EASE reply to ENTSO-E public consultation on the "All Continental Europe TSOs' proposal for the definition of a minimum activation time period required for LER to remain available during alert state in accordance with Article 156(11) of the SO GL"

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EASE Key Messages

EASE welcomes the efforts of ENTSO-E and all TSOs in the CE and Nordic synchronous area to determine a time period required for frequency containment reserve (FCR) providing units or groups with limited energy reservoirs (LER) to remain available during alert state, in accordance with Article 156(11) of SO GL.

The European Union as a whole has agreed on ambitious goals to increase renewable energy in the energy system and become carbon neutral by 2050. Energy storage technologies can provide an important contribution to system security while enabling the transition to a decarbonised energy system. The fast-dynamic response of energy storage devices is expected to help cope with the system inertia decrease and the RES variability, thereby contributing to grid stability. However, energy storage can only provide such services if there are no undue barriers in the network code provisions and market entry and development is attractive for LER.

EASE supports setting Tmin for FCR providers with LER to 15 minutes, however, EASE notes that the methodology itself should be re-assessed before it is possible to carry out the CBA and based on that, to discuss the results.

With this reply EASE would like to give our feedback to the proposal and draw attention to aspects where we find that the proposed methodology might in our view lead to strong distortions of the results or to an incomplete CBA, taking into consideration the following points:

- Simulation of energy depletion of LER is not in line with SO GL.
- Simulation of synchronous frequency restoration controller brings flawed results as modelling the Frequency Restoration Process of the synchronous area with a single controller leads to an overestimation of the required time period of the FCR providing units in alert state.
- Management of energy reservoir has not been taken into account.
- Energy reservoir depletion considering deterministic phenomena.
- Behaviour of FCR providing units with limited energy reservoir in the unlikely event of reservoir depletion is not fully assessed.
- Benefits of fast responding FCR providing units with limited energy reservoir have not been considered,
- Effect of long-lasting frequency deviations and deterministic frequency deviations cannot be appropriately assessed.
- Energy to power ratio of FCR providing units with limited energy reservoir cannot give accurate results.
- Over dimensioning of FCR due to problems in the delivery of FRR should not be a solution.
- Costs for existing FCR providing units with limited energy reservoir needs

to be quantified.

- The cost assessment of some FCR devices is questionable because some externalities are not taken into account.

1. Introduction

On 3 August 2021 ENTSO-E opened public consultation on "All Continental Europe TSOs' proposal for the definition of a minimum activation time period required for LER to remain available during alert state in accordance with Article 156(11) of the SO GL" (Proposal).

EASE welcomes the efforts of ENTSO-E and all TSOs in the CE and Nordic synchronous area to determine a time period required for frequency containment reserve (FCR) providing units or groups with limited energy reservoirs (LER) to remain available during alert state, in accordance with Article 156(11) of SO GL.

As the European energy system moves to a system dominated by renewables, opening the market to all market participants that can contribute to the security of supply is vital. Energy storage can provide much-needed flexibility in the grid and support security of supply in a carbon neutral way, which is essential to transition to a system dominated by variable renewables. Keeping in mind the overall goals of the European Union this proposal is not solely a technical requirement in itself. Therefore it is unfortunate that the proposal put on public consultation has been made based on flawed methodology leading to a result where some possible market participants would not be included and for which EASE has drawn to the TSOs attention on two separate occasions – in its 2018 reply and its 2020 reply.

EASE supports setting Tmin for FCR providers with LER to 15 minutes, however, EASE notes that the methodology itself should be re-assessed before it is possible to carry out the CBA and based on that, to discuss the results.

2. Considerations on the methodology

EASE would like to draw the attention to a number of assumptions and design choices in the methodology leading to biased results to the disadvantage of FCR units with limited energy reservoir, both coming from the methodology and the CBA:

2.1 Arguments to criticize the simulation

• Simulation of energy depletion of LER is not in line with SO GL. The explanation for CBA methodology shows very clearly that the current CBA is trying to determine an appropriate reservoir size, rather than – as it is the goal of SO GL art 156 – an appropriate time for full activation during alert state. The CBA treats effectively the

point where frequency exceeds the standard frequency range as the point of alert state trigger, so also depletion before the alert state (only if the event includes an alert state trigger to be precise). The same is done for a post-alert time period, even within the standard frequency range. This is not consistent with SO GL, which requires LER to be continuously available during normal state. This leads to overestimating the time period required for full activation during alert state on the basis of system stability, since it is treating the pre-alert state, as well as the post-alert state, as alert state effectively, and counting the energy activation there as energy activation during alert state.

- Simulation of synchronous frequency restoration controller brings flawed results as modelling the Frequency Restoration Process of the synchronous area with a single controller leads to an overestimation of the required time period of the FCR providing units in alert state.
- Management of energy reservoir has not been taken into account. Not modelling active energy reservoir management would not be problematic if the CBA would really be determining a required time period during alert state, as required by SO GL art. 156.
- Energy reservoir depletion considering deterministic phenomena. Deterministic phenomena, in particular market induced effects which normally create imbalances on the hour are by definition predictable since this is the result of the day-ahead and intra-day market results. Increasing the required size of the energy reservoir would definitely be less cost-effective than ensuring a forward-looking energy reservoir management accounting for deterministic phenomena. For that reason new CBA simulations need to be run with and without the effect of determinist phenomena to assess the contribution of these phenomena to energy reservoir depletion and alert state time period requirements.
- Behaviour of FCR providing units with limited energy reservoir in the unlikely event of reservoir depletion is not fully assessed. Failure to do so leads again to underestimating the availability of FCR providing units with limited energy reservoir to stabilise the system and overestimating the need to increase the dimensioning of FCR as the share of FCR providing units with limited energy reservoir increases.
- Effect of long-lasting frequency deviations and deterministic frequency deviations cannot be appropriately assessed. The calculation assumptions that have been used in the methodology and the real data of the current situation (last 12 years) is providing diametrically different results.
- Energy to power ratio of FCR providing units with limited energy reservoir cannot give accurate results. A time requirement cannot be translated into an energy to power ratio requirement without consideration of the active energy reservoir management strategy. Therefore, it would make sense to conduct a sensitivity analysis on this assumption.

2.2 Benefits of LER

Benefits of fast responding FCR providing units with limited energy reservoir have not been considered, thus neglecting the positive effect on system stability of an increased share of FCR providing units in the form of battery energy storage systems.

2.3 Cost Issues:

- Costs for existing FCR providing units with limited energy reservoir needs to be quantified. These costs (in the form of lost returns on investment) need to be quantified in the CBA in the corresponding scenarios. On page 42 of the proposal[1] it is stated TSOs are committed to ensure a proper interim period for LER providers to deal with the regulation change, both from the technical and financial point of view. Unfortunately, further specifications of the commitment is not given and creates uncertainty for the existing LER providers which would not comply under the proposed change.
- The cost assessment of some FCR devices is questionable because some externalities are not taken into account. Taking into account 100% of the costs for new LER entrants considers implicitly that they are designed to provide this service only. This assumption is questionable and leads to incorrect results as most of the LER based on Energy Storage Systems (ESS) are used to stack several services on the same device, to be profitable.

3.Comments on the current Proposal

Over dimensioning of FCR due to problems in the delivery of FRR should not be a solution. FCR providing units should not be made responsible for correcting the problems of FRR providing units. Several other solutions are available and should be tested first, in addition to the implementation of the European-wide balancing platforms and the harmonisation of aFRR FAT and settlement period.

Therefore, without any convincing demonstration on the need to increase Tmin for LER, EASE supports setting Tmin for FCR providers with LER to 15 minutes until a new CBA is led.

3.1 Derating Factor

Considering the contingency that a derating factor (DF) is used in the future, the scheme proposed by ENTSO-E should have to be reviewed. Indeed, it should be set up at 1 for LER30 (in case of Tmin=30 proposed by ENTSO-E) and not less than 0,5 for LER15min. A DF scheme should necessarily be accompanied by some guarantees to ensure investors visibility and not expose FCR providers to an additional factor of uncertainty.

3.2 Duration of Interim period as mentioned in Article 3(3)

Regardless of previous arguments, we would like to take a statement on the proposed duration of the interim period. According to the Article 3(3) of the Proposal, LER whose prequalification takes place before the entry into force of the Proposal shall be exempted from the requirement in (1) for an interim period of XXX months. The footnote of the time period mentioned in the paragraph mentions that the duration of the interim period will be

[1]All Continental Europe TSOs' proposal for the definition of a minimum activation time period required for LER to remain available during alert state in accordance with Article 156(11) of the SO GL

defined after the consultation process. EASE would like to emphasise that in order to guarantee the best possible adjustment for the market participants the time period should be set as at least 5 years.

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About EASE

The European Association for Storage of Energy (EASE) is the voice of the energy storage community, actively promoting the use of energy storage in Europe and worldwide. It supports the deployment of energy storage as an indispensable instrument within the framework of the European energy and climate policy to deliver services to, and improve the flexibility of, the European energy system. EASE seeks to build a European platform for sharing and disseminating energy storage-related information and supports the transition towards a sustainable, flexible and stable energy system in Europe. For more information, please visit www.ease-storage.eu

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Disclaimer

This response was elaborated by EASE and reflects a consolidated view of its members from an energy storage point of view. Individual EASE members may adopt different positions on certain topics from their corporate standpoint.

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