



FCR Stakeholder workshop

19/02/2019

ENTSO-E, Brussels, Belgium

Legend

Black text = Question from the audience

Green text = Answer from FCR TSOs

1. Road to the current proposal

Overview, stakeholder consultation 2017, and proposal for implementation in 2018

Planning of stakeholder consultation: You decided not to do certain things, will they be picked up at a later stage?

At the moment this is not foreseen. Before, all countries had different methods. Now TSOs have focused on harmonizing certain topics.

What was the reason for not splitting FCR products to upward and downward FCR? I am from Finland and it is easier for some participants to participate only on upward or downward.

One of the basic thoughts was to keep the markets streamlined and keep it as simple as possible. TSOs described their thoughts after the first stakeholder consultation: there are technical problems. For example in case of non symmetric FCR in each country, energy remuneration and asymmetric k-factors are technical problems that occur. There is a possibility to pull and then offer asymmetric.

Regarding the gate opening time of FCR before aFRR: For us it would be logical from economic perspective to have FCR auction as a fallback of our aFRR service if not selected, because for some assets aFRR is more challenging than FCR. What is the rationale of auctioning FCR before aFRR?

For German TSOs this is a logical sequence, as FCR is the product with the highest quality and significance for the TSO. The sequence of balancing products is arranged on a national level. For example in German and Austrian markets, the balancing products gradually evolve to a daily auction (FCR at 8, aFRR at 9, ... at 10)

Will you introduce cross-border transfer of capacity after the first implementation?

After the first implementations, TSOs will reconsider whether it is necessary to have cross-border transfer of capacity. In D-1 it can be challenging and it may not bring so much benefit. This will be investigated.

When will the Danish area be included?

There are still ongoing discussions between Energinet and German TSOs to find out when it is possible for Denmark to join. Energinet is a member of the Cooperation but not participating in the common auctions yet.

Will all 4-hourly blocks be procured at the same moment at D-1? If not, will linked bids of 4-hour periods be possible?

Yes, the 4-hourly blocks will be procured at the same time. Linked bids will not be possible.

2. Implementation of market design in 2019/2020

Overview, daily auctions and marginal pricing, and testing of the new features

Could you explain on which occasions you encounter import or export limits?

Transmission Reliability Margin (TRM) is used to exchange FCR however some limits are defined by ENTSO-E in the system operation guideline, article 163. It is not possible to import and export unlimited FCR. Each country needs to procure some amount of FCR locally, called core share.

The import and export limits have changed. Do you expect any further changes?



ENTSO-E is distributing the 3000 MW of FCR differently every year. For some countries the core share is 30% of demand for example. The changes are minimal, more or less one megawatt change for import and export limit most of the time.

As aFRR and mFRR are discussed in other groups, can you ensure that in 2020 the GCT of aFRR and mFRR are 9 and 10 o'clock or is there a fallback if this is not the case? Do we still have a fallback if FCR is at 8?

Germany and Austria are preparing to move the auctions. They should ensure some fallback procedure.

With regards to the change to marginal pricing: Will TSOs publish all submitted bids?

No, TSOs have an obligation to only publish accepted bids and not rejected bids.

What is Gate Opening Time?

This will be D-14, 11:00.

So we could submit two weeks in advance?

Yes it is possible to submit two weeks in advance. In case market parties decide to have only one process per week to submit all their bids they are welcome to do so.

Platform that will be used for FCR will be the same one that is used for aFRR and mFRR in Germany?

Yes, Regelleistung.net.

When do you plan to share the implementation guide?

TSOs plan to send a draft implementation guide in March, and final information latest by mid April.

Will TSOs publish only marginal prices or also bids?

TSOs will publish the marginal price and the bid price of accepted bids.

3. Harmonization – Part 1

Scope, aggregation, and power measurement location

Assuming three Technical Entities sharing the frequency band from -100 milihertz and +100 milihertz - Is this allowed?

This question will be investigated further in the FCR Cooperation.

In aggregation you mention you can request to split up or to not aggregate certain types of units. Based on the SO GL this would endanger operational security. Will you always give the arguments for this or will the response only be 'denial'?

The TSO will give the reason for decomposing or composing groups for the BSP. This should be a rare case and should be well argued and communicated to the BSP. In our experience, BSPs and TSOs will find a solution to participate in the market because we as TSOs want to have a high amount of reserve in the market.

Will it be published if a concept is rejected? Good to know to other parties as well why.

The TSO and BSP will work together to come to a conclusion. Also, this information cannot be made public due to privacy of the BSP.

Each TSO ensures that not more than 5% can fail in one TE. Does the 5% rule apply to the power within that TSO region or the entire volume of the 3000 MW in the FCR volume. Is this 150 MW?

Yes, the 5% rule refers to the entire FCR volume of 3000 MW and therefore this leads to 150 MW.

How long do you expect that it will take to change the terms and conditions of all six countries? When will these rules be applied?

TSOs strive for harmonisation and will come up with an integrated implementation roadmap once all currently selected harmonisation topics are finalised.

With regards to backup requirements: Will the minimum requirement for storage capacity be harmonized?

For backup requirements, the FCR Cooperation provided a harmonized proposal. Limited Energy Reservoirs are currently discussed within ENTOS-E.

Is it possible to aggregate different technical entities which are connected at different connecting TSOs in one pool?

Will you consider allowing this if they qualify to a single TSO?

Due to a TSO-TSO model and legal requirements, both mentioned examples are not possible.

Will be power measurement at the connection point and at the Technical Entity be allowed in the FCR Cooperation?

The FCR Cooperation will propose to allow power measurement at the connection point and at the Technical Entity.

4. Harmonization – Part 2

Back-up requirements, monitoring, penalties, additional properties on FCR



On the back-up concept (slide 39): Why does the TSO not need to see the contract between BSPs, but does have to know ex-ante if the transfer takes place?

The price of Transfer capacity between BSPs is not relevant for the TSOs but the volume transferred is for control and remunerations : TSOs need to know whenever a transfer takes place, and who provides for you, at the moment you know and before you execute the transfer.

When should the TSO be informed of a transfer of obligation to another BSP?

These are still ongoing discussions, but it could be expected that the effective transfer must take place within 2 hours. Then the communication of the transfer should be also within 2 hours.

Comparing the situation in the UK and Germany, in Germany I need to put in an extra inverter to back-up in case the other fails because 100% availability is expected with the N-1 redundancy requirement. Whereas in the UK, I can only install 10 MW because of the reasonable availability of 98%. Why do I need to have the N-1 redundancy on the unit basis?

There are TSOs that don't have N-1 obligation. It was the case in Germany and Austria. In Austria there will be no more N-1 backup requirement. The outlook is that there will be no more N-1 backup requirement for Germany as well. When will the new back-up requirements be implemented?

As the harmonization of back-up requirements is strongly interlinked with monitoring and penalties, and TSOs are still working on the monitoring and penalties, TSOs cannot define a specific timeline yet. Once the package of topics is harmonized, the implementation timeline will be defined.

I plead to continue working on cross border transfer of obligations because for small BSPs this is a big advantage. I am aware of the complexity of this and the import and export limits. I would like to ask TSOs to continue working on this and propose an implementation plan.

With the implementation of daily procurement TSOs expect less problems with forced outages. In the countries with a secondary market, do you face problems with liquidity?

We welcome what you propose, it is a move going in the right direction. To confirm: so what you wrote that there is no more N-1 back-up requirement for Austria also is the case for Germany? (as it is not written down).

It is not written the same way because it is not the same definition for Austria and Germany. The goal is for all of us to have the same rules after this harmonization. TSOs have a basic agreement on what it will look like, but as said this is closely linked to the other topics. This will therefore be clear once it is finalized as one complete package.

It would be useful to see if there is cross-border in the future. Is the possibility of transferring capacity obligation limited to having an outage? It could also be used for other reserves.

TSOs focused on back-up requirements, therefore it was focused on outages. TSOs do not encourage to use this for other purposes because this is not the TSO role, but they also do not exclude the possibility.

Does the reason of the outage need to be defined?

If a BSP does not have the ability to deliver the agreed FCR, they need to find a back-up either within their own pool or via national transfer. TSOs do not want to have the technical detail of the outages.

In case of a transfer of obligation, does the TSO need to approve? Or only be informed?

TSOs need at least the information of the volume transferred and the BSPs involved. TSOs will discuss about the details when implementing the new back-up concept.

We are also fine with 100% obligation but in order to deliver backup for a reasonable price to other competitors it would be very helpful to provide this back-up at a 1-5 or 1-10 ratio instead of a 1-1 contract. E.g. the likelihood of simultaneous failure is 1-10. It would be better for all the market to release the N-1 back-up requirement. To have for example one provider of back-up for 10 others.

What was presented today is that today TSOs need to know in advance the back up .the actual proposal is that in the future there will not be this obligation, the BSP will have the risk of how they secure the back-up. In addition, the N-1 back-up requirement will be released.

Can you clarify that transfer of obligations for commercial reasons is not forbidden but not encouraged?

It is not forbidden to transfer for commercial reasons. TSOs emphasize however that if FCR is traded, availability must be ensured at all times.

Can FCR be transferred between TSOs within the same control block?

Yes, national transfer of obligations is allowed, also within Germany within TSOs. German TSOs will allow this in the future, in combination with monitoring and penalties as a package.

Suggestion to also discuss requirements for harmonization with countries outside of the cooperation to get a European view.



Some topics beyond the cooperation will be discussed on a European level. We are a subset of countries that go deeper than that. TSOs take your feedback into account. Public consultation will be published publicly so feedback is also received from BSPs outside of the FCR region.

Is it planned to use a single procurement platform instead of Regelleistung, and the Austrian and Swiss tendering platforms?

No. It is generally a TSO-TSO model in the FCR cooperation. Every TSO is responsible for communication with BSPs. Some TSOs have decided to use Regelleistung instead of setting up their own. There is no aim to send up 1 single tendering platform.

What will TSOs do with information received from real-time monitoring?

Real-time monitoring might be used to take real-time actions in case of an outage.

Does this mean availability is you have to be available to deliver if you are not selected?

No this only applies if you are selected.

On state of charge: Imagine a pool with different small assets. What data would TSOs want to have?

Monitoring of energy availability is currently discussed within the FCR Cooperation. Depending on the methodology chosen, the state of charge might be requested together with other parameters.

Market parties will monitor their own assets because they intend to deliver FCR. Is this not double work?

TSOs are responsible for system security, hence TSOs are legally obliged to ensure proper FCR delivery.

I would say incentivize quality. I have batteries that are very accurate and very fast. Would be more accurate than renewables. Is this added value appreciated or is it discussed how it could be appreciated?

TSOs are not harmonizing for specific technologies but a framework for all technologies. There are benefits and drawbacks for both technologies. FCR has defined properties and minimum quality demands and needs to fulfil a certain cause. Some technologies can do more. Being able to do more than the minimum is not incentivized in any of the markets. There are studies on fast frequency response or virtually inertia. There are products that value those qualities. But in FCR this is not considered as something additionally to be remunerated.

We (market party with only thermal and hydro) have to deliver the same quality. We are fine with the pricing scheme. You say you will sometimes test the assets. How do you want to vary the frequency? Why do you need the pool as a backup? How is the random test executed?

(1) Variation of frequency might be an artificial signal from TSO to BSP.

(2) Backup requirements are still under consideration to have it in line with the penalties and monitoring but there might be no pool needed as backup.

(3) The test might be an artificial signal (frequency deviation simulation) at a random moment in time from TSO to BSP which the BSP should follow during the test (instead of the real frequency). If this test will be used in the whole FCR Cooperation has not been decided and the exact specifications (e.g. amplitude/duration) are not determined yet.

Do you plan to build a table such as for the other topics to explain the current national schemes?

Yes we will plan to do this. Difference is that for the other topics we had a proposal which showed what will change per country. We will do this when we have a proposal.

Is it possible to combine continuous and discontinuous monitoring?

It is possible to combine continuous and discontinuous monitoring. Discussions are currently progressing in the FCR Cooperation.

The request of continuously uploading data is very demanding, it would be helpful for aggregators of small assets to avoid having online data to be provided all the time to either provide a file offline or in discontinuous cases provide online data, e.g. to provide batches of data every day every 5 minutes or samples of files.

Currently there has not been a decision but this will be taken into consideration.

We would like to provide the minimum you need. Based on best practices to make sure the system is functioning.

This is in line with the intention of TSOs.

What is important for TSO: Technical units delivering frequency response? Or technical units delivering and reporting realtime. In case of a connection loss this is not the same.

The responsibility of BSPs is to deliver FCR according to the contract. FCR provision needs to be monitored by TSOs. Therefore it is important for TSOs that the data is delivered according its purpose, delivering FCR properly.

Remark regarding the question from TSOs which data is possible for smaller BSPs. We aggregate about 6000 units and offer all kinds of balancing services. Generally speaking it is easy to deliver all kind of data aggregated, also on 1 second resolution. But it is difficult to go down to the technical unit and also long term evaluation of ex-post delivery. Exporting three months of data is challenging. Exporting a lot of data continuously is very challenging. For one time long-term is possible. On aggregated level, even on second basis is no problem.



Aggregated values are calculated by BSPs based on individual values per Technical Entity. Therefore TSOs expect at least data per Technical Entity on request (archived). The archiving period is currently discussed among TSOs.

Can there be a choice between two methods? Preferred to send it continuously online.

TSOs are currently discussing different options of monitoring and therefore all options are open.

It is important to ensure the security of data to avoid corruption of data (e.g. hacks).

TSOs are very aware of the risk, and will choose methods with sufficient security.

Previously TSOs said tell us the info that you can give us. We would like to know what you need to know. Of course the less data we provide the better, for you the more the better. We recommend to have a clear view on current requirements of different countries. What is useful? What is not useful? What is identified as best practice? Could we get more information on figures? Also applicable for penalties.

TSOs strive to harmonise requirements among all countries and give sufficient information.

We (market party from Belgium) see it immediately if an asset fails. What is required by the TSO? Do we forward this to you or nominate a lower volume? What is the impact on the penalties if we tell you that the volume is missing, e.g. within half an hour. We can make sure to tell you within 5 minutes. Will the penalty be lower?

This process is not yet clearly defined. The BSPs should be incentivized to communicate forced outages in time.

Therefore, it will have an impact on penalties.

Do you need information on an outage to validate a transfer?

The responsibility of finding a back-up on time lies with the BSPs. However the TSOs are discussing the exact procedures.

5. Closure

Next steps for the harmonization and closure

Suggestion to also discuss requirements for harmonization with countries outside of the cooperation to get a European view.

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What is the plan regarding the harmonization of technical requirements that are not dealt with today that were on the list?

As stated in the introduction, there was a big consultation on market design in 2017. Some layers of urgency/priority were indicated. TSOs choose a number of topics to be implemented right away in 2019 and 2020. The most urgent issues were put in the package to be discussed today for development beyond 2019/2020. After this, TSOs will get to the second layer of harmonization topics.