

18th Grid Connection European Stakeholder Committee (GC ESC)

4th June 2020

10:30 – 15:30, GotoWebinar

Draft Minutes

Participants		
Uros	GABRIJEL	ACER (Chair)
Vincenzo	TROVATO	ACER
Thomas	HOLZER	BNetzA
Alberto	BRIDI	CEDEC
Florentien	BENEDICT	CEDEC
Marc	MALBRANCKE	CEDEC
Knud	JOHANSEN	ENTSO-E
Alexander	DUSOLT	ENTSO-E
Ioannis	THEOLOGITIS	ENTSO-E
Rafal	KUCZYNSKI	ENTSO-E
Francesco	CELOZZI	ENTSO-E
Ralph	Pfeiffer	ENTSO-E (13:00 – 15:30)
Freddy	ALCAZAR	EUGINE
Srinivasa Radju	ADDALA	EUGINE (Member GC ESC)
Luca	GUENZI	EUTurbines
Mike	KAY	GEODE
Anneli	TEELAHKT	The European Association for Storage of Energy - EASE
Klaus	OBERHAUSER	VGB Powertech
Eric	DEKINDEREN	VGB Powertech
Ton	GERAERDS	VGB Powertech
Vasiliki	KLONARI	WindEurope
Elaine	O'Connell	European Commission
Jean-Noel	MARQUET	EURELECTRIC

Jan	Rasmussen	EURELECTRIC
Frank	MARTIN	WindEurope
Martin	HEIDL	SolarPower Europe (substitute)
Maxim	BUQUET	EUTurbines
Michael	VAN BOSSUYT	IFIEC
Pavla	ERHARTOVA	Europex

1. Opening

1.1. Review of Agenda

The Chair welcomes the participants to the 18th GC SC session.

There are two additions to the AoB from Freddy Alcazar and Luca Guenzi.

Freddy Alcazar (EUGINE) proposes to include an item about frequency ranges. The Chair reserved 5 to 10 minutes under the AoB.

Luca Guenzi (EUTurbine) would like to include an item concerning the creation of an additional Expert Group (EG) to cover smaller items not addressed by the existing EGs. The Chair includes the item under the discussion about the new EGs.

The [Agenda](#) is approved.

1.2. Follow-up actions from previous meeting/ new additions to Issue Logger (available [here](#)):

Ioannis Theologitis (ENTSO-E) presents the follow-up actions from the previous meeting.

No comments raised

2. ENTSOE CNC implementation update and TG High Penetration

Ioannis Theologitis (ENTSO-E) presents slides ([available here](#))

Jan Rasmussen (EURELECTRIC) asks if it is possible to provide multiple links to national grid codes per each country. Ioannis Theologitis (ENTSO-E) confirms that all the relevant documents will be made available.

Luca Guenzi (EUTurbine) appreciates the ongoing work concerning the Active Library.

Michal Zakrzewsky (APPLiA) asks if it has been planned to develop new IGDs besides the update of existing IGDs. Ioannis Theologitis (ENTSO-E) answers that the development of new IGDs is considered, but until November the list of IGDs will include several revised versions of existing IGDs. This is considered the a priority at this stage so as to ensure consistency of the existing material mainly with recent discussions at GC ESC. However, as in the past, ENTSO-E will consider subsequent revisions and drafting of new IGDs where applicable.

Srinivasa Radju Addala (EUGINE) asks if it possible to evaluate the solution of having cross-country validity for equipment certification rules. Ioannis Theologitis (ENTSO-E) answers that the suggestion is considered but is not directly related to the Monitoring activity. However, the topic is being somehow covered at IECRE level. The documentation for the certification could be potentially gathered in a single online platform, but maybe other organizations are more appropriate to take the lead on that.

Assiet Aren (EUGINE) remarks the importance of the certification topic and proposes that certification topic should be kept in the framework of ENTSO-E IGD, given the proper structure of the RfG topics (division per generator Type).

Bernhard Schowe-von der Brelie (EFAC), on the topic of certification, proposes to activate the Technical Group (TG) on Compliance Monitoring & Testing (TG from 2015-2018). The TG was used for the development of the related IGD. IECRE could be not the most appropriate option right now. Ioannis Theologitis (ENTSO-E) comments that before activating a dedicated TG, a clear objective should be defined. The TG on Compliance Monitoring & Testing indeed has a very useful expert-membership, however, we should not replicate discussions or work in parallel with existing groups. We should preferably allow IECRE (and CENELEC on 50549-10) develop the discussions and then a workshop may be useful to assess the work. The point is taken, nonetheless. Ioannis Theologitis (ENTSO-E) adds that it may be useful to have a nominated representative from IECRE to introduce the work in more detail at GC ESC.

Alexander Dusolt (ENTSO-E) presents the incoming ENTSO-E public consultations for 2020.

The Chair raises a question on the doodles for the EG. Ioannis Theologitis (ENTSO-E) answers that the doodles have been circulated to the EG members group only.

The Chair asks for suggestions on the next steps for the electronic approval of EG final reports. Ioannis Theologitis (ENTSO-E) confirms that some clarification on the next steps should be given to ensure that all the participants are aligned. Concerning the approval of the reports from the three old EGs, it is proposed to give a two weeks period for approving the reports and then, consider the document approved. The reply should preferably be from members that object the publication. In this way it would be avoided a long trail of email of approval. The counting of the two weeks could start from the day of presentation to the ESC. The Chair considers the proposal reasonable. The description of the procedure for the electronic approval should be repeated every time a report is submitted to the ESC, including this description in the communication.

Mike Kay (GEODE) asks if the Technical Group High Penetration report is published somewhere. Ioannis Theologitis (ENTSO-E) confirms its publication, the link is included in the slide.

3. Activities under IEC RE on the development of a certification scheme:

Knud Johansen (ENTSO-E) presents slides ([available here](#))

Bernhard Schowe-von der Brelie (EFAC) confirms that steps forward expected by the end of June.

Florentien Benedict (CEDEC) asks how the DSOs are involved in the current discussion on certification since they are the ones affected especially when considering small types of PPMs. Knud Johansen (ENTSO-E) confirms that the liaison is currently only between the ENTSO-E and IECRE. Ioannis Theologitis (ENTSO-E) clarifies that the fact that ENTSO-E has been invited to join the WG10 by IECRE, does not mean that it steers it. The collaboration simply foresees the contribution of ENTSO-E to the discussion covering the certification topic. It is assumed that other interested parties can submit their interest and apply for members in WG10 of IECRE.

Freddy Alcazar (EUGINE) asks how synchronous technologies are taken into account in the discussion with IECRE. Knud Johansen (ENTSO-E) confirms that this is one of the main topic of discussion with IECRE, in order to align the certification scheme for the various technologies.

Luca Guenzi (EUTurbine) asks a question about the existing IEC standards covering compliance testing and how they are being taken into consideration by WG10. Moreover, he proposes to follow up the revision of the IGD on compliance testing through the old ENTSO-E's TG on Compliance Monitoring & Testing and asks how the work of the TG can be coordinated with the ongoing work in ENTSO-E. Ioannis Theologitis (ENTSO-E) answers that ENTSO-E has also collaboration activities with CENELEC on this topic, in addition to the one with IECRE, and at the same time ENTSO-E is updating the ESC on the activities of these standardisation bodies. It is suggested to motivate the active participation of these standardization bodies to the ESC meeting in order to have a better view on the different discussions held on the topic of compliance, certification and overall discussion related to standardization. Having ENTSO-E giving the updates on behalf of other bodies, could give the wrong impression concerning the association's involvement in the activities. A workshop with the interested bodies could be a good idea to bring together the different work streams.

The Chair echoes the point from ENTSO-E and confirms that updates from CENELEC would be highly appreciated.

Luca Guenzi (EUTurbine) remarks that clarity on the ongoing discussions on the certification topic should be ensured at ESC level and a coordination could be helpful.

Mike Kay (GEODE) asks a question on existing timescale for the publication of the revised IGD on compliance. Knud Johansen confirms that the revised is expected to go out for public consultation in November.

Assiet Aren (EUGINE) asks if it will be foreseen a buffer time in the certification procedure. Knud Johansen (ENTSO-E) mentions that current certification standards and procedures are still valid. The work ongoing on the IGD is aimed to obtaining a unified guideline for certification. The Chair clarifies that the date of the signature for the purchase of the main plant component is the cut-off date for which the application of the procedures shall be evaluated as per NC RfG.

Mike Kay (GEODE) remarks that as per NC RfG equipment certificates are not mandatory.

Bernhard Schowe-von der Brelie (EFAC) remarks that definitions on certifications and timelines are specified at national level by TSO or other bodies.

4. GC ESC Expert Groups, BfTA, CSM, ISSM

Ioannis Theologitis (ENTSO-E) presents the status (no slides available). Annexes to the ToR have been finalized in a separated GC ESC call. No negative reactions to the finalized documents. The call for membership was issued and ended last week. The list of members was presented to verify the compliance with the rules for membership. There are no further question on the content or the members of the new EGs.

Florentien Benedict (CEDEC) remarks that exponential growth of Type A PGM should trigger a bigger attention to the relation between grid stability, DSOs and Type A PGMs. The activity of the EG Baseline for Type A PGMs can start. An expert from CENELEC has been nominated and is welcomed since the certification is critical for the activity of the group. Vice chair is missing and will be selected during the first meeting.

Ioannis Theologitis (ENTSO-E) confirms that a nomination from CENELEC has been received for EG Baseline for Type A and it will be added later to the contact list of this EG.

Ioannis Theologitis (ENTSO-E) remarks that the absence of vice-chair should not block the kick-off of the EG, but the selection is important, nonetheless.

Michael Wilch presents the members of the EG CSM.

Ioannis Theologitis (ENTSO-E) confirms that the ToR of the new EG will be published on ENTSO-E website in the page dedicated to the EGs.

Ton Geraerds (VGB Powertech) express the willingness to be vice chair in the EG on interaction studies and simulation models.

5. GC ESC Expert Groups PSH, Storage, MCS

Ralph Pfeiffer (ENTSO-E) gives an update on Expert Group PSH. The technical work is completed and some proposals for amendments have been agreed (on RfG and DCC in particular). The final task was to have a legal review of these proposals. The review however has been delayed by the COVID restrictions and it was delivered only a few days ago. The group will then schedule a meeting, finalize the work and submit the final report to GC ESC with the intention to reach acknowledgement/approval before summertime.

Robert Wilson (ENTSO-E) presents slides on EG MCS ([available here](#)). Final Report of the EG MCS [available here](#). No further meetings are planned. The report will be made available to the GC ESC members for a two-weeks review.

Ioannis Theologitis (ENTSO-E) presents slides on EG Storage ([available here](#)). Final report of EG Storage [available here](#). A final meeting will be organized to present the final changes to the report. Afterwards, the final version will be formally submitted to the GC ESC. The number of comments received together with the tight timeline did not allow the completion of the works before this meeting.

Eric Dekinderen (VGB) asks if the PSH can be considered part of the Storage systems and what is the expectation of ACER on the topic. In particular, he wants to know if ACER expects a single document covering all Storage devices or different documents. Moreover, being the EG technologically neutral, PS Hydro and PS Air has been treated in the same way. The Chair says that no answer is available as of today. Eric Dekinderen remarks that an answer should be delivered before the legal submission of the documentation.

Ioannis Theologitis (ENTSO-E) mentions that although the point is valid, there is no actual reason to postpone the delivery of the EG results. The reason that PSH and STORAGE (e.g. batteries) were formed as separate groups was because there are already existing provision for PSH technology but not for the rest of the storage technologies. The issue of merging or not the two discussions/results can be addressed later on during the amendment process. The focus of the EGs has been to ensure that we define the proper requirements. The format is of a lesser priority at this stage. The Chair is aligned with this view. Eric Dekinderen (VGB) agrees with the fact that the conclusions are similar and this is the reason why he supports the submission of a unique document covering both topics.

Eric Dekinderen (VGB) raises a question on the behaviour of PSH systems at low frequencies and the relation with other Storage systems. The Chair answers that the EG PSH could follow up on this during a phase 3 of the work. Ioannis Theologitis (ENTSO-E) suggests that a phase 3 for EG PSH wouldn't be of any benefit and therefore not recommended since the outcomes of PSH and storage on this issue are not conflicting. Is just that the level of detail is

different. Overall, we should avoid delivering conflicting solutions. A final touch on harmonizing the amendment proposals and ensuring coherence will eventually take place when we have amendment process.

Ralph Pfeiffer (ENTSO-E) clarifies that the outcomes of EG PSH work, even if similar to the one of EG Storage, still retain some peculiarities justifying the fact that are treated in a separate document. The resources available should be concentrated on the new EGs. The Chair agrees with Ralph's position. The outcomes of their work will be combined either by the EC or by ACER, depending on who will be in charge of the consistency check on the amendment's proposals. Given that, a phase 3 of the EGs concentrating on the merging of the outcomes will not be necessary.

Luca Guenzi (EUTurbine) comments that a follow-up meeting to completely align the positions between the EG Storage and PSH will be held, however without revising the relevant reports. He adds that a feedback from the SO ESC is also expected on the topic of low frequency behaviour of Storage systems (49 Hz threshold for the activation of the systems and why the threshold is not higher). It is also expected for the items impacting the SOGL. It would be good to receive this feedback by the next meeting, as a conclusive step for the EG. Eric Dekinderen (VGB) does not agree about the impact of this feedback on the EG work, suggesting that what is expected is the position of the TSOs on a Pan-European approach to the issue.

The Chair proposes ENTSO-E to prepare a common view for the SO and GC ESCs on the topic of low frequency behaviour of Storage systems, taking into account both SOGL and CNC related issues.

Regarding the questions on how the results of the EGs will be considered and if there are any further news on the CNC amendment process, the Chair clarifies that, concerning the results of the phase 2 of the EGs and the amendment proposals that derived, the window for amending the CNC could open after the current discussions on CACM and SOGL amendments. He gives the word to Elaine O'Connell (European Commission) to confirm and update the ESC on the topic.

Elaine O'Connell (European Commission) confirms that the past statements from the Commission are still valid and the EC will update the ESC on when the window for amendments will open for CNC. It is well understood that CNC amendments are needed and the work of the EGs is highly appreciated and needed in preparation of those amendments.

Ralph Pfeiffer (ENTSO-E) asks the European Commission if there is already a plan on how to deal with cross-code interdependencies of some of the amendment proposals. In particular CNC and SOGL amendment proposals could have impact on each other. Elaine O'Connell (European Commission) answers that currently the focus is on CACM and the issue on CNC-SOGL cross code interdependencies has not been covered yet by the Commission. However the amendments proposals to SOGL will pass through the SO ESC and there will be a good framework to take into account cross-code impacts.

Marc Malbrancke (CEDEC) asks the European Commission how do they see the amendment process itself and in particular who is going to introduce the proposals to the EC. Is the Commission going to pick the proposals coming from the EG's work directly from the ESC in order to formulate the proposals or there is a different workstream to be initiated to introduce the proposals to the Commission through ACER? Elaine O'Connell (European Commission) clarifies that the general process shall refer to A.59 and A. 60 of the Electricity Regulation 943/2019 and the amendments can always be proposed to the Commission by the stakeholders. Any proposal on amendment will go through public consultation and then it will go to the Members States for discussion.

Marc Malbrancke (CEDEC) clarifies that the question was more about the specific outcomes of the work of the EG. In particular if will be needed to send the proposals generated from the EG first to ACER for them to further work on them. Elaine O'Connell (European Commission) answers that these details have not been defined yet. Updates will be given with proper notice as soon as they are available.

The Chair recommends to the Commission that specifying in advance the amendment process in detail will help planning the activities of the parties involved, including ACER.

Luca Guenzi (EUTurbine) asks clarifications on the creation of a new EG that can cover a cluster of technical topics that have not been discussed in the current EGs. Ioannis Theologitis (ENTSO-E) suggests that the proposal of a ToR for such EG should be first presented and evaluated by the ESC in order to conclude in an informed decision. Luca Guenzi (EUTurbine) asks to whom the proposals should be presented. Ioannis Theologitis (ENTSO-E) answers that in his opinion the proposals should be presented and discussed during the next GC ESC. The Chair agrees with the proposed approach.

6. *Justification and Implementation of Increased Voltage Ranges as per EU Regulation 2016/631 and 2016/1447*

Frank Martin (WindEurope) presents slides (available [here](#))

The Chair reminds that the NCs have been publicly consulted with all relevant stakeholders including the manufacturers, both by ENTSO-E and ACER. The EC commissioned an impact analysis on the NC draft, in which the opinion of the stakeholders has been taken in consideration. In the end, NCs have been voted by Member States in comitology meetings. Given the difference between exhaustive and non-exhaustive requirements, some voltage levels have been deliberately not been harmonised due the need for flexibility in and local specificities. The impression is that there is no interest in changing ranges which are now established for a while now.

Ioannis Theologitis (ENTSO-E) thanks Frank for the presentation and highlights that the topic of voltage ranges is definitely not new to the ESC. The related questions were included in the Issue Logger, especially in relation with the mismatches linked to 420 kV and 220 kV voltage levels. ENTSO-E contacted the competent technical committee at IEC level through a dedicated letter describing the technical issues. IEC assessed the problem and delivered a reply, which highlighted that the standard defining that topic is a horizontal standard and is referenced in multiple standards which are all related to each other. This, in IEC's view increases the challenge and complexity to modify the standards. IEC in their reply to ENTSO-E also pointed out that CENELEC was the body to be referred to, since this is considered a European matter. However at CENELEC level the topic was paused. The ESC is interested in continuing to analyse this topic and the active participation of CENELEC to the ESC work could definitely have a good impact on this discussion.

ENTSO-E shares the point in Issue Logger where the Voltage Ranges questions have been included.

Ralph Pfeiffer (ENTSO-E) adds to the considerations from Ioannis Theologitis (ENTSO-E) confirming that the contribution of standardization bodies like CENELEC would be welcome, especially in relation to this kind of topics. On the issue of the Voltage Ranges, the ESC position on how to align the mismatches between Technical Standards and NCs is to amend one or the other based on the single topics, assessing each time if it is more convenient to change the standard or to change the NC. Concerning the topic of the 420 kV overvoltage, it is considered not necessary to change the standards since this ranges are specified for transient overvoltage. A way to tackle the issue of compliance with the related requirements is to introduce a more precise, and better-defined compliance testing procedure in the standards, but not to change the standards from the requirements perspective. Ralph highlights also the fact that the topic Voltage Ranges is a cross-code one, since it involves not only the CNC but also the SOGL.

Andreas Luxa (Siemens) comments that from the manufacturers' point of view, there are two mandatory standards and the RfG and DCC are violating these two standards. At the same time however there is margin to comply with the CNC requirements, since the codes allows temporary overvoltage in case the operational mode is not impacted. However this margin does not take into account real characteristics of the equipment (i.e. aging), which add a risk in terms of switching of operation mode. Andreas concludes that currently a clarification and common understanding on the tendering specifications is needed. The harmonisation of these specifications would be helped by the participation of CENELEC to ESC and the revision on CENELEC standards, but in the end the topic needs to be faced in coordination with all the stakeholders at ESC level. It must be taken into consideration that standards have effects both on operational and manufacturing and testing level.

Knud Johansen (ENTSO-E) replies that standards are not mandatory and can be used to further specify the requirements set by the TSO. The nominal value to be used for the specification of the equipment shall be defined by the TSO. Knud also reminds that a report from KEMA on voltage ranges, addressing also the difference in the standards is available.

Andreas Luxa (Siemens) replies that his consideration does not justify the discrepancies. The harmonisation of the standards would be helpful both at operational and manufacturing level. Knud agrees with this.

Vasiliki Klonari (WindEurope) asks if the topic of voltage ranges could be addressed in the joint webinar between ENTSO-E and IECRE to be held on 30th June. Knud Johansen (ENTSO-E) answers that the joint webinar is focused on Compliance monitoring and testing. The standards for the testing and monitoring are not part of that particular discussion or in the scope of IECRE.

Srinivasa Radju Addala (EUGINE) suggests running a survey among the ESC participants on the subject of whether to re-open the issue on voltage ranges since it is very important for the manufacturers. The Chair replies that the topic of voltage ranges has been covered during the development of the NC and supporting documents have accompanied the NC drafts proposed.

Eric Dekinderen (VGB) raises three legal comments. First, he asks Frank Martin (WindEurope) the applicability of the presented material and standards to the existing installation. He highlights that Article 25 of the SOGL obliges TSO to respect the voltage ranges of existing installations. Second, remarks that some years ago it was highlighted that the table 10 of the RfG contained a small mistake since for offshore installation there was no lower limit. It was proposed to include a footnote specifying a 110 kV lower limit, meaning that the wind farms connected at 66 kV would have been out of the RfG scope. Third, the value of 1 p.u. is defined at local level for all voltage levels with the exception of 400 kV. This is not a problem for the ESC. However in Eric's personal opinion the voltage ranges are too stringent and there is a European problem of harmonization.

Ralph Pfeiffer (ENTSO-E) replies that he will look in the old documents to check the proposal for the lower level of offshore installation.

Luca Guenzi (EUTurbine) replies Radju saying that the voltage ranges topic is included in the Q&A. In addition he agrees with Eric, that the issue of voltage ranges is not in the scope of ESC but in the scope of standardization bodies. Moreover he confirms what Knud said, that there are three different standards covering the subject of the voltage levels and these standards were distributed by CENELEC, commenting that there is the need to aggregate these standards. Luca concludes that CENELEC should be engaged directly by the interested parties, interacting with the technical committees.

Ioannis Theologitis (ENTSO-E) remarks that CENELEC is a member of ESC and should participate more actively, reporting and engaging the stakeholders on the topics in which are competent. CENELEC presentation has been missing for over a year.

Luca Guenzi (EUTurbine) agrees that CENELEC should report to the ESC of which is a member.

7. AOB

Freddy Alcazar (EUGINE) asks about FAKS code from Stannet, where there is a requirement for frequency operation outside of what it is considered in the RfG for Thermal power plants. This requirement establishes a frequency range of 45-55 Hz. Freddy asks if this requirement has been investigated. The Chair answers that ACER has engaged with the NRAs to compile a 2020 implementation monitoring report, specifying questions capturing cases in which national legislation would go beyond the provision of CNCs. Norway is not an EU member so they might not provide a feedback on this point. The Commission might ask them to clarify the content of the national specifications and to amend them if needed.

Elaine O'Connell (European Commission) provides an overview on the offshore strategy and the possible impact on GC ESC work in the coming years. EC work 2020 has been republished and offshore shows strong growth. The impact of this growth should be investigated at European level. There is an ongoing discussion also on the use of marine spaces with the involved DGs on which is the available marine space for offshore development. The 2020 project Promotion developed a report including the connection requirements for the offshore wind farms. It has been found that the HVDC NC currently is focused on onshore DC grid requirements. As a consequence in the long term, a dedicated new HVDC NC, focused on offshore requirements could be needed. The EC started a study with Tractebel looking into the connection requirements in the North Sea region and the report is expected by Q4 2020. Given the current divergencies in HVDC connection requirements, the Commission is working in analysis the topic.

The Chair reminds that the next meetings are planned for the 16th and 17th of September (SO ESC and GC EC respectively). The meetings will probably happen through electronics means. It will be decided in the next weeks.

8. Follow-up actions:

1. ENTSO-E to provide feedback on the topic of low frequency behaviour of Storage systems taking into account both the aspects relevant to SO ESC and those relevant to GC ESC.
2. ENTSO-E to share the point in Issue Logger where the Voltage Ranges questions have been included.
3. EUTurbine to share proposals on a new EG covering a cluster of technical topics that have not been included in the past EGs

4. The European Commission will update the ESC on the detailed timing of the CNC amendment process, specifying process-wise how the proposals coming from the EGs will be included in the process.
 5. ENTSO-E (Ralph) to retrieve if possible past reference concerning the proposed integration of the table 10 of RfG on the topic of the lower voltage level for offshore installations.
 6. The EG Chairs to submit the final reports to the GC ESC for acknowledgement and publication.
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