would you need in terms of rules or regulations?

BDEW clearly opposes requirements on ramping for generations and strengthens that these should only be the very last resort to reduce frequency deviations.

Furthermore, slower ramps could increase the balancing group deviations or lead to an oversteering at the end of quarter hours, which would not solve the problem, but only shift the frequency deviation from the beginning towards the end of the period (Fig. 27 in Report on Deterministic Frequency Deviations).

In addition, a unit based ramp rate on fast-active generation units, would be in conflict with the portfolio based optimization and delivery of these units.

2.7. An identified cause of deterministic frequency deviations is the simultaneous starting or stopping of generation units or significant load at specific moments in time, usually at the change of an hour. Would you be willing to spread start and stop of units over a longer period? What would you need in terms of rules or regulations to be able to do this?

Starting or stopping of generation is oriented towards the bidding structure of products such as e.g. 4 hour blocks, 1 hour blocks, and ¼ hour blocks. A spread in starting and stopping times would therefore have a strong impact on the operation and marketing of these units. This implies a restriction on market based decisions of how to run generation units in an economically efficient measure and respond to price signals.

Furthermore, market rules and financial penalties foreseen in the imbalance settlement as a result of ramps on the BRP level - are in conflict with a spread in starting and stopping times.

With an increasing share of renewables, this mitigation measure might be implicitly taken, as ramping of those units does not respect 15 minute intervals.

2.8. One of the proposed solutions is to have ramping included in all Schedule exchanges between ISPs. What do you see as main hurdles towards implementation of such a solution?

Day-Ahead and Intraday markets, as well as balancing markets, are moving towards 15 minute products. Introducing additional ramps between adjacent intervals strongly interferes with this approach.

To better understand and assess this approach, BDEW asks for more clarification and recommends to analyse the underlying Swiss model with all stakeholders.

2.9. Would the introduction of ramping in schedules lead to slower ramping of generation units in your case? What would you need in terms of rules or regulations?

No comment.

2.10. Do you see a future in having Battery Storage participating to Fast Frequency Reserves, which would help to reduce DFD? Do you have access to Battery Storage with such capability?

BDEW generally welcomes a greater variety of products. As the requirements of the power grid change with a larger share of decentralized renewable generation and consumption assets, we support initiatives that address new challenges with specific products like fast frequency reserves. The development and implementation of new products should not be restricted to one technology but be open to all technologies.

2.11. Do you have any other important comment to share on the report?

BDEW appreciates the highly detailed analysis on deterministic frequency deviations, but does not share how the analysis of deterministic frequency deviations is addressed. The

report focuses on constraints and penalties for market participants and disregards market based measures to alleviate frequency deviations.

BDEW clearly opposes market restrictions such as slower ramps and strengthens that these should only be the very last resort to reduce frequency deviations. Instead, measures should focus on the further development of already existing balancing products. Especially in Germany a market based procurement of the “synthetic inertia” and “very fast reserve” should be established, similar to the procurement and long-term development of the FCR.

BDEW proposes the following prioritization of market based measures:

- 1) Shift to 15 Minutes Market Time Unit
- 2) Expansion of existing balancing products
 - a. Larger procurement of FCR and aFRR
- 3) Development of new products
 - a. Market based procurement of synthetic inertia
 - b. Introducing specific other products explicitly addressing deterministic frequency deviation issues such as very fast reserves open to all technologies

It is important that the definition of balancing products and the design of balancing markets is adapted to changes in the overall development of the energy market, such as the strong increase of renewable energy resources. Therefore, the potential to expand existing balancing products and the consideration of other alternatives should be analysed constantly.

As the overall welfare of the European energy market is paramount, an economic analysis on the impact of deterministic frequency deviations cannot concentrate solely on minimising services or reducing operating cost. It must focus on necessary measures to ensure that the energy economy has a cost-efficiently high degree of grid stability and security of supply. Measures must not exclusively be focused on the influence of deterministic frequency deviations but must take all aspects of significant frequency deviations into account.

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