

4th Grid Connection European Stakeholder Committee (GC ESC)

Friday, 9 December 2016 from 11:30 to 15:30

ACER, Trg Republike 3, Ljubljana

Draft Minutes

Participants			
Uros	GABRIJEL	ACER	Chair
Paulina	POPLAWSKI- STEPHENS	ACER	
Jakub	Fijałkowski	ACER/E-Control	
Jeremy	VINCENT	ACER/CRE	
Wieger	WIERSEMA	ACER/ACM	
Michael	WILCH	EDSO for Smart Grids	Via Streaming
Aurelio	TUBILLEJA	EDSO for Smart Grids	
Ralph	Pfeiffer	ENTSO-E	
Irina Mihaela	MINCIUNA	ENTSO-E	
Robert	SCHROEDER	ENTSO-E	
Stela	NENOVA	ENTSO-E	Secretariat
Helge	URDAL	ENTSO-E	Via streaming
Marc	MALBRANCKE	CEDEC	
Luca	GUENZI	EUTurbines	
Brittney	BECKER	EASE	
Laurent	Guisse	ORGALIME/CENELEC	
Heinz	BERGER	VGB Powertech	
Ton	GERAERDS	VGB Powertech	
Eric	DEKINDEREN	EURELECTRIC	
Jan	RASMUSSEN	EURELECTRIC	
Garth	GRAHAM	EURELECTRIC	
Sanni	AUMALA	EURELECTRIC	
Rabia	IKRAM	EURELECTRIC	
Alexandra	TUDOROIU-LAKAVICE	COGEN Europe	
Daniel	FRAILE	WindEurope	Via streaming

1. Opening

1.1 Welcoming address and Draft Agenda

GC ESC Chair Uros Gabrijel (ACER) welcomed the participants to the 4th GC ESC meeting. After a quick tour de table, the draft agenda was approved without additional comments. The decision on GC ESC dates for 2017 was brought at the start to allow some members to leave early.

GC ESC Meeting dates for 2017: 14th March (ENTSO-E, Brussels); 7th June (ACER, Ljubljana); 8th September (ACER, Ljubljana (tbc) due to summertime flight table); 6th December (ENTSO-E, Brussels (tbc))

1.2. Review and approval of minutes from previous meeting

Eric Dekinderen requested that a sentence is added with regard to Will's responses to the questions in the 3rd GC ESC meeting minutes as per his email of 3rd November. The sentence saying "All items described in the RfG NC have an impact on the Cross Border Trade" will be added to the minutes of the 3rd GC ESC (8th September 2016).

Luca Guenzi (EUTurbines) inquired if it was mentioned at the 3rd GC ESC that a special technical expert group would also be created. EUTurbines would like to propose that an additional expert group related to technical issues is created.

The Chair highlighted ENTSO-E's response from the 3rd GC ESC's meeting minutes¹ and reminded that ENTSO-E intends to treat the IGDs in a flexible manner. Irina Minciuna noted that the options are open with regard to the creation of additional task forces/expert groups. At the previous meeting, different options were discussed but there was no particular agreement that ENTSO-E would establish additional task forces further to the ones that have already been established. ENTSO-E can dwell further on this in the context of TSO-TSO and TSO-DSO implementation coordination.

Marc Malbrancke remarked that the GC ESC minutes are read by other people who were not present at the meetings, and noted it would be useful to have a more detailed and comprehensive version of the minutes even if it would repeat some of the presentations' content. ACER and ENTSO-E agree to keep the format of more detailed minutes.

1.3. Review of Terms of Reference for the GC ESC and feedback, including any comments on 2016 meetings

The Chair opened the floor to comments and stakeholder feedback to the GC ESC ToRs with regard to what has been achieved so far in the scope of the meetings throughout 2016.

Garth Graham reminded that in section 2A of the GC ESC ToRs it says that *"the ESC will provide ENTSO-E, and other parties responsible for NCs implementation with: a platform to report on implementation projects, in particular the lessons learned and problems encountered as well as to report on early drafts for the terms and conditions of methodologies or other projects to be developed."* He noted that 2017 will be a critical year in this process where all parties involved have to work on proper NC implementation. The GC ESC should consider if there are already lessons learned which can be taken up before it is too late.

The Chair agreed and encouraged stakeholders to bring this up again for discussion as relevant throughout the day. No other comments were raised regarding the ToRs.

1.4. 2017 Timeline: ENTSO-E consultations and workshops and GC ESC meetings

The Chair explained that the ENTSO-E [slide](#) illustrates the timeline for 2017 GC ESC meetings and the work to be done under ENTSO-E on IGDs: the slide lacks detail and would benefit from more insight into some areas of IGDs which can be further discussed and included as per stakeholder input throughout the day.

1.5. Call for interest in System Operation European Stakeholder Committee

Chair provided an update on the upcoming creation of the SOGL committee as the 3rd European Stakeholder Committee to start. The ToRs have been drafted and will be sent to ENTSO-E for review shortly. They are mostly based on the MESC's and the GC ESC's ToRs as system operations' codes are linked, with no major differences compared to the other two committees. ACER plans to issue a call for interest to all European associations at the beginning of January 2017 with the aim to launch the 1st SO ESC in March, possibly back-to-back with the GC ESC meeting to allow efficient planning. The aim will be to strive to organize all SO ESC meetings back-to-back with the GC ESC meetings. Once the SO ESC starts and there is more clarity on the substance, it will be decided whether how long the meeting will be and how it will fit with the GC ESC agenda (possibilities exist to fit the 2 ESCs in 1 day starting earlier and ending late etc., or for a 1.5 day meeting, on a case by case basis). As per stakeholder request, the MESC and BSG meeting dates will be taken into account to avoid overlapping with the GC and SO ESC meeting dates as much as possible.

2. ENTSO-E proposal on TSO-TSO and TSO-DSO coordination in the implementation of GC NCs

Ralph Pfeiffer (ENTSO-E) presented the ENTSO-E proposal on TSO-TSO and TSO-DSO coordination in the implementation of GC NCs as agreed at the 3rd GC ESC meeting to present a proposal on how to elaborate recommendations for frequency stability criteria taking into account the interdependencies between connection and operation codes, with a particular focus on TSO-TSO cooperation and stakeholder involvement.

¹ From minutes of 3rd GC ESC meeting:

Luca Guenzi asked what will be the scope of the future expert groups, and how they will be able to work on IGDs which were already consulted on. ENTSO-E replies that expert groups will focus on selected items which may impact one or several IGDs, covering one or several codes, rather than on IGDs themselves. Furthermore, the Connection Codes mention that the IGDs should be published "no later" than 6 months after entry into force and updated at least every 2 years. This does not prejudice the intention of ENTSO-E to publish or update IGDs as often as deemed necessary or reasonable. Expert group discussions and results are considered to be a source for IGD enhancement.

Ralph Pfeiffer explained that ENTSO-E is developing a process to follow-up and support this. As a 1st step, ENTSO-E will conduct a public stakeholder workshop (WS) in Q1/2017 on requirements related to frequency stability. The general scope and objectives of this WS will focus on future system challenges, in particular due to high instantaneous penetration of non-synchronous generation and their consequences on dynamic system characteristics which correlate to frequency stability issues, and on TSO studies on parameters for requirements related to frequency stability. Relevant expert groups at ENTSO-E are working to elaborate criteria and proposals for the respective parameters (some examples for these parameters include system inertia, RoCoF, FSM, LFSM-O/-U etc.). The WS will aim to inform stakeholders on the above-mentioned studies and on the results and conclusions reached at that point of time, to further provide a more clear view and enable informed decisions on these parameters subsequently and a first step for future actions. This work is a high priority for ENTSO-E in order to provide information for the national implementation processes.

Eric Dekinderen asked if ENTSO-E's intention is to harmonize parameters at European level or synchronous area or not, and inquired for a clarification on ENTSO-E's position regarding each synchronous area.

Ralph Pfeiffer responded that a number of parameters in this area on connection codes require cooperation of TSOs and with DSOs explicitly in all 3 codes.² He clarified that from an engineering point of view it makes sense to agree at synchronous area on some of these parameters but the pan-European level is different as such parameters depend on the characteristics of a synchronous area (depending on size it is different across Europe), so a pan-European scope cannot be expected for all. Harmonization will take place at a level that can reasonably be expected, i.e. synchronous area levels.

Luca Guenzi (EUTurbines) asked if this is an exhaustive list of parameters and if other studies are ongoing on other parameters beyond the ones mentioned. He would like to have further information on who is producing these studies and inquired about possibilities for further stakeholder involvement in the studies by parties such as equipment manufacturers. Luca Guenzi pointed out that EUTurbines has not been contacted and not involved in the preparation process and only get the final result. EUTurbines members are eventually involved in such activities, however it would be good to get in advance a list of ongoing activities on which it could be possible to contribute.

Ralph Pfeiffer clarified that ENTSO-E studies are planned on frequency stability-related aspects only, not on all non-exhaustive requirements. The upcoming WS will provide information on the specificities of the studies and in particular on who is preparing them. He clarified that TSO experts are performing the studies. In certain areas, the WS will be reporting on results or work in progress depending on the achievements at that given point of time. The WS is intended as a kick-off of this work for further discussion, and the intention is to present the next steps in the process to stakeholders etc. Ralph Pfeiffer noted he takes Luca Guenzi's point regarding involvement of stakeholders prior to results' finalization.

Irina Minciuna noted that the WS will have 2 parts – ENTSO-E will present what is already on the table in progress or finalized as well as future steps, and will aim to get feedback from stakeholders and to find a way to involve them as needed. The WS should be considered as an open gate for further discussions on the matter, similar to what ENTSO-E did in the September workshop.

Garth Graham agreed that it would be good to inform stakeholders of who the TSO experts are so that stakeholders can communicate with them, bring their concerns to them and volunteer to help where possible and relevant (such as manufacturers' input).

Irina Minciuna clarified that these topics are of direct TSO concern and very important, and they will not minimize the importance of this. ENTSO-E can check with the study experts on the status of their work, inform them that some parties want to bring further information to the matter, and at the WS itself, ENTSO-E will be open to hear stakeholder feedback on how things can go ahead. However, for the moment it is not known if the experts can invite everyone into this discussion.

² In RfG this includes capacity thresholds for generator type classification, LFSM-O parameters, LFSM-U parameters; in DCC - low-frequency demand disconnection, power quality parameters, demand response - system frequency control parameters; in HVDC - automatic remedial actions, loss of active power, reference voltages.

Luca Guenzi disagreed and pointed out that relevant stakeholders need to be involved from the start, else such type of approach seemed unproductive. He clarified that EUTurbines can support this work, for example with historical data, but that he finds it difficult to know how as it is not clear if this list with studies' information is complete.

Irina Minciuna encouraged all stakeholders to send to ENTSO-E any studies they might have developed that could be of relevance to this work so that ENTSO-E can consult them.

Ralph Pfeiffer noted that 2 main perspectives need to be considered with regard to the studies' parameters - from a system engineering perspective (referring to system character) and the manufacturers' perspective (meaning technical limitations). In order to start some discussions on these aspects, some pre-work needs to be done; technical limitations on products etc. and system characteristics need to be both explored and ENTSO-E to learn - as they have to match. This WS is a good basis to get views on these topics and to match them in further follow-up work.

Eric Dekinderen provided an example of how a few months ago Elia invited Eurelectric and other stakeholders to a meeting on power plants' RoCoF (specifically regarding small power plants and RES), and noted that if any organization believes it is not specific/enough for its specific installations, it is up to each organization/representative to take the initiative and let the relevant parties know.

Luca Guenzi noted that a different approach would be needed in case the target is harmonization of the overall system across Europe vs. a focus on a national approach which has no cross-border impact.

Ralph Pfeiffer noted that on TSO-DSO cooperation, ENTSO-E is collaborating with DSOs on a number of aspects, and whether this is done at pan-European or synchronous area etc. will depend on the specific issues at hand. TSOs are collaborating within ENTSO-E on topics such as studies on system security, system operation, future system challenges, and ENTSO-E supports further cooperation and collaboration through a platform for information exchange. Since ENTSO-E is not in charge of national implementation processes, ENTSO-E's role and understanding is that ENTSO-E gives this implementation process some instrument at hand to facilitate and enable cooperation (ex. the active library) with the objective to encourage cooperation even beyond what is required by CNCs and beyond what is done in IGDs. In addition, ENTSO-E encourages TSO-DSO collaboration beyond the CNC obligations for coordination through several IGDs on aspects/parameters such as making non-mandatory requirements at European level mandatory at national level and parameters of non-exhaustive requirements. However, ENTSO-E's role and responsibility are limited by the regulations as they clearly assign the implementation processes to the national level.

Ralph Pfeiffer informed stakeholders that two expert groups have been established so far: on compliance monitoring and on Fast Fault Current Injection. A topic for a 3rd expert group could be the CBA. ENTSO-E held a workshop on CBA on 21st November where only 6 people attended. Discussions have shown that further implementation guidance was not requested for CBA as such but rather for the processes on which it will be applicable (derogations and retrospective application).³ The input from the workshop will be taken into consideration in further updates of the IGDs but doesn't justify to establish a dedicated expert group on this specific issue when the topic of discussion is about the processes; it was also not in the scope of the expert group.

Ton Geraerds participated in the workshop CBA and mentioned that several serious basic comments, brought in during the workshop, are expected to be implemented in the IGD. After implementation a decision about starting an expert group on CBA should be rediscussed.

Garth Graham noted that regarding expert groupings within ENTSO-E where TSOs and DSOs cooperate, stakeholders do not have visibility on and understanding of who is involved. He asked if ENTSO-E could share the names of the organizations involved in these groups. Garth Graham noted that stakeholders would benefit from knowing which organizations and representatives are in the groups as then any interested stakeholders could approach them and provide input at the various levels.

³ Workshop on CBA was held on 21. November and concluded:

This workshop considered the IGD prepared on CBA principles and whether it warranted further development through establishment of an expert group. Of the areas of the RfG code requiring CBAs, derogations have caused the most concern. With this in mind it was felt that establishing an expert group prior to the establishment by NRAs of their derogation processes and further progress on national implementation would be premature. The detailed comments received will however be incorporated into an update of this IGD which will be developed with the workshop attendees and shared as part of the later batch of IGDs associated with the DCC and HVDC codes.

Ralph Pfeiffer clarified that everyone was invited to nominate members for the expert groups. While so far expert group members and organizations have not been communicated externally, ENTSO-E can communicate the information about which organizations are participating in the expert groups.

Ralph Pfeiffer underlined that the fast-fault current injection expert group has no DSO representative at all at present. ENTSO-E would like to reopen the call for interest for this group in order to recruit a DSO representative to the group: the dynamic behaviour at DSO level is a delicate issue and it is of great importance to have the DSO view present as well. Any organization who represents DSOs is encouraged to engage in this group.

Chair asked for clarification on how the work of these expert groups will be made transparent, for example through publishing information and minutes, sharing info with GC ESC, ToRs, names of members, and groups' working plans. He pleads to all associations to transfer ENTSO-E's request to get the right experts to be nominated for this expert group.

Chair noted that currently it is difficult to find the IGDs on the ENTSO-E website and that the website would benefit from promoting the IGDs topic through a more fit-for-purpose structure (ex. in the beginning there can be a timeline on future activities and on what has been published recently etc.)

Jan Rasmussen (Eurelectric) welcomed ENTSO-E's initiative to organize such the workshop on frequency-related issues. He noted that he participated in some WS on IGDs and had expectations to receive answers to some technical questions in that forum but the groups were discussing mostly processes which is not necessarily as important as the need for further clarification on specific technical issues, such as how the electric systems intend to work etc. (ex. the March report shared on this topic about the response time of 1s has been found very valuable). Jan Rasmussen noted that at the current equipment on the market, for example, it is only PV technologies that can offer 1s response time, and a wider broader discussion will be needed on how to approach this issue when very few types of equipment can deliver what is needed (1s).

Marc Malbrancke noted that DSOs at national level are involved in these discussions so any such issues/topics should normally come up at the national level even if they could not be discussed at EU-level expert group. Chair reminded that the value added and the opportunity for harmonization might be missed if those issues are not discussed at European level but only at national.

Aurelio gave an example of how Spanish DSOs are working at national level with the Spanish TSO and noted that if European harmonization is the objective, then TSOs have to lead on this, and ENTSO-E is in the position to do that as it has a more global approach.

Garth Graham warned that there should be visibility about the members of this ENTSO-E expert group to avoid risks that the information does not make it to the final highest European level but remains only at the national one.

Conclusions:

Chair concluded that it is key to recognize the kick-off of the new task which will happen in Q1-2017 with information on ongoing studies related to frequency parameters and to recognize the importance of these studies and the entire set of frequency-related IGDs that need to be properly informed through appropriate stakeholder involvement (DSOs, manufacturers etc.). For this to happen, ENTSO-E needs to come up with an ambitious plan to allow for finalization of the IGDs in due time before the deadline of implementation of non-exhaustive requirements. The kick-off WS is a good way to start but in addition there should also be appropriate forums that allow for these technical discussions to take place and not only focus on processes.

If this workshop takes place in March 2017, ENTSO-E should come up with a coordinated (system operations and grid-related) plan by end of February 2017. ENTSO-E should circulate the plan when ready to the Members of the GC ESC so that they are informed of the concrete plans on the revision of relevant IGDs and the opportunities to tune into the developments. The Chair encouraged associations to send papers and studies (like WindEurope's position paper in September, which was incorporated in the IGDs) as an example of good practice. If stakeholders have any strong suggestions on technical elements, they should provide these to ENTSO-E. ENTSO-E should create a platform for stakeholders to provide input. The Chair noted that this is a huge task for ENTSO-E as system studies are done by different people and encouraged an ambitious approach on ENTSO-E's side to use this one-off opportunity to inform the process.

The Chair further noted that CENELEC has been invited to attend the GC ESC meetings and to become a member of the GC ESC and provide input on related questions and topics.

3. Commission Update (including questions from stakeholders)

Chair noted that the EC could not participate in the 4th GC ESC meeting but provided answers to stakeholders' questions on a service level ([available here](#)) regarding stringent requirements and European standards in RfG, articles 4.1 RfG on substantial modifications, Articles 15.1. and 2 DCC, Article 27 DCC.

Eric Dekinderen raised a question regarding the interpretation of the response of the EC regarding European standards' stringent requirements. If the question is modified as "May a national standard impose more stringent requirements than imposed by NC RfG and may member states use such a standard?", then there is no problem with the EC position. Standards have a number of parameters to choose from but how to interpret this and what happens when there are several choices on certain parameters?

Regarding the question on the meaning of substantial modifications in Article 4.1a RfG, Eric Dekinderen noted that it is said that it is a decision of the regulatory authority or the Member State on a case by case basis as to whether "the existing connection agreement needs to be revised or a new connection agreement is required and which requirements of the Regulation shall apply", but due to the fact that the objective is to harmonize at European level, a question to ACER is: does ACER have a role to play in harmonizing practices across Europe as the provision says it is up to regulators to decide on this?

Garth Graham added that an issue could arise if in one MS the level could be different than what it is in another MS, and it is not clear what is interpreted or not: a generator might need to upgrade or change some equipment and the requirements could be different from Member State to Member State – is that something that might cause problems in harmonization?

The Chair noted that the EC responses are on a case by case here and it is difficult to establish law or guidance before knowing what the case will be. However, the substance of this is under the implementation monitoring aspect and if any differences in approach or how to put requirements into place arise, ACER will look into this and discuss with national regulatory authorities how to create a common approach on best practices with examples. There are no stringent obligations on ACER on this item – just general implementation monitoring obligation but on the other hand, ACER has obligations to collect information and registers for derogations to be granted by other national regulatory authorities (or other designated entities). **The Chair will discuss this with regulators and raise these questions.**

Eric Dekinderen noted that if there is a fault on a power plant with semi-/quasi similar characteristics as the original, waiting for the regulatory decision takes a long time to make the power plant operational again. A number of case-by-case situations can be submitted to ACER for this (like the example of the nuclear power plant).

Jeremy Vincent (CRE) noted that in France CRE had the intention to define different criteria/thresholds: if there is a case of above the threshold, then it will be asked for inclusion in the NC, but if the case is under a certain threshold – there will be no application of new requirements, only if above threshold to avoid the need to give a decision on a case-by-case basis. Eric Dekinderen would like the French practice be extended to a European scale.

The Chair takes note of this and will take back these proposals to NRAs and discuss further with them.

Jan Rasmussen pointed out that the EC needs to clarify further what a more stringent requirement is. For example, if a Member State wants to have a type 2 low-voltage generation – is it more stringent or is it not as it is not covered by the type? If LFSM-O - will that be considered as more stringent or is it additional? There should be a place for questions and interpretations where this information can be published and discussed so that all implementing parties can use this as a guidance.

Aurelio Tubilleja noted that on the topic of substantial modifications, Spain is doing it in a similar manner as in France – there is a guide for the regulator to help him decide which modifications are substantial or which are not, but Spain is using a different approach – if you need modifications over a pre-defined threshold, then they are substantial, otherwise they are not.

Marc Malbrancke noted that the interpretation of Article 15.2 DCC on power flows between DSO and TSO, there is no clear further explanation and answer to the question that was sent to the EC. Does the EC agree on the GB response to the question? If the EC can confirm that the GB interpretation is right, then BE DSOs can follow this. On substantial

modifications and modernisation, BE is looking at this point in a similar system manner as also in France. If some harmonization is indeed wanted, the relevant parties should talk to each other before putting into place modernization requirements that might vary between countries. Better coordination is needed while the text is not clear enough on that point and it is not entirely clear what the European objectives are.

Ralph Pfeiffer agreed with Marc Malbrancke that regarding Article 15.2 DCC, the EC statement is not responding to the [question](#) asked. Ralph Pfeiffer further remarked that the second statement (*Article 7(3) requires Member States, competent entities and system operators, when applying this Regulation, to "take into consideration agreed European standards and technical specifications." Hence, if European Standards impose more stringent requirements outside the values provided for in the code, this would allow Member States to circumvent this limitation*) contradicts what is written before that on legislation (*As provided in response to Question 1, in general no – not outside of the values provided for in the code. See also Article 13 NC RfG and Article 8 of Regulation 714*) as it gives non-binding power (no formal decision) regarding European standards to set standards on top of legislation while it should be the opposite. Legislation should be above standards.

Garth Graham asks for further clarification from the EC regarding the point "*Hence, if European Standards impose more stringent requirements outside the values provided for in the network code, this would allow Member States circumvent this limitation*" – for example, if the same EU standard was across 28 states, then this has no impact on XB trade, but if 27 states would not apply a stricter standard and 1 wants more stringent requirements, then is this one state circumventing the standards?

Laurent Guise noted that the EC response is misleading as nobody has the same understanding of what stringent means – CENELEC will further come back to the EC/GC ESC with more accurate questions as to avoid debate, and would like to see a common place where to put such questions and find answers.

The Chair noted that the current process is that the GC ESC collects stakeholders' questions, the EC answers them next time around. Questions are discussed and next time we expect the EC to come back within the limits. If this is not sufficient, stakeholders should let the GC ESC know as there is also a time lag in this approach and a more flexible approach can be explored. See Garth Graham's proposal in point 5 and further action in point 6.

4. ENTSO-E update on Active Library

Irina Minciuna provided a quick online demonstration of the ENTSO-E Active Library and confirmed that the Active Library site is now fully operational, available through the ENTSO-E site [here](#), and open access. The site includes separate countries' overview, the final CNCs version, and links to the GC ESC platform, the IGDs and related updates as they become available on a constant basis. The Active Library page will be made more visible on the ENTSO-E website (through a link on the main page). Two elements are still in progress and therefore not yet available on the site – a link/button to ongoing IGD-related consultations and information highlighting the creation of new task forces. Each country's page gives further information on the relevant tasks and data, consultations' process and stages, and a link to the national implementation site once available.

Garth Graham noted that it might be useful to put dates on latest updates on each Member State's page to facilitate monitoring for the countries.

Irina Minciuna pointed out that ENTSO-E just opened the HVDC and DCC IGDs consultation which will be in line with the RfG IGD perspective consultation. Further information on the new consultation is available [here](#).

Garth Graham asked for further clarification with regard to visibility of steps in the overall timeline with various processes per country, mainly if the Active Library allows for direct comparison between countries on the various steps and tasks undertaken in each MS on the codes. Irina Minciuna clarified that there are different steps in the various countries which are often lead by different entities, so the steps might not be the same and such a comparison would not always be applicable.

Ton Geraerds asked if there is a way to find information on actions and progress on any specific Article on a country-by-country basis and compare. Garth Graham noted that stakeholders want to see what countries are doing and to be able to trace it Article by Article in a mapping process.

Luca Guenzi reminded that it was agreed in a previous meeting to have a different structure for the library to reflect the mapping approach Article by Article, and recommended that something similar should be implemented for the SOGL too. Irina Minciuna noted that ENTSO-E is indeed working on this request to develop such mapping for the Active Library. It needs to be seen how this will fit with the monitoring process. In Q1-2017, a better version of the Active Library including mapping should be available.

Garth Graham pointed out that monitoring is often done Article by Article (with all Articles in a column left and the 28 MS across, to allow to identify easily any gaps and missing information on the tasks).

Jan Rasmussen noted that even if no final documents are available as early in some places as they would be in others, at least the process and progress can be seen across countries in this way. The Chair supports an approach for further transparency.

5. EURELECTRIC presentation: Legal aspects of the NC RfG (outstanding issues/questions)

Rabia Ikram noted that regarding the question “*Can a Member State impose more stringent requirements by a separate legislation than imposed by the RfG NC?*,” it appears there is no clear answer up to now (see EC slides under point 3). The EC can offer a formal interpretation of legislation only on the basis of non-binding “interpretative notes” which are prepared at its initiative, which is a very lengthy process and does not cover NCs. Given the EC’s answer, Eurelectric is wondering what can be the next steps for questions. Since all items described in the RfG NC are considered as having an impact on Cross-Border trade, the EC’s answer was that a MS cannot impose more stringent requirements than those imposed by the RfG NC. Eurelectric’s main question is if the GC ESC can recommend that all stakeholders apply this principle and accept both informal statements of the European Commission.

Jan Rasmussen underlined it is very important for all stakeholders to have a common understanding of what “more stringent” means. Before this is clarified, it is difficult to know even whether DSOs are allowed to provide low-voltage capability.

Garth Graham suggested another way forward for Q&A to the EC instead of waiting 3 months between GC ESC meetings to receive answers. His proposal is to ask at the March meeting to have a process where within a week after the GC ESC meeting, the EC is provided with the ESC questions, present to ACER, EC then has a month to provide answers, GC ESC members check if these are sufficient and raise further questions if needed, the EC then presents their final answers at the following GC ESC. This should allow to move faster forward and eliminate the impact of long gaps between meetings.

Luca Guenzi asked for further clarification on the steps to follow if stakeholders are interested to be involved in the process of categorization of parameters on additional requirements, and inquired about the process of sharing information if someone wants additional parameters/requirements be included.

The Chair will ask the EC regarding the process of sharing information and how this process can run to support implementation. Regarding national implementation processes, if national stakeholders have questions, they discuss them at association level and elevate questions to the GC ESC which transfers them to the EC, but there can be additional MS questions that the EC cannot answer due to subsidiarity issues.

Luca Guenzi asked about the value of the answers received in such case. Chair clarified that regarding the EC answers which are not legally-binding, there is no other vehicle at EU level to provide with binding information, apart from the Court.

Ton Geraerds asked if there are different translations of NCs which will not require this type of guidance, who can help decide on the correct interpretations, especially if two interpretations of the English version exist?

Chair noted it depends on how strict they consider the interpretation – if two English versions – and on who would be the one to decide.

Garth Graham asked if someone should stop using the Finnish interpretation if they are from GB but using the Finnish one?

Stakeholders are encouraged to provide examples of these questions to ACER so they can be sent to the EC.

6. CENELEC standardisation

ENTSO-E feedback regarding CENELEC progress

Ralph Pfeiffer noted that the detailed slides of ENTSO-E can be consulted for information (available [here](#)).

6.1 EURELECTRIC, GEODE, CEDEC and EDSO for smart grids joint presentation: Standardization working group CLC TC8X WG3 (Distributed Generation Connection Requirements Standardization) clarification requests related to NC RfG

Jan Rasmussen presented the EU DSO associations' questions on standards and the need for further clarification on RfG and DCC (details available [here](#)). The use of a European standard and a common understanding on the standards for compliance with RfG is very important as DSOs have a large number of installations (especially type A and B) and need a common approach and requirements, otherwise it is problematic when they have to verify certificates and make decisions regarding equipment compliance. CENELEC (TC8X/WG3) has also been working on the development of standards on connection of generating units to LV and MV networks, and all stakeholders' common objective is drafting standards for verification of compliance of the generators with the requirements of NC RfG.

DSOs have additional questions for the EC and for discussion at the GC ESC. First, does the EC provide an office for centralized interpretations similar to the existing one for directives? Jan Rasmussen noted that such a group exists on the gas side (including experts sitting together and adding interpretations/recommendations), and that something similar could be a way forward here too.

Second, is it possible to get binding answers from the EC on specific questions? Jan Rasmussen noted the answer seemed to be no but recommended that the establishment of such a group as in the gas codes mentioned before would be beneficial.

In addition, DSO associations would like to know if requirements for type B units could be required for type A units (e.g. LVRT requirements) and if a response time for LFSM-O can be required, as it might be considered as a more stringent requirement. Some examples where further clarification is needed from CENELEC which is dealing with these standards include other active power setpoints during LFSM-O, relationship between Article 13 §4 and §5, minimum requirements etc.

On active power, the main question for DSOs is whether it is allowed or not allowed in cases of overfrequency situations for the DSO to have the right to react on congestion situations (Article 13.2). DSOs need a clear answer on this question before it is taken to the level of standards and national implementation.

With regard to response time of LFSM-O, Jan Rasmussen noted that ENTSO-E's publication "Frequency Stability Evaluation Criteria for Synchronous Zone of Central Europe" states that a response time of 1s is an appropriate requirement while Article 13.2 does not state a required response time. DSOs made a survey and found out that only PV technologies can offer a 1s response time while other generators can't comply. The DSOs' question is how to deal with that situation: should it be required 1s for all technologies or can there be further technical discussions to find a solution in light of system needs? A sound technical discussion on this issue and a place to discuss such questions is welcome by Eurelectric. On LFSM-O, further clarification is needed on whether LFSM-O implementation including a hysteresis as proposed by DSOs is in conflict with Article 13.2 (NC RfG) and whether TSOs are allowed to implement another curve/increase active power if frequency goes down/ and if yes, whether this is in conflict with RfG? As this function can be implemented in many different ways, it would be hard for manufacturers to make equipment that can comply with all those different implementation manners. A further clarification to this at the EU level is needed. On EV-charging, Eurelectric would like to have further clarification on Article 27 DCC if smart charging solutions for EVs should be considered as DSR (for example, if there is an aggregation with 10 000 vehicles that they could control remotely).

The Chair noted that some of these questions deserve a separate technical discussion and will need to be addressed by experts at EU level rather than by the EC. Either some IGDs have to address these, or IGDs should be flexible enough and can be amended in scope in case new technical issues need to be included if brought forward.

Garth Graham noted an example of a potential issue with DCC in the case where a DSO is providing a paid DSR service to the TSO, as it is not clear if this is in the scope of the DCC; IGDs could address that. If a generator offers a service and a demand response unit offers the same service, but the generator is not bound by the DCC, while the other unit is bound, this places them under a different competitive advantage. A clear understanding is needed on this question due to its significant implications on participants.

Ralph Pfeiffer clarified that as a general rule, the CNCs do not address a commercial issue or market design rules; they only define technical capabilities, in which demand response also fits.

Jan Rasmussen asked for further clarification on whether IGDs would consider technical issues or only processes. Ralph Pfeiffer noted that the regulation says explicitly that IGDs will bring clarification on technical issues. The Chair confirmed that Ralph Pfeiffer's explanation should be taken as overarching.

The Chair reminded that if stakeholders have questions, these can be brought to the GC ESC and any implementation concern can be voiced but that the GC ESC might not be the right entity to address highly technical issues; these may need to be discussed further at another level by technical experts.

Laurent Guise inquired about the final process to answer the questions raised and how long should stakeholders wait to get an answer as well as who will be providing the answer.

The Chair concluded that the proposals will be discussed by the trilateral (EC, ACER and ENTSO-E) to find an efficient and fast way of how to deal with technical and legal questions; an answer on the process will be provided in due time.

Jan Rasmussen noted that it should be considered how the CENELEC group should be included to ensure such questions are clarified and that the relevant ideas are included further into the standards.

The Chair noted that CENELEC is now a member of the GC ESC and its input is now included. No other comments were provided to ENTSO-E's slides on CENELEC.

Laurent Guise mentioned that in addition to what CENELEC is already doing on assessments within TC8, it is important to make an assessment on the IT-related part – this has to start to ensure that any information exchange can be supported appropriately by a set of standards. Such work will be launched by CENELEC in December.

7. Information on implementation of Emerging Technologies

7.1 ACER summary

The Chair provided an update on emerging technologies from the regulatory side. As of December, 18 NRAs are participating in this coordination. The majority of MS/NRAs received more than one request from manufacturers, an application from the primary producer of Stirling engines, and an application from manufacturers of specific PGMs using the Stirling engine technology from the primary producer. Regulators identified the need to avoid double counting in the monitoring of sales of emerging technology PGMs. In addition, ACER has provided an NRA information sharing platform to facilitate coordination. Regulators met on 8th December and could address some of COGEN's concerns for the meeting already then. ACER recommended NRAs to confirm receipt of application, and allow a reasonable time to respond should a follow-up be needed. As next steps, NRAs will aim at preparing a common approach to granting emerging technology statuses and will coordinate based on ACER's position paper regarding how to avoid differences on implementation across the various MSs.

7.2 Feedback from COGEN

Alexandra Tudoroiu-Lakavice presented some examples of initial experience with ETC (Emerging Technologies Classification) implementation application procedures (slides available [here](#)) and noted most of the recommendations were addressed at the regulators' meeting on 8th December. COGEN welcomes ACER's efforts for a more centralised & co-ordinated approach to the ETC application process but noted that not all NRAs followed the recommendation and this brings further concerns regarding inconsistencies between countries in the upcoming assessment of applications, confusion among manufacturers and lack of harmonization. Alexandra Tudoroiu-Lakavice provided further examples of challenges in the ETC implementation process, such as short deadlines, lack of communication between the NRAs and ACER, different requirements on language for applications, different understanding and expectations of who should apply for ETC between countries, additional documentation requirements beyond the RfG etc.

To avoid inconsistencies in the application procedures for ETC and the assessment process and to ensure comparable outcomes, COGEN recommends to apply the suggested approach in Art 69.1 (NRAs taking a decision on the list of ETC eligible technologies in a co-ordinated way and with the prior opinion of ACER) and ensure enough flexibility regarding the eligibility of different variants of the same technology (e.g. 1-2 kWe Stirling engine based micro-CHP) and provide clear guidelines, consistent across the different countries, on the party (ies) eligible/responsible under the ETC and who is responsible for reporting.

COGEN further recommends that regarding thresholds' definition at SA level, depending on how Title VI implementation advances, a further discussion on applying the 0.1% threshold at Synchronous Area (SA) level and reallocation of thresholds within a SA may be needed, as currently thresholds are defined at SA level but applied at national level proportionally to the max load in each country.

8. IGDs: ENTSO-E status report and Feedback from stakeholders

Brittney Becker presented EASE's feedback on IGDs for CNCs and EASE's position on the need of an effective CBA process based on consensus on main principles such as methodology, process organization, data collecting etc. EASE was not satisfied with the conclusions of the November meeting on CBA and sees the need for further discussions on the topic to address remaining open questions and to ensure non-discriminatory CBA IGD procedure for all stakeholders. Stakeholders were given 1 month which was not enough for parties to adequately respond to the consultation. EASE supports the creation of an ad-hoc expert group piloted by a neutral actor including all stakeholders with the objective to identify and address main "pending" questions on the CBA use under NC codes, and to provide consensual answers to them (the [EASE presentation can be accessed here.](#))

Eric Dekinderen presented Eurelectric's views on the need for a reliable CBA methodology for all stakeholders for the GC codes and its importance to show the overall socio-economic relevance of new rules. CBA methodological principles need to be agreed at EU level to ensure a level-playing field, proper implementation of the CBA, legal certainty and enforceability etc. Eric Dekinderen presented several key principles that should be discussed to enable the appropriate use of CBA (such as transparency on scenarios, clear categorization of costs and benefits, and addressing appropriately the respective parties where these occur, need to ensure stakeholder engagement at national level etc.). Eurelectric strongly supports the idea to establish a dedicated CBA taskforce (the detailed slides can be further accessed [here.](#))

Luca Guenzi presented EUTurbines' position on IGDs and CBA (available [here.](#)) EUTurbines thinks the point they raised previously has not been covered adequately and insists on having an expert group set-up for the CBA so that they can provide answers, have the possibility to contribute to the IGD drafting before its release in March, with a better set-up to allow contributions for future meetings (ex. WebEx). Luca Guenzi reminded that there are many non-exhaustive requirements in the codes, and some additional requirements need to be further defined so the CBAs could be a way to address such requests or parameters. He recommended that IGDs should include a reference to the use of CBA for other purposes beyond what is already in the CNCs (ex. as an instrument to define values or eventual parameters not present in CNCs). EUTurbines expects the IGDs to set up correct expectations of the system operator in terms of data that can be provided. IGDs should further put correct emphasis on CBA to consider all elements of the grid and different possible alternatives and clearly define evaluation process as well as help minimize risks of conflict of interest. Luca Guenzi noted that EUTurbines needs further clarifications on questions related to the different types of requirements and their classification (ex. whether adding requirements means to have more stringent requirements and cases of adding parameters that help defining a requirement and for which it has to be evaluated whether it is imposing a more stringent requirement than the one posed) without threatening European harmonization. EUTurbines supports CBA as a possible methodology to define additional requirements and parameters that lead to critical more stringent requirements.

The Chair concluded that the request to create a CBA expert group is a common line across other stakeholders. Based on stakeholder feedback, it appears there were difficulties among stakeholders because of very tight deadlines for involving them in ENTSO-E's process to set up the CBA IGD and for this reason ENTSO-E did not receive the necessary input to allow it to make an informed decision on whether a CBA IGD expert group is needed or not. The GC ESC discussions point out to lots of issues that are still important and might need to be included. ENTSO-E should follow-up on what its paper on the assessment of stakeholder comments for the IGD consultation says (the document says the expert group for CBA

will be established) and this should be done in a structured way (clear and transparent process including the expert group).

The Chair asks stakeholders to further consider what was said before on the overall IGD process and in case they have technical issues to comment on, to do that in the form of a position paper which ENTSO-E can use in the process. This overall process should be reflected in the slides with the overview on 2017 work (i.e. including all frequency-related IGDs and the stakeholders' involvement in the development of stability studies).

Ralph Pfeiffer reminded of the conclusions of the WS in November⁴ and noted he appreciated Eurelectric's views on the issue. The question of the added value and the need for establishing a CBA expert group was discussed at the workshop. All these points were taken on board but it was concluded that it would rather be at a later stage to decide on the need for a CBA expert group, when there is more clarity on national processes and implementation issues, wherever CBA is required for derogations etc. ENTSO-E will then rethink to establish these expert groups to discuss CBA in the context and content of where it should be applicable.

The Chair noted that according to what's been reported thus far the workshop seems to have lacked broad stakeholders' participation and encouraged ENTSO-E to use the information provided today in order to develop a process where the stakeholders' inputs can be included at an early stage. E.g. stakeholders can draft their position papers with what they think the CBA IGD should contain (including examples), and ENTSO-E could issue a call for further scoping through which stakeholders could feed into the process in due time. ENTSO-E should then inform on a decision of when the expert group will be established and what its tasks will be.

Irina Minciuna noted that following this input, ENTSO-E can organize again in Q1-2017 another workshop on CBA to reflect better on what is needed and decide if CBA is needed at that point in time. However, it will be difficult to bring very big clarity that early in 2017 since national processes should be clear first, and only then further decision can be made in this regard.

Garth Graham noted that it could be helpful if ENTSO-E can get an independent party such as an economic consultant to support its work on this topic.

Alexandra Tudoroiu-Lakavice noted that ahead of this new workshop on CBA, it would be useful if ENTSO-E could circulate in advance the feedback that has been given so that stakeholders can prepare questions/issues ahead of time.

Garth Graham presented Eurelectric's position in favour of immediate harmonization of frequency parameters to ensure system security. Depending on parameters considered, the harmonization is more or less urgent, and the effort to control frequency must be shared fairly. Eurelectric would like to see especially some parameters that should be "equal" (performances of measurement system, insensitivity, deadband, RoCoF withstand capability) or strongly "coordinated" (droop, authorized reduction of Pmax with falling frequency) between countries. Eurelectric sees a risk of direct discrimination if harmonization is not achieved when RfG becomes applicable and proposes that a dedicated task force on behalf of GC ESC is created to prevent this. Presentation slides can be found [here](#) and the position paper can be found [here](#)⁵.

The Chair concluded that in relation to the frequency workshop discussion, ENTSO-E should propose more elaborated timelines as requested and frequency-related parameters and show how those will be tackled in the IGDs.

Garth Graham agreed to follow Chair proposals and noted the next GC ESC should look at the list of parameters again. The Chair noted he will look into the process and the next steps for its success.

9. Next meetings for 2017

GC ESC Meeting dates for 2017: 14th March (ENTSO-E, Brussels); 7th June (ACER, Ljubljana); 8th September (ACER, Ljubljana (tbc)); 6th December (ENTSO-E, Brussels (tbc))

⁴ Workshop on CBA was held on 21. November and concluded:

This workshop considered the IGD prepared on CBA principles and whether it warranted further development through establishment of an expert group. Of the areas of the RfG code requiring CBAs, derogations have caused the most concern. With this in mind it was felt that establishing an expert group prior to the establishment by NRAs of their derogation processes and further progress on national implementation would be premature. The detailed comments received will however be incorporated into an update of this IGD which will be developed with the workshop attendees and shared as part of the later batch of IGDs associated with the DCC and HVDC codes (ENTSO-E [presentation](#))

⁵ Daniel Fraile (WindEurope) provided a comment via web streaming following Eurelectric's presentation on frequency parameters that WindEurope supports Eurelectric on the proposal for the formation of a task force for the harmonization of frequency parameters.

10. Follow-up actions

- ✓ ENTSO-E should publish information on which organizations and representatives are participating in the expert groups as well as publish up-to-date information on these groups' meetings, agenda, work in progress etc.
- ✓ Stakeholders should inform their relevant experts of ENTSO-E's request to nominate a DSO representative to participate in the fast-fault current injection expert group.
- ✓ ENTSO-E should circulate to the GC ESC members a coordinated (system operations and grid-related) roadmap by end of February 2017 (with elaborated timelines including the interactions between the development of IGDs and ongoing studies related to frequency parameters) with regard to the determination of frequency-related parameters including the workshop announced for Q1/2017.
- ✓ Stakeholders should send to ENTSO-E any papers and studies they have developed regarding requirements related to frequency stability. ENTSO-E should create a platform for stakeholders to feed into that input. ENTSO-E to inform stakeholders of the names of the TSO experts who are working on the frequency-related studies.
- ✓ The Chair will discuss this with regulators and raise stakeholders' views, proposals and questions regarding substantial modifications.
- ✓ Stakeholders should provide examples of the questions they want clarified by the EC to ACER who will send them to the EC (on legal aspects of RfG and other questions).
- ✓ Does the EC agree on the GB response to the question regarding art. 15.2 in NC DCC? If the EC can confirm that the GB interpretation is right, then BE DSOs can follow this.
- ✓ The Chair will ask the EC regarding the process of sharing information if stakeholders are interested to be involved in the process of categorization of parameters on additional requirements.
- ✓ ACER and ENTSO-E to discuss the stakeholder proposals in a trilateral with the EC on a faster and more efficient way of handling stakeholder technical and legal questions related to CNCs and to provide an answer on the process in due time.
- ✓ The overview on 2017 work should be further updated based on the discussions (i.e. including all frequency-related IGDs and the presentation of stability studies, among any other relevant aspects).