Baseline for type A power-generating modules

(EG BftA)

Florentien Benedict

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Baseline for type A power-generating modules

- Update until March 1st (2021)
- Sixth expert group meeting

(Vice)-Chairs

- Søren Stig Abildgaard, Mechanical Engineer at EC , COGEN Europe
- Florentien Benedict, Expert Regulation Stedin DSO, CEDEC

- Every meeting very high turnout of participants!

- 21 members
  - Cedec #3
  - ENTSO-E #5
  - SolarPower Europe #3
  - VGB #2
  - EDSO #1
  - COGEN Europe #3
  - GEODE #1
  - ACER #1
  - CENELEC #1
  - EFAC #1

Time schedule (1)

- Planned meetings:
  - 1. 7 September 2020
  - 2. 29 October 2020
  - 3. 17 November 2020
  - 4. 15 December 2020
  - 5. 21 January 2021
  - 6. 1 March 2021

Time schedule (2)

- Kindly request for an extra delay to finish the work of this EG:
  - To finalise the report in May and to bring it to the GC ESC in June.

- We will ask for extra time till June 2021

- There will be some extra meetings:
  - 7. first week April 2021
  - 8. first week May 2021
  - 9. end of May 2021

- Final report:
  - 10 first week June 2021

Questions

Q1

- *Considering different banding values implemented across the EU, the requirements that have already been imposed on type B, do we also want to declare them on type A? Which ones? (include a justification).*

Q2

- *Are there any new or additional items or requirements that we want to add to type A based on the evolving system needs and taking into the account the requirements provided in the EN 50549-01 and -2? Make a list of additional requirements in the standard EN 50549-01 and -02.*

Q3

- *Based on the expected growth in population size, should type A requirements differs for Power Park Modules (PPMs) and Synchronous Power Generating Modules (SPGMs) just like it is with type B? If yes, please justify.*

Q4

- *Any new insight and method of determining the certification obligations for type A and possible harmonization.*

Q5

- *Assessment of possible benefits from harmonizing the thresholds between type A and B PGMs.*

Presentation from Knud Johansen

Equipment Certificate process overview

- Knud Johansen works for Energinet in Denmark and is part of the Standardisation and Compliance Team within ENTSO-E.
- The current work on compliance is related to the updating of the existing IGD on ‘Compliance monitoring’.
- Knud explained the development process of an Equipment Certificate (EqC).
- Questions such as: what do we really mean with a EqC, what is the content and how do we get it? are most relevant.

- It was very useful to hear the presentation from Knud, there were several questions and discussions and it was very useful for the imaging of the process.

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Q5

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Plan of Action

- Created 5 subgroups
- For every question 1 subgroup with a chair
- The results so far have been presented during the sixth meeting
- Feed back requested for the coming two/three weeks
- Every subgroup presents a semi final result during the 7th meeting
- Presenting the final result during the 8th meeting

Question 1a

Considering different banding values implemented across the EU, the requirements that have already been imposed on type B, do we also want to declare them on type A? Which ones? (include a justification).

FRT and PFAPR

WORK IN PROGRESS!

- description of the requirements FRT and PFAPR for type A as proposed by ENTSO-E:
  - expansion of the SPGM/PMM definition to type A,
  - details about FRT with proposal of an exhaustive profile (with a 0.85 voltage recovery),
  - exhaustive requirement for PFAPR expressed in a proposed sentence,
  - justification of the need for FRT and PFAPR. Since no EU study is available, studies from France, Spain, GB and Germany are described,
  - the report also contains a prognosis for further installation of rooftop PV and other technologies. For µCHP figures are dating from 2014. Are they still valid?
  - technical issues if FRT is extended to type A (cf. position paper Cogen).
  - 6 possible solutions are presented to try to solve issues of extending FRT to all type A PGMs.
    - apply FRT only to type A PV,
    - exclusion of certain technologies,
    - use of derogations,
    - require FRT for PPMs and SPGMs above a threshold,
    - make reference to technical capabilities of PGMs and to gas regulation as safety reasons or other regulation that interfere with the capabilities,
    - write an IGD, so no amendment included in the NC RfG.

Question 1b

Considering different banding values implemented across the EU, the requirements that have already been imposed on type B, do we also want to declare them on type A? Which ones? (include a justification).

Active Power Control

WORK IN PROGRESS!

- Background information
- APC for some technologies is a challenge (e.g. µCHP), not for PV. But for PV it is probably the case that manufacturers do not yet provide for this capability, so we should also keep in mind that the necessary development and implementation time is provided.
- For the communication a recommendation is made to have a standardised protocol to be considered by CENELEC TC8.
- The document describes also the different possibilities to make exceptions for certain technologies and/or introduction of a threshold:
  - no exceptions.
  - exempting all of either SPGMs or PPMs.
  - lists of specific technologies to be exempted.
  - ensuring that technologies like µCHP are not inadvertently excluded.
  - complex approach, with a high administrative burden on many parties.
  - approach risks a spectrum of different approaches and works against harmonization.
- Based on the pros and cons of the different options, the subgroup made a text proposal for APC in article 13.6 of the NC RfG.
- The idea is to apply the APC to all technology types of type A PGMs, and then add 2 paragraphs that make the exemptions (CHP/hydro powered PGMs ≤ 50kW and PPMs ≤ 16A per phase at LV).
- We have to keep in mind that if we change art. 13, some changes need to be done in art. 14.

Question 2

Are there any new or additional items or requirements that we want to add to type A based on the evolving system needs and taking into the account the requirements provided in the EN 50549-01 and -2? Make a list of additional requirements in the standard EN 50549-01 and -02.

WORK IN PROGRESS!

- Currently there is little on specific compliance requirements for type A PGMs in the NC RfG, especially no compliance requirements for frequency capability or power output at falling frequencies are included in Title IV.
- If we add new requirements to type A (FRT, APC, …) it becomes even more important to consider the necessary compliance testing or simulations to support this.
- Given that EN 50549-1 and -2 cover all the requirements of NC RfG Article 13 (including FRT), and part -10 provides compliance testing requirements, it would seem appropriate to consider mandating compliance with -1, -2 and -10 of EN 50549 in the NC RfG. This would guarantee that manufacturers have to ensure compliance with Article 13 before selling complete PGMs.
- The recommendation of the subgroup is to make compliance with EN 50549 mandatory for Type A and Type B PGMs. They also propose an amendment to the art. 40 of the NC RfG.
- **We ask for legal advice! It should be helpful for writing down a final text proposal.**
- Please some attention for reference to the CE mark. The nameplate of a CE mark shows a lot of specific details.

Question 2

Are there any new or additional items or requirements that we want to add to type A based on the evolving system needs and taking into the account the requirements provided in the EN 50549-01 and -2? Make a list of additional requirements in the standard EN 50549-01 and -02.

ASK FOR LEGAL ADVICE

- Harmonisation, certification and standardisation should be strengthened for type A generator
- RfG already, although only briefly, mention **REGULATION (EC) No 765/2008 - setting out the requirements for accreditation and market surveillance relating to the marketing of products**
- **(EC) 765/2008** appear to be very attractive for a broader application to type A 'finished products', but there are also legal concerns within BftA EG
- Need for legal advice
  - if/how to mandate relevant parts of EN 50549 in relation to the RfG requirements applicable to type A
  - if/how to apply the framework of (EC) **765/2008** in relation to the RfG requirements applicable to type A

Question 3

Based on the expected growth in population size, should type A requirements differs for Power Park Modules (PPMs) and Synchronous Power Generating Modules (SPGMs) just like it is with type B? If yes, please justify.

- WORK IN PROGRESS!

- During meeting 5 we decided to integrate question 3 for each requirement that we propose as additional for type A PGMs (cf. Q1).
- Type A requirements will naturally be applied differently to synchronous and non-synchronous PGMs as is the case for Type B to D.
- In fact this is already the case for PGMs in the size range 11kW (lowest A/B threshold in Continental Europe) to 1MW (highest A/B threshold possible in the NC RfG and applicable in a number of MS) depending on which jurisdiction they are employed in (e.g. a 200kW PGM will be type A in some MS, but will be a type B in others).

Question 4

Any new insight and method of determining the certification obligations for type A and possible harmonization.

- WORK IN PROGRESS!

- There is a common understanding in the subgroup, that the regime for certification and harmonization should be improved and strengthened.
- Improvement of the compliance processes, the use of EqC, and thus harmonization should be aimed at and also further work on a harmonized certification scheme and ensure proper accreditation.
- There are different needs for the TSOs, DSOs and manufacturers of generators.
- TSOs will also be involved in handling EqCs in case small PGM's are connected to transmission-connected industrial grids.
- COGEN emphasizes COGEN's view on the use of CE marking as a possible path for proving compliance with the requirements.
- Asked for some legal advice, see slide 11

Question 5

Assessment of possible benefits from harmonizing the thresholds between type A and B PGMs.

- The subgroup worked differently to come to a number of conclusions:
- started with identifying the relevant parts from the meeting minutes related to the topic and indicated in colour whether the part gives more info on benefits, concerns or if it is a specific position.
- a short questionnaire was shared between the members and the result is also part of the report.
    - benefits: industrial benefit and reduction of barriers in EU for free market products.
    - concerns/barriers/fears:
        - harmonization of the threshold → removes the MS liberty to make own decision on thresholds.
        - imposing same thresholds → will lead to confusion, will be difficult to achieve since each MS has recently implemented its own thresholds for Type A generators. The necessary consensus to amend Network Codes may not be reached.
        - with an undefined level on the low end of the threshold A/B, manufacturers which are active in several MS, are forced to make their products too expensive which reduces the market significantly.
        - harmonization of the threshold will move MS stakeholder interaction to a European level.
- the proposal of the subgroup is to submit 2 different proposals to the EG:
    - 1. not harmonize thresholds for type A/B and to leave open to Member States the possibility to make their choice according to the national situation.
    - 2. define a minimum level on the low side of the A/B threshold, namely 50 kW.

extra subject

- ‘Reactive Power Control’
- This topic has not been treated in a subgroup yet, but an extra subgroup for this topic does not seem to be needed.
- It is not likely that DSOs will need reactive power control from generation in the low voltage grid, but there are questions if this will indeed still be the case in a few years.
- There will be prepared a short note of this topic.
- **Question to GC ESC: to check whether there is another view of members in the ESC.**

Assessment of work

- Open discussions
- Useful exchanges
- Active contributions in the report will be required by all members
- More firm positions from the subgroups will be asked per question
- Structure of the report will be prepared, so the subgroups can create the paragraphs for the report