7th Grid Connection European Stakeholder Committee (GC ESC)

Friday, 8 September 2017 from 09:30-15:30

ACER, Trg Republike 3, 1000, Ljubljana

Draft Minutes

Participants			
Uros	GABRIJEL	ACER	Chair
Tamara	LACIC	ACER	
Jeremy	VINCENT	ACER/CRE	Via webstreaming
Jakub	FIJALKOWSKI	ACER/E-control	
Teelke	OLDERMANN	ACER/BNetzA	
Astrid	ANESTAD	ACER/NVE	Via webstreaming
Wieger	WIERSEMA	ACER/ACM	
Elaine	O'CONNELL	European Commission	Via webstreaming
Michael	WILCH	EDSO for Smart Grids	
Aurelio	TUBILLEJA	EDSO for Smart Grids	
Ralph	PFEIFFER	ENTSO-E	
Ioannis	THEOLOGITIS	ENTSO-E	
Robert	SCHROEDER	ENTSO-E	
Stela	NENOVA	ENTSO-E	Secretariat
Alberto	BRIDI	CEDEC	
Marc	MALBRANCKE	CEDEC	
Luca	GUENZI	EUTurbines	
Toma	MIKALAUSKAITE	ORGALIME	
Klaus	OBERHAUSER	VGB Powertech	
Jan	RASMUSSEN	EURELECTRIC	
Thomas	LESCARRET	EURELECTRIC	
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Sanni	AUMALA	EURELECTRIC	
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Thomas	SCHAPPE	CENELEC	
Daniel	FRAILE	WindEurope	
Raju Addala	SRINIVASA	EUGINE	
Michaël	VAN BOSSUYT	IFIEC	
Mike	KAY	GEODE	Via webstreaming
Brittney	BECKER	EASE	Via webstreaming

1. Opening

1.1 Welcoming address and Draft Agenda

GC ESC Chair Uros Gabrijel (ACER) welcomes the participants to the 7th GC ESC meeting. After a brief tour de table, the agenda is approved. Items 5 (Active library) is moved after item 6 (standardisation progress) to allow for the EC to participate in the discussions via phone.

1.2. Review and approval of minutes from previous meeting

The minutes of the 6th GC ESC meeting are approved, including late contributions to points 2.3 and 11 of the draft minutes. It is agreed that the following contribution to point 8 of the minutes of the 6th GC ESC, which has been submitted by Luca Guenzi late in the process, will be integrated into the minutes of the 7th GC ESC meeting. The paragraph sums up the discussion of the 6th GC ESC meeting on responsibility for compliance in case of a failure encountered after a positive compliance assessment.

"Luca Guenzi noted that if the manufacturers are in any case always responsible, then it is not clear the aim of a certification process and compliance shall be always proven by a test at site agreed with the system operator. The certification process is supposed to provide test methodology shared with the system operator (who should be responsible to supervise) to prove compliance, otherwise they are just a cost burden. The certificate shall be considered a delegation of responsibility from a system operator to a third party (ranging from verifying compliance to setting up a test procedure methodology for which the system operator shall be in any case responsible) to ensure compliance and not from a manufacturer to a third party. The generating unit at one point shall be accepted. It is not acceptable for the manufacturer to be held responsible all over the generating unit life cycle, this request has no economic meaning."

1.3. Follow-up actions from previous meeting

Action 1: *Stakeholders are invited to present examples of discussions in MS regarding substantial modifications from MS and from implementation point of view to help NRAs understand better the problems.* ***On Action (1)****, the Chair notes that ACER has not received any contributions from stakeholders regarding the substantial modifications.* ***He invites again stakeholders to submit to him this input as soon as possible. NRAs require real examples on substantial modifications to understand the nature of issues.*** *The example from Belgium on how to treat 'substantial' needs more maturity to be shared with ACER.*
Action 2: *ENTSO-E will gather and consolidate all input provided to question 2.1 and will provide an updated answer. ENTSO-E will clarify the response regarding LFSM-U based on stakeholder feedback. Action (2) has been done.*
Action 3: *On the question regarding the relationship between Art. 13.4 and 5, Luca Guenzi (EUTurbines) should provide presentations made previously on the topic and data on machines' behavior. On Action (3), ENTSO-E has received a contribution from EUTurbines, but has not proceeded to a new reply. The consolidated reply including the feedback and an agreement on the reply is to be discussed further under point 3.2.*
Action 4: *Regarding LFSM-O operation with hysteresis, ENTSO-E should rephrase the answer to clarify which function is compliant with RfG. Action (4) to be discussed later in the corresponding agenda item. Eric Dekinderen (VGB external consultant) notes that regarding hysteresis, the LFSM-O is defined in RfG as a process to reduce power while CENELEC proposes to go back to 50Hz and increase power. A European point of view on this problem is needed.*
Action 5: *Ton Geraerds (VGB) and Michael Wilch (EDSO) should provide suggestions for improvement on the ENTSO-E answer and ENTSO-E will provide an updated reply to the last question under 2.3. Action (5) to be discussed under item 2.2*
Action 6: *As per the SO ESC discussions, ENTSO-E is asked to enrich the last slide of the presentation on inertia with dates and approximate times when the respective studies will take place and when the interaction with stakeholders is planned within this roadmap on inertia. The updates can be provided on the ESCs' webpage or per email.* ***Action 8****: ENTSO-E should provide a more structured approach for updating the ESCs on the work of the EGs, through regular reporting on overview of the progress on the deliverables of each EG, plans for next EGs etc. Action (6) & (8) discussed under item 1.4*
Action 7: *Issue logger: ENTSO-E is invited to embed the first iteration of improvements as discussed in the SO ESC and the GC ESC and bring the issue logger up as soon as possible for use. ENTSO-E will explore whether there is a way of publishing (in the tool) the old issues as recorded in the minutes of the meetings. Action (7) is discussed under item 2.4*
Action 9: *ENTSO-E will check about possibilities of including contacts of the respective TSO or stakeholders, or information on consultations per country in the AL template. Regarding Action (9), ENTSO-E asks for further clarification on why stakeholders would like to know the contact of a given TSO representative and what would be the benefit. There are data privacy limitations which need to be considered still by ENTSO-E regarding treatment of data and confidentiality of national processes which may be problematic from a legal point of view. Michael Wilch (EDSO) notes that an anonymized address at a TSO can also be helpful to improve transparency. Michael Van Bossuyt notes the objective is to know how the process works at national level and the availability of such contact information could help stakeholders receive further information on what is discussed.* ***The Chair concludes that there is a problem of personal information disclosure associated with the stakeholders' request for transparency on the developments in the national processes. He invites ENTSO-E to find, and present at the next meeting, a suitable approach for this purpose on how to contact responsible parties for implementation in MSs and to make that information available in the active library.***
Action 10: *ENTSO-E should take into account comments received and propose an improved template to be included in the active library, including a follow-up on additional information as mentioned in the Eurelectric slides. Eurelectric will help on improving the Excel file. Once a final template is agreed, it should be uploaded and made visible on the website. Regarding the Active Library, the ESC will check progress on the template completion at the next meeting. Action (10) is discussed in item 6 on Active Library updates.*
Action 11*: As a follow-up to previous discussions on whether it is allowed or not to set up more requirements than in RfG, the EC is asked to clarify whether standards could or should be developed or not.*
Action 12: *A question to formulate for the issue logger is whether the requirements on accuracy of measurements of certain parameters, which are prescribed in the NC either exhaustive or non-exhaustive, fall under the scope of more stringent or more detailed requirements, and if each MS can decide its own accuracy. The addressee of the question is the EC. Action (11) & (12) are discussed under item 5 as the two questions to the EC have been merged into a more exhaustive input in a set of slides by CENELEC.*
Action 13: *WindEurope's question on costs should be discussed at the next GC ESC meeting in September. Action (13): as only 8 participants stayed in the last half-hour of the meeting when WindEurope raised their question, the question was left open for consideration at this meeting. As per WindEurope's feedback there is no need to discuss the question again. Luca Guenzi's comment is retained for the minutes of the present meeting as no additional contributions from members are received.*

Action 14: *A question is raised regarding more stringent requirements and more specifically if the differentiation of requirements within specific type of generators, like type B, is also considered. Can a country adopt two sets of values for the same PGM type, i.e. different values on PPMs and synchronous generators? The question will be discussed at the next meeting but the EC, ENTSO-E and any other interested stakeholder can contribute with their answers. Action (14) is discussed later in the agenda. Input from CENELEC will be considered.*

Action 15: *ENTSO-E will propose dates for the meetings in December, taking into account all 3 ESCs. Action (15): ENTSO-E has proposed dates for the meetings in December, taking into account all 3 ESCs – MESC (11 December), GC ESC (14 December), SO ESC (15 December)*

1.4. ENTSO-E updates on governance

Ioannis Theologitis (ENTSO-E) provides an update on the work of the EGs on high penetration, Cost-Benefit Analysis (CBA), and compliance monitoring (CM) (available here). The **EG on high penetration** is now in the 2nd phase with the aim to release an updated version of IGD on HPoPEIPS by end 2017. The EG holds regular webinars every 3 weeks, and will hold a dedicated session during the Wind Integration Workshop in Berlin to present its work. The **EG on CBA** is active since mid-May and working on improving the IGD on CBA. A full-day workshop takes place on 2nd October to finalize drafting with the aim to launch the IGD latest by the start of 2018. The scope of the work will be focused on NCs where a CBA is required and distinctions between different cases (retrospective application, class derogation or individual derogation), a methodology on the basics of the process for various CBAs, and examples of cases of application of a CBA. The **EG on CM** is being reorganized to link it further with standardisation and possibly provide an assessment on the need for harmonization on compliance testing and monitoring.

ENTSO-E organized a **2nd public workshop on 20th July on frequency stability parameters**, which focused on discussing the ENTSO-E suggestions of a first set of frequency-related parameters, mainly FSM, LFSM-O/U, frequency ranges, RoCoF, SI, etc. A **3rd public workshop will take place at ENTSO-E on 4th October** and will cover the 4 remaining parameters which were not addressed in the previous WS.

ENTSO-E has further updated the roadmap on guidance for frequency stability requirements. A public consultation is planned to be launched in the week of 20th November for 1 month, and depending the comments, the relevant IGDs will be subsequently updated and published by Jan-2018.

Sanni Aumala (Eurelectric) requests that ENTSO-E provides information in such a way as to help stakeholders and the ESCs be aware of the planned work for the coming 6 months to help with planning, including descriptions & purpose of general activities (date, time, location, program detail). She requests to have a for lock-down period of 4 months or alternatively justifications if the organizing party changes the planning of those activities. Ioannis Theologitis (ENTSO-E) notes that ENTSO-E intends to inform stakeholders, in due time, about its activities, but that sometimes the overall planning of these activities also may change upon request of EGs so there should be some flexibility regarding the justification.

Daniel Fraile (WindEurope) welcomes the mid-term planning overview of ENTSO-E and wonders why the EG CM is being reopened if it has already delivered on its initial purpose. On the other hand, regarding the high penetration IGD, he finds that the topics addressed are rather long-term and research ideas, so there seems to be no immediate need to implement this for the current IGD.

Ioannis Theologitis (ENTSO-E) clarifies that on EG CM members of the group expressed interest to continue the work, and a draft working plan is to be elaborated at a kick-off call. Regarding EG HP, all sides have expressed interest to continue working, and the decision to continue the work has been accepted by the group as a whole. If the members decide to update an IGD or want to contribute to an IGD, then they can pursue that direction, but it is not the sole decision of ENTSO-E. The groups have been useful as well for knowledge exchange.

Luca Guenzi (EUTurbines) notes EG CM members discussed and decided that IGD on CM have to be split in two IGDs and one of them is ready. The task proposed has been to discuss the 2nd IGD and the door has been left open to have other meetings on request if needed.

The Chair notes that the ESC only has a role on establishing the priority list of its EGs and not EGs working under ENTSO-E. Nevertheless, transparency on the priorities and work of ENTSO-E's EGs should be ensured. Also, the ESC can give a recommendation to ENTSO-E as to how to steer its EGs and their priorities so as to be aligned with the ESC.

Marc Malbrancke (CEDEC) reminds that as IGDs have to be established by ENTSO-E, it is ENTSO-E's responsibility to write and update them. It is good to have EGs to provide information on these aspects. The process for open consultation has to be continued as usual.

The Chair confirms that it is a common understanding that the IGDs should develop over time: ENTSO-E should take into account stakeholders' input on the prioritization of IGDs, but transparency in the development of the IGDs is needed. It is desirable to have a regular input from the EGs to the ESC so as to understand the work progresses. The work of the EGs and the experts is highly appreciated.

Luca Guenzi (EUTurbines) notes that it has been difficult to find the IGDs sometimes and further transparency is needed to facilitate sharing and public use of the documents. Ioannis Theologitis (ENTSO-E) mentions he will address this point later on during the meeting. In addition, the new ENTSO-E NC webpage has a dedicated site with all the updated IGDs for convenience.

Ioannis Theologitis (ENTSO-E) notes that the given priorities are respected for the frequency stability parameters - 6 IGDs, and if topics don't fall into high priorities, some can be disregarded. It is also noted that since the implementation phase for RfG at least – i.e. definition of the non-exhaustive requirements – finishes in May 2018, more IGDs or updates in the coming year will provide minimum support.

Regarding the timelines on upcoming activities, Michaël Van Bossuyt (IFIEC) asks if it can be shown in different colours what events are physical meetings vs. calls, and recommends that public consultations should not fall over holiday periods to enable stakeholders to provide timely contributions.

The Chair encourages ENTSO-E to provide for the future workshops opportunities to connect through web/conference calls to enable wider stakeholder participation.

1.5. New ENTSO-E network codes website

Stela Nenova (ENTSO-E) presents the new ENTSO-E website dedicated to network codes which will be launched by ENTSO-E in September. The site aims to provide a one-stop shop for all codes' development and implementation, as well as easily accessible and organized information on upcoming consultations, workshops, events and NC deliverables. The site further offers possibilities for RSS updates on network codes.

Stakeholders welcome the improvements and the visibility of the timelines for upcoming NC deliverables.

1.6. NC online training

Stela Nenova (ENTSO-E) provides a short overview on the upcoming 7-week online course, focused on electricity market and system operation codes, which has been developed in collaboration with the Florence School of Regulation, ENTSO-E, EC & ACER (available here). The NC training runs from 10 October to 30 November 2017 and further information about the course and registration is available here.

2. ENTSO-E answers to questions from previous meeting

2.1. Updated interpretation on DCC art. 15.2

Regarding Art. 15.2 DCC a joint DSOs response has been submitted as a reaction to ENTSO-E's answer on the interpretation of art. 15.2 DCC (available here).

The Chair provides a brief analysis of the situation regarding the interpretation of Art. 15.2 DCC. The DSOs response is different from the ENTSO-E response regarding the wording of Art.15.2 DCC. In the past, two different interpretations have been received from BE DSOs and GB. The chair has checked the NC proposal which ACER had received for recommendation to adopt: in this draft text, the provision on reactive power compensation at 25% active power import capacity was a mandatory requirement except in situations where either technical or financial benefits are demonstrated by the TSO, etc. In its recommendation, ACER has stated that the provision lacks clarity with regard to whether national scrutiny covers the whole requirement or is limited to the demonstration of possible technical or financial system benefits, and indicated that this needs more clarity to the EC. The EC rendered that provision not mandatory, saying "the TSO may require" and then subjecting it to a joint analysis. There are now different views from ENTSO-E and DSOs as to how they have to implement this provision. The text of the code is the outcome of comitology as agreed by MSs. In the absence of new facts or knowledge that might require some modification, there is no need to modify anything in this regard in the NC.

Ralph Pfeiffer (ENTSO-E) notes that the original question has been about interpretation of Art. 15.2 on content on how to understand the technical requirement in the article. There were different views by DSOs and ENTSO-E so we have made reference to what was discussed during the technical development and understanding then. This is recorded in many documents prepared in due course of the development. When this work on the NC was finished, there was a common understanding evidenced in the minutes of meetings. Wording has been changed during comitology and it is difficult to reflect original intent from changed wording. This was ENTSO-E's motivation in its response to the question as to how to understand this requirement. Now, additional complexity is introduced by stakeholders because the procedural issue regarding the CBA has been brought up and this was not part of the original question.

Michael Wilch (EDSO) notes that DSOs propose a CBA should be first performed, then the most beneficial solution should be chosen. He accepts the formulation of the article as it is now.

The Chair presumes there is no outstanding question on possible misinterpretation on the article as such. Michael Wilch (EDSO) notes that DSOs would not like to perform a CBA every time. The Chair mentions that the wording says "may", which means that is not "obligatory." Ralph Pfeiffer asks the Chair if he said that there is no misinterpretation of the content. The Chair's observation is that ENTSO-E has provided a different wording, but did not say in the answers that the interpretation of the legal text, which has been presented in previous meeting (e.g. GB interpretation), is wrong.

Ralph Pfeiffer (ENTSO-E) clarifies that the ENTSO-E response was saying that, content-wise on the technical issue, they do not share the interpretation of GB and Belgium. They believe that the text can be misunderstood and misinterpreted content-wise. The ambition of ENTSO-E has been to clarify more precise on the technical content which is different from GB and BE understanding. And based on joint DSOs input he sees there is still different technical understanding.

The Chair notes that the joint DSO proposal on the revised wording does not go into how the 25% of max import capability range should be split. Conversely, in the ENTSO-E proposal there are two options from which one needs to choose from and an unexplained notion of "normal range of output of generating resources". However, in the explanations it is said that "capability of reactive power compensation shall cover the worst case realistic network condition of minimum demand". The Chair notes, that from his perspective, there is a gap between the analysis and the proposal which makes the proposal subject to misinterpretation. It is not entirely clear why the two options on the 25% are needed. The joint DSOs response does not discuss the two options, but proposes conditioning the application to the outcome of a CBA. Nevertheless, this aspect has been resolved in comitology through MSs voting.

Eric Dekinderen (VGB external consultant) asks whether we can allow for two interpretations. The Chair notes that the ESC does not have a role in allowing anything when it comes to interpretations. Eric Dekinderen mentions that in this case he would question the quality of the legal text. The Chair mentioned that, if his recollection is correct, the EC sided with one of the stakeholders' interpretation of the legal text in one of the previous meetings.

Ioannis Theologitis (ENTSO-E) notes ENTSO-E is just providing their understanding and this interpretation can be left as a background, while DSOs' opinion can also be uploaded in the issue logger along as another interpretation. ENTSO-E does not have the power to change something in the text, and has provided a proposal on how the question could be solved.

The Chair clarifies that neither of the two proposals (ENTSO-E's and joint DSOs') is considered by ACER as a formal request for amendment. ToRs say the ESCs will discuss the proposals for amendments but this does not mean they will decide on them.

2.2. Updated responses to questions raised in CENELEC's slides (including input from VGB and EDSO)

The (joint) stakeholders' response to the questions raised in CENELEC's slides is available here.
Luca Guenzi (EUTurbines) provides an explanation on the technical limitations of gas turbines to deal with requirements related to active power profile at falling frequencies, which is based on a previous presentation and an update on Art. 13(4) RfG at falling frequencies (available here). Regarding gas turbines' technology, there are variations in the behaviour of the machines depending on conditions which are not possible to control. According to the curve presented (Figure 2.), at full power the machine behaviour changes depending on the frequency and the ambient temperature. The interpretation of EUTurbines is that if the requirements cannot be respected, the generator should provide information to the system operator on the deviation of the gas turbine itself. The document is a recap of an old document that has been presented originally in the drafting phase of the code.

Eric Dekinderen (VGB external consultant) notes that the codes state that the technical capability of modules would be taken into account and at the moment this covers all (if the TSO accepts what the CCGT capability is). This seems to have been discussed and agreed upon some years ago in the discussions, resulting in a modified text to take into account the technical capabilities and solve the problem (ref. can be checked in the minutes of meetings with the EC in 2013).

Thomas Lescarret (Eurelectric) notes that the interpretation of the code in France is same as ENTSO-E's interpretation: the rule at national level must be included into figure 2 of RfG, but while defining the rule, some technical limitations should be taken into account. If one country allows to decrease max power at 49 Hz with rate of 2% for specific technologies, that can be a specific rule. In France, there is a specific rule for CCGTs which has been accepted (much higher rate to increase).

Michael Wilch (EDSO) notes that there is a common agreement that technical capabilities should be taken into the account, and technical limitations have to be taken into account; those can be implemented in the system studies if it is known already that something might happen.

Raju Srinivasa (EUGINE) points out that requirements for capability in RfG should be technology neutral, not discriminating between various technologies.

Eric Dekinderen (VGB external consultant) reminds that an additional line in the code is that ambient temperature should be defined as well. There should be no problem if this is done. That type of external parameters has been added at the time by the EC. Regarding the LFSM-O, Thomas Lescarret (Eurelectric) notes that as CENELEC is a global organization, he is convinced the way ahead is harmonization on topics, like frequency parameters among others. He suggests a WG or EG could be launched, gathering both CENELEC and ENTSO-E representatives (e.g. WG on frequency parameters) as it seems some parameters and some topics are studied in both organizations' WGs in parallel.

The Chair notes this can be discussed again under item 6 (5 new), given further information will be provided later in the meeting, to ensure the approach forward is defined once all information is available. The Chair reminds that CENELEC turned to the ESC with some questions, and the purpose of the ESC is to give best feedback and where possible, harmonized feedback. Nevertheless, CENELEC's internal processes are out of the scope of the ESC. Subsequently, CENELEC should come back with feedback if the input from the ESC is sufficient for them to proceed with the work.

Ralph Pfeiffer (ENTSO-E) notes there is no issue with regard to LFSM-O as the ENTSO-E position seems in line with the DSO and SH position on this. ENTSO-E's diagram defines an upper limit of active power output, and if there are any more for any reasons at DSO level, this is no problem at all. Regarding LFSM-U, there can be a potential conflict of interest as it is needed to increase active power output from the system, but there could be local constraints that require reduction. The question is what shall prevail in this case. ENTSO-E will tackle this in the upcoming IGD on LFSM: under certain conditions if ENTSO-E can agree on such conditions, the local constraints of a TSO can prevail over system needs. ENTSO-E will need to define more precisely these conditions. If there is a common understanding and agreement on the framework conditions, then a solution that is acceptable to both parties can be found.

Klaus Oberhauser (VGB Powertech) notes in LFSM-O cases, it is not the job of CENELEC to find a new curve/limit on how to cover the power. If there are technologies which might need hysteresis because of power plant-driven processes, the option given by RfG should not be limited by CENELEC as this could be seen as a new requirement.

Michaël Van Bossuyt (IFIEC) notes that this is not only for local system security needs. The Seveso obligations on security of facilities is required to apply simultaneously. There can be a risk that one might lose facilities physically.

Ralph Pfeiffer (ENTSO-E) notes that regarding industrial sites, there is a definition for some industrial cases and conditions for disconnection of PGMs together with critical loads as coordinated with the relevant TSO (Art. 6 RfG).

The Chair clarifies that if there is an EU regulation, it is directly applicable, regardless of other circumstances.

Ralph Pfeiffer (ENTSO-E) notes that in such cases an agreement needs to be found on system needs.

2.3. System Inertia Roadmap (holistic approach throughout the suite of network codes)

Ralph Pfeiffer (ENTSO-E) notes that ENTSO-E is working on coordinating the activities for the system inertia roadmap. As it is a cross-committee issue, and for the moment it is too early to be able to provide precise timing on all aspects, ENTSO-E is continuing its efforts on this, and will present an update to the timelines and activities foreseen latest at the next ESC meeting (given the fact that the SOGL also entered into force some internal workshops will follow first).

2.4. Issue logger

Ioannis Theologitis (ENTSO-E) provides a brief overview on the latest improvements on the issue logger based on stakeholder feedback from the GC ESC meeting in June (process for updating, search and filtering options, colour codes, responsibilities etc.). As soon as the disclaimer is cleared legally, the tool will be made available for public use on the ESC platform. Stakeholders will need to sign off an agreement form with regard to the disclaimer to ensure that it complies with upcoming Data Protection Regulations. It should be clear as well that answers logged in the tool are not legally binding. ENTSO-E can further indicate in the answers name/field when the answer was submitted. ENTSO-E uploads to the tools whatever document ESCs' members submit to a given question.

Luca Guenzi (EUTurbines) recommends that a short explanatory text is provided so as to give instructions on how the tool should be used: defining the process of how it works, functionality in the tool itself, and who, how, etc. to help users navigate more easily.

Ioannis Theologitis notes ENTSO-E will add an introduction on how the tool works, explaining the process so the user can interpret easily.

The Chair notes that signing a disclaimer is necessary as some of the documents uploaded may contain further data about the authors that may require compliance with data protection rules.

Daniel Fraile (WindEurope) notes this is a very good tool, but it may be worth improving clarity on who is responsible for a given answer. It becomes difficult to understand how to interpret an answer if EC/ACER/ENTSO-E are there as options, and for some topics many do not have an opinion.

The Chair notes that regarding the word "validation" used in the tool, a clearer explanation could be provided for it or a different term be used.

Sanni Aumala (Eurelectric) suggests the notification can be "open/closed issues," or "consensus reached."

The Chair invites ENTSO-E to consider those suggestions in the process of improving the tool further. ENTSO-E welcomes any other comments and suggestions on features of the tool can be further improved.

3. Frequency stability parameters
3.1. Report from the public workshop - ENTSO-E

Ralph Pfeiffer (ENTSO-E) provides an update on frequency stability requirements as covered on the action plan as shown in the slides under point 1.4 (here). In the WS in July, ENTSO-E presented its initial proposals on parameters/specifications to be made for a number of topics. This was also based on information from the national implementation processes. The WG CNC assessed these proposals and provided initial proposals in the WS. Some suggestions/comments were raised, and ENTSO-E is taking on board these results in the drafting of IGDs on the issues discussed. On some of the issues ENTSO-E could give only first indications, and the next workshops will provide further inputs. The results of the workshops are taken into account for the next IGDs, with timelines as per the roadmap.

Thomas Schappe (CENELEC) asks if it is correct to assume that the intention of the workshop was to come to common understanding of what parameters should be used in national implementation.

Ralph Pfeiffer (ENTSO-E) clarifies that the intention of the workshop has been to present as part of the whole process on the development of IGDs on frequency stability parameters – to share with stakeholders ENTSO-E's consideration and take on board the stakeholder views and opinions for continuing further.

Thomas Schappe (CENELEC) notes that this work can be interesting with regard to implications for CENELEC's work to find best practice examples in central European zone or beyond.

Ralph Pfeiffer (ENTSO-E) notes that there are preliminary values only, but the objective of the implementation guidance is to propose/give indication values for this, for frequency stability parameters' harmonization at synchronous area should be achieved; for some it was agreed, and ENTSO-E has shared some requirements.

Thomas Lescarret (Eurelectric) requests that these works are being done in the WG and confirm that ENTSO-E is making global studies to recommend/propose values for parameters. The exchange demonstrates that there are common works/studies done in CENELEC's WGs, but from system operation point of view small units cannot be studied separate from others. ENTSO-E also recommends some complementary requirements, but some of the work seems to overlap with CENELEC's work, so it could be useful to align those further.

Thomas Schappe reminds that CENELEC is not just a stakeholder as the others, but it is a platform in Europe in charge of writing standards. TSOs monitor what is being done, but CENELEC includes a number of various stakeholders with interest in relevant aspects. If there is detailed work at ENTSO-E, then CENELEC hopes to get the input so that it can be included in relevant documents.

Ioannis Theologitis (ENTSO-E) notes that timelines are different for the ENTSO-E and CENELEC's work, but suggestions of ENTSO-E are shared openly.

Thomas Schappe (CENELEC) requests if possible that ENTSO-E helps CENELEC follow and monitor the developments.

Ralph Pfeiffer notes that ENTSO-E has formally applied for membership to the CENELEC WGs, and can therefore give comments, contribute to the work, but has no right to vote as ENTSO-E. ENTSO-E can give recommendations to the national committees as to a direction to vote, but TSOs are one amongst many other stakeholders represented.

3.2 Discussion
EUTurbines presentation

Luca Guenzi (EUTurbines) notes that EUTurbines supports the initiatives promoted on specific topics (CBA, frequency stability parameters workshops, etc.) and presents a few recommendations to ENTSO-E for further actions (slides here). Regarding RoCoF, EUTurbines recommends additional studies be conducted, focused on identifying alternative measures to prevent high RoCoFs. He provides some examples on tools to prevent or limit RoCoF. On LFSM-O, EUTurbines would like to see that the implementation of requirements takes in consideration technology constraints, including limitations when generation is embedded in an industrial plant (cogeneration, industrial processes, etc.). He provides further feedback on the Frequency Stability Workshop and the variety of gas turbines' behaviour when the frequency drops (regarding Art. 13.2 and capabilities for power reduction at falling frequencies). Regarding stakeholder contribution to the evolution of NCs' requirements, EUTurbines would like to see open discussions and the setting-up of an expert team to contribute to the text drafting. Luca Guenzi (EUTurbines) encourages ENTSO-E to provide easier access to the IGDs on the ENTSO-E website, as this helps monitoring of the process and informs of ongoing activities.

Ioannis Theologitis (ENTSO-E) notes the new version of the Network Code website (U) provides direct links to the IGDs to help stakeholders navigate and find the most relevant information.

Sebastien Grenard (Eurelectric) asks if some TSOs have existing information/values from various countries to help stakeholders understand the requirements in the discussion on frequency requirement for DSR in the DCC.

Ioannis Theologitis (ENTSO-E) notes there are no such examples yet, but those will be part of the work on requirements.

The Chair notes additional contributions from stakeholders are welcome as well.

Thomas Lescarret supports Luca Guenzi (EUTurbines) and highlights the need that the ESC will be informed if some new drafting of amendments is beginning, and if ENTSO-E is asked to draft a new amendment to the code.
The Chair notes that it is a common understanding that when ENTSO-E is asked to be transparent the related information should be shared with the ESC.
Ralph Pfeiffer (ENTSO-E) notes that regarding RoCoF, this topic is not considered separately from others as it may seem at first sight. RoCoF should not exceed 2Hz/s. This happens not by itself, but when some other factors like synthetic inertia or a set of measures come together at a given moment. Regarding the recommendation for LFSM-O to consider technical constraints, ENTSO-E does this as well. There has been a survey in early 2017, asking stakeholders' views on a number of issues with regard to frequency stability and the technical limitations. Feedback on the survey has been modest, but the schedule is tight and ENTSO-E is taking on board the inputs received to the survey.

Thomas Lescarret (Eurelectric) notes that the objectives of the survey and the process to treat the responses appeared not to be very clear for some companies and points out that some early exchanges of ENTSO-E with stakeholders before launching such consultation would be very helpful and useful in the future.

The Chair reminds that another workshop on the topic is organized by ENTSO-E on 4 October, so stakeholders can provide further inputs.

4. EC update & feedback

Elaine O'Connell (EC) provides a brief update on the state of play of NCs by phone. The SOGL has been published on 25 August 2017. E&R under scrutiny possibly till end-October, expected publication is by end of the year. The EC might update later on RfG but will come back with updates on that and a more formal presentation later, based on additional feedback from previous meeting.

On balancing, Elaine O'Connell will confirm shortly the timelines.[1]

5. Standardisation progress – CENELEC

Thomas Schappe (CENELEC) provides an update on the ongoing work in CENELEC on standards prEN50549-1, -2, and their status (slides available here). Regarding prEN50549-1 & 2, the enquiry stage is closed, and formal vote is planned for early 2018. The WG3 is treating comments from NCs from September to December 2017. Regarding work on EN 50549-10, the standard provides test procedures for measurement and assessment of electrical characteristics of a generating unit. The objective is to publish those standards by end-2019/early 2020.

[1] As confirmed per email by the EC: the EBGL is in scrutiny until mid-October so the expectation is for it to be published by the end of the year – it is on a similar timeline to the Emergency Restoration Code.

The open question that CENELEC TC8X WG03 still needs a clarification from the GC ESC in order to know how to proceed further is whether a European standard may impose more stringent requirements than imposed by NC RfG and whether MS may use such a standard. CENELEC presented a letter on this to the GC ESC. Reg. 714/2009, art. 8 (7) stipulates that NCs shall be developed for cross-border network issues, without prejudice to MSs' right to establish national NCs which do not affect cross-border trade. Thomas Schappe provides further examples on aspects that need to be clarified and the WG03 interpretation and understanding of those aspects (namely: *are requirements which are not dealt with in the NC RfG to be considered as illegitimate more stringent requirements? Are additional requirements to requirements dealt with in the NC RfG (accuracy of control and response times) to be considered as illegitimate more stringent requirements or as needed detailed requirements? Are requirements which are dealt with in the NC RfG for some type of generators to be considered as illegitimate more stringent requirements if they are imposed to other type of generators (Type A) during national implementation, and what are the technical requirements regarding UVRT for type-A PV generating module*).

The Chair notes that questions are not new, as the GC ESC had already tried to address some in the past meetings. As a background to the matter, in the development phase of the NCs, ACER asked from ENTSO-E for a baseline, i.e. overview of present/existing requirements, and proposals for new/modified requirements for the NCs, including justifications.

Thomas Schappe (CENELEC) notes the interface protection in view of WG3 (frequency voltage protection) means a generation plant has to disconnect at under voltage, and this is not covered for type A. UVRT is covered in RfG for types B-D, meaning that either it is intentionally left out for type A and thus covered in EU legislation or not considered for type A and not covered by EU legislation. EU legislation is as a consequence not required for type A. If that is the case, national legislation can provide a different requirement, if not covered by EU legislation but there seems to be a contradiction.

Elaine O'Connell (EC) notes the EC would need more details to answer the questions raised by CENELEC and by stakeholders regarding some of the clarification needed on whether MS can impose 2 sets of values for the same type of PGMs. On type A and what is implied, RfG has requirements for different types of generators. Type A generators and FRT requirements are both covered in RfG. If they don't apply in RfG, they don't apply to type A. There are discussions on what should apply to type A - some MS plan to apply these to type A generators. The NC should ensure common and harmonized approach around Europe. The RfG is based on evidence from 2012 and before but conditions have evolved since then. It needs to be assessed if further work is needed, e.g. amendments reflecting the new conditions. **Before moving ahead however, the EC needs to understand better this context and will formally ask ENTSO-E to look at this, and report back at the next ESC. This will also help get a harmonized approach across Europe. Stakeholders can feed into the ENTSO-E process. A question to ENTSO-E is which MSs are planning to apply the FRT to type A generators and what is the reason for this (i.e. is it security of supply or cross-border aspects). Other questions include: what about forward looking options – what amendments would be necessary? Can it be dealt with as a standalone matter? Is it urgent or not? The EC needs to understand what the issue is, if there is one, and how urgently it has to be addressed. A common view across Europe is needed on this.**

Ralph Pfeiffer (ENTSO-E) notes ENTSO-E will work on addressing those questions. Regarding the question if it is an accident that FRT does not apply to type A or intentionally, he notes that it was intentional and that has been the will at the time of RfG drafting to have these requirements for types B, C, and D only. The decision was deliberate in the drafting team not for reasons to prohibit FRT for type A, but the decision was made under the conditions that were at that time (in 2012), where FRT for type A was considered not to be a cross-border issue and so it was only of local relevance. In the current context, type A generation capacity has significantly increased in some areas, and the physical reality of the system has changed since the time of the drafting of the code. In the current context, if a generator does not have FRT capability, this may result in loss of generation of several thousand MW which will have a cross-border impact. This might put system security at risk of severe disturbance. A new angle needs to be considered, but type A generation is different across (i.e. for some countries it is an issue, for others – not yet). The open question is not only on FRT capability for type A generation, but how to deal with developments of the system where certain characteristics become cross-border relevant at some point of time, such as the FRT for type A. Other examples may appear in the future as well.

The Chair notes that it is necessary to understand how the different interpretation or potential amendment could affect various technologies of type A generators: is it the case that all technologies of type A have the same problem or a further diversified approach is needed on that? Without having the complete background, it is difficult to judge. A relevant baseline is missing. It should also be clarified if the request to ENTSO-E is to investigate all questions that CENELEC raised today. The Chair suggests that ENTSO-E, with the help of stakeholders, works further to establish the background to all questions raised in the CENELEC paper.

Michael Wilch (EDSO) notes that on reactive power requirements, as a simple assumption which is the case at the interface TSO-DSO, and others on small generator types with no reactive power requirements, the cross-border aspect can be solved by taking into account the reactive power requirement at the interface. Then it is up to the DSO to define whether it needs reactive power capability from a certain type of generator to fulfil those requirements as in the DCC.

Elaine O'Connell (EC) notes that some additional details will be needed to address the questions. The purpose is to raise issues like this and come together with a common understanding at the ESCs for how to treat these issues in the future. On the process side, this can be as a test case on how to address such questions in the future. The issue should be dealt with as quickly as possible.

The Chair encourages to log the issues that have been raised into the issue logger tool, and invites stakeholders to provide the baseline, also based on the information available in different regions, and to provide inputs to the questions raised.

Thomas Schappe (CENELEC) asks for clarification on how to ensure compliance with existing rules as one text has been published and some exhaustive and other non-exhaustive requirements exist simultaneously. Thomas notes that on RfG, it is not feasible to write a document/test procedure that gives past criteria. For example, for frequency if there are too many open parameters and too much freedom left to the TSO, without taking into account national implementation, CENELEC cannot come up with a testing standard. CENELEC writes a testing standard defining the technical behaviour of a generator and then it is up to somebody else who knows the specific requirements whether the specific requirements can be matched by the specific machine.

Thomas Lescarret (Eurelectric) notes he thought the work of CENELEC should be to stamp compliance or non-compliance with the RfG. When FRT for type A is useful or needed, but is not in the code, it could be dangerous for generators (i.e. if there is a very specific need that is not covered in RfG): if in one country this is needed or useful for type A, why should everyone else in other countries also adopt this requirement? In a more global point of view, Thomas Lescarret is surprised by the fact that some questions and topics discussed here with CENELEC are not in the scope of RfG.

Thomas Schappe (CENELEC) confirms that the objective of CENELEC's works evoked here is not to provide an 'RfG compliance standard'. The standard targeted will have a unique value for non-exhaustive parameters and will have some additional parameters, not mentioned in the RfG.

Thomas Schappe (CENELEC) asks if national implementation may request UVRT for type A: ex. for DE, it was discussed in 2013, with 30GW of PV in low-voltage levels. If we do have a high voltage short circuit that would affect a large area, the likelihood to lose many type A generators is high. Studies were done and concluded that this requirement is needed for system stability.

Thomas Schappe (CENELEC) notes that CENELEC does not have the solution of the question on how to test the compliance for type A and types B according to RfG as written today and it is a problem. Today more capabilities are needed than what is required in the RfG. A generator could have a unit compliant with RfG but might not know how to test it (CENELEC is working on a procedure for this), so the unit could be compliant with RfG, but not with the CENELEC standards. The fear is that the RfG will be complemented with a new requirement, as also raised at the GC ESC meeting in June.

Ralph Pfeiffer (ENTSO-E) reminds that in the discussions whether FRT is needed for type A or not, this should not be taken as all-or-nothing matter. It is known now that there are non-mandatory requirements in RfG to leave at national level the possibility to introduce a requirement or not, so this should be kept in mind when discussing this matter. Regarding the question whether reactive power requirements affect cross-border trade, Ralph Pfeiffer (ENTSO-E) notes a case-by-case evaluation is necessary.

Michael Wilch (EDSO) notes that it cannot be proven whether it is a yes or a no, but it could be assumed it has no influence until it is observed that something has an impact.

Teelke Oldermann (BNetzA) notes that for FRT the discussion has changed over time, and now it cannot be concluded with certainty that this aspect has no cross-border influence, also regarding the reactive power requirement. This may further evolve in the next 5 years.

The Chair concludes that ENTSO-E will formulate the questions in the issue logger, upload the questions and subsequent inputs received by various stakeholders, to help clarify the entire set of questions as raised by CENELEC slides. All stakeholders are invited to contribute to answering the questions. **As per request of Eurelectric, ENTSO-E will inform by email the GC ESC once questions have been logged into the tool.**

Jakub Fijalkowski (E-control) notes that the questions relate to type A but a sensitivity analysis can be performed depending on the threshold, and it would be helpful if ENTSO-E could do sensitivity analysis for the impact of the threshold.

Thomas Schappe (CENELEC) notes that the standard is not compulsory in Europe. There are harmonized standards under certain directives, where CENELEC follows the directives. Application of standards is always optional, but if a standard is harmonized for a certain directive, then there is a presumption of conformity. For CENELEC, RfG does not have the concept of standardisation, so application of European standard is completely optional, and rests on an agreement between both parties (usually a DSO and a generation plant operator).

Daniel Fraile (WindEurope) asks if this standard relates more to performance; subsequently some quality may be shown which might not be necessary. If something different is proposed, there might be incentives to do something different. There is a risk that this additional requirement may increase the cost of equipment and the cost for consumers across Europe if applied.

CENELEC notes they want to write a standard as close to general requirements as possible, not only to legal requirements but also to technical requirements, including scientific studies' inputs and knowledge.

Jan Rasmussen (Eurelectric) notes the requirements, if additional to the RfG, will be made at national level, there will be requirements even if no standards. The aim seems to be that the requirements are harmonized. He asks for a clarification regarding the EC slides for the GC ESC meeting in Dec 2016 which said that a more stringent requirement could be imposed in European standards and it was a way to circumvent the RfG requirements, and whether this is still valid.

Elaine O'Connell (EC) clarifies that the RfG is directly applicable in MS. The hierarchy is EU legislation is higher. If there are two specific requirements that are different than in a MS, the EU legislation is higher.

Jan Rasmussen (Eurelectric) notes that a requirement can be different in 2 different synchronous areas. If a standard is made to cover both synchronous areas, the requirement in one area may be more stringent that the requirement for another area, while the objective is to make a standard that applies to both, which means in some areas it would be more stringent. Is this legal and is it allowed?

Elaine O'Connell (EC) clarifies that a more detailed requirement is ok, but a stricter requirement is not allowed.

6. Active Library – 6 new
6.1. ENTSO-E's update on the template
6.2. Active Library Discussion

Ioannis Theologitis (ENTSO-E) provides an update on the Active Library (AL). ENTSO-E held dedicated meetings on the collection process exercise, and will provide more inputs to the AL. Some of the new inputs still need to be assessed. The xls file (available here) will be also linked to the ESC website, and further updates will appear there. The current collection includes information on threshold status for each country and will be continuously updated. ENTSO-E has not had the opportunity to collaborate yet with Eurelectric on the template over the summer break period but will find an opportunity to do that for further improvements. If another tool is more suitable, the xls file may be replaced by it.

Sanni Aumala notes Eurelectric may provide further feedback to ENTSO-E on the template, as also agreed at the June meeting.

Ioannis Theologitis (ENTSO-E) clarifies that the Network Code Link People (NCLPs) in the TSOs provide updates into the xls file. Questions and any mismatches can be communicated to Ioannis Theologitis (ENTSO-E). The link will be available on the Active Library page. Depending on the parameters in the file, if information is available publicly, and can be linked, users will be able to see the references and links in the file.

The Chair concludes that the follow-up with Eurelectric as agreed at the 6th GC ESC will still take place with a view to improve the table with other features as Eurelectric had presented. Ioannis Theologitis will follow-up with Thomas Lescarret (Eurelectric) on that.

Luca Guenzi (EUTurbines) asks if there is a possibility to provide information in the AL with regard to the status of a given document (if it is final or not, etc.). In a previous meeting it has been discussed to provide the status and qualification of the document (information to be filled by whoever wants the document published).

Ioannis Theologitis (ENTSO-E) clarifies that whenever a document is received from stakeholders, it needs to be checked with the respective TSO representative; the possibility is still there, but this will need to be checked with the NCLP.

7. AOB

7.1 CBA methodology consistency – Eurelectric proposal

Sanni Aumala (Eurelectric) requests that consistency with the work on the EG CBA in CNCs is ensured with the upcoming work on SOGL CBA methodology (art. 156.11, art. 10) – the conclusions from the CNC EG CBA work should be taken into account for the methodology developed for consultation on the system operation side (slides available here). The conclusions of the EG CBA are expected for Nov 2017 and could be of relevance even if CNC EG documents are non-binding, unlike the methodology which is binding.
The Chair recommends that ENTSO-E takes this proposal and considers it at its SO codes' implementation WG(s).

7.2 More stringent requirements – CEDEC proposal

Marc Malbrancke (CEDEC) notes he has shared a document on the legal interpretation of more stringent requirements by one BE DSO (available here). DSOs could ask for additional requirements for certain types of generators connected to the distribution grid.

The Chair emphasises the reference, in the document, to Art. 5 of Electricity directive on interoperability requirements.

Ralph Pfeiffer (ENTSO-E) asks whether it is proposed that when you define requirements at national level which may be possibly in conflict with RfG, can a derogation be used in such a case.

Marc Malbrancke (CEDEC) notes that if the NC does not provide a requirement which might be needed by certain types of generators, as it is left open, just to say that in some cases where a different requirement is needed or if necessary to derogate, that process may be used. This is the interpretation of lawyers having read the context of the code.

Ralph Pfeiffer (ENTSO-E) says the objective of the derogations, as per NC, is that they are for exceptional cases to release a class of generators from requirements, but not to be used in the context of establishing different requirements at national level.

Jan Rasmussen (Eurelectric) notes that regarding the paper, it is aligned with the CENELEC letter. It is written in the code that by doing national implementation, the European standard and technical specifics should be considered. In the Directive, there is a provision to make requirements on national level and technical standards. When you implement RfG, you have to consider existing standards.

The Chair notes the baseline is key in this case. It should be noted that the document is relevant for all questions raised in the CENELEC document.

The next GC ESC meeting is confirmed for 14th December (back-to-back with the SO ESC on 15th December).

ENTSO-E will propose dates for meetings in 2018 (back for the 3 ESCs) within similar time periods as in 2017 and communicate those per email.

8. Follow-up actions

- 1. Stakeholders are invited to submit to ACER examples discussed in MSs regarding substantial modifications.
- 2. ENTSO-E should find a suitable approach for the purpose of transparency on how to securely provide a contact for the TSO parties responsible for implementation in MSs and to make that information available in the active library.
- 3. ENTSO-E should present an update to the timelines and activities foreseen for the system inertia cross-committee and cross-code work latest at the next ESC meeting.
- 4. The EC will formally ask ENTSO-E to look at the following questions and report back at the next ESC: which MSs are planning to apply the FRT to type A generators and what is the reason for this (i.e. is it security of supply or cross-border aspects). What about forward having options – what amendments would be necessary? Can it be dealt with as a standalone matter? Is it urgent or not?
- 5. ENTSO-E, with the help of stakeholders, should work further to establish the background of the questions as raised in the CENELEC paper and establish the current relevant baseline with regard to the various technologies of type A for RfG for all types of requirements. Stakeholders are invited to contribute to establishing the baseline, including information available from different regions, and to provide inputs to the questions raised.
- 6. ENTSO-E will formulate the questions in the issue logger, upload the questions and subsequent answers and inputs received by various stakeholders. ENTSO-E will inform by email the GC ESC once questions have been logged into the tool.
- 7. Active Library: ENTSO-E should follow-up with Eurelectric as agreed at the 6th GC ESC with a view to improving the table with other features as Eurelectric had presented.

- 8. ENTSO-E should take up the Eurelectric proposal to ensure consistency between the CBA for CNCs and SOGL within the stream of work on the SO codes' implementation.
- 9. ENTSO-E will propose dates for meetings in 2018 (back for the 3 ESCs) within similar time periods as in 2017 and communicate those per email.
- 10. Action 14 from 6th GC ESC meeting (the question whether a country can adopt two sets of values for the same PGM type, i.e. different values on PPMs and synchronous generators) should be followed-up at the GC ESC meeting to ensure exhaustive input has been provided to clarify the question.