

## POSITION

Subject: Response BGA (Belgian Generators Associations) to the public consultation on maximum capacity thresholds for types B, C and D PGM's held by Elia  
Date: 12 June 2017  
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### Introduction

Elia is organizing a public consultation on the 'maximum capacity thresholds for types B, C and D for power-generating modules'. This consultation was launched on the 19<sup>th</sup> of May, 2017 and will end on the 20<sup>th</sup> of June, 2017.

This document is the response of the Belgian Generators' Association (BGA): this is an *ad hoc* cooperation of the associations FEBEG, COGEN, ODE, BOP and EDORA. The comments and suggestions of BGA are not confidential.

### General comments

BGA has - from the start on - contributed to the discussions on the implementation of the Network Codes and has actively participated in the Elia Task Force 'Implementation Network Codes' (TF INC). As a consequence BGA has been able to observe an evolution in some of the positions of Elia. BGA has noticed a positive evolution for several different topics which shows that the discussions held in the TF INC were useful. The TF INC also allowed different stakeholders to gain better insight in one another's concerns and interests. On the other hand BGA regrets to see no changes in several core proposals as regards the thresholds for categorization of significant grid users the described in the consultation document.

In the consultation document Elia mainly refers to the Network Code on Requirements for Generators (NC RfG) to propose a categorization of power-generating modules (PGM's). Although the consultation obligation of Elia is indeed coming from the NC RfG (art. 5.3), **the impact of the categorization goes beyond the NC RfG and even beyond the connection codes**. BGA regrets that Elia did not link its proposal to the other network codes such as the Emergency and Restoration Network Code and the System Operation Guidelines. Even beyond the implementation of the Network Codes, these thresholds will be implemented and will become very important as reference for other rules, e.g. link with congestion management rules, in which the threshold between A/B would be used as to define the scope of the congestion management rules.

### Comments on the technical and legal solution for the lower threshold of category B

Elia has developed a juridical reasoning why for category B the lower threshold should be set at 250 kW instead of 1 MW. In this argumentation Elia starts from its wish to impose some extra requirements to the group of PGM's from 250 kW to 1 MW compared to PGM's of type A, but not (yet) the full package of requirements for PGM's of type B. In this reasoning Elia starts thus from a targeted end result in terms

of technical requirements for the installations between 250 kW and 1MW. The requirement of telemonitoring is, for example, put forward by Elia as essential as from 250 kW. BGA regrets this approach as it doesn't support the need for differentiation from type A starting from 250 kW. **The solution to start type B from 1 MW on – so without extra rules for the group of PGM between 250 kW and 1 MW – remains the preferred option for BGA.** As discussed further below, this straight forward and simple approach doesn't rely on derogations nor additional legislation beyond the codes and is thus legally very solid.

Elia sees two possible approaches to realize its targeted model to start differentiation from type A as from 250 kW but without the full package of type B being applicable below 1 MW. In the first approach the lower threshold for type B would be set on 1MW and additional requirements – more stringent technical requirements via national grid codes or contracts – would be added for the group 250 kW –1 MW of type A. The second approach consists of a threshold for type B of 250 kW combined with derogations for the group of PGM's between 250 kW and 1 MW of type B. Elia argues that the second approach is legally more indicated.

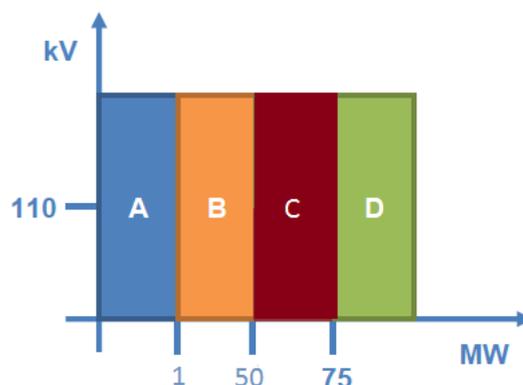
Without questioning the juridical analysis of Elia, BGA regrets that the legally most solid approach is the second one. Elia clarifies: *'Of course, the same technical solution is aimed for in both approaches and this proposal to go for the second approach should rather be interpreted as a legal implementation choice'*. This point of view is not shared by BGA. **For generators, there is clearly less certainty in the second approach because there is no guarantee on obtaining the envisaged derogations.** Elia puts it correctly when it writes for the second approach: *'(...) and then seek derogations (...)'*. **Furthermore, the derogations will only have a limited validity** (proposal of Elia is 5 years). Even though also the categorization limits are susceptible to change, this seems a bigger risk for the derogations for which the grid users depend more on (the good will) of the grid operator. **Although BGA acknowledges the good intentions of Elia, generators lack certainty and a clear view on the future situation.** So the two approaches might in theory deliver the same technical result, but in practice these approaches will likely not have the same outcome and differs in terms of certainty for generators.

To avoid to have to rely on legal interpretations and in line with – according to BGA – the lack of a clearly demonstrated need to start imposing extra technical requirements from 250 kW on, BGA still favors to simply start type B from 1 MW on.

### Comments on the categorization and the impacting technical requirements

#### *BGA proposal for categorization*

BGA remains in favor of the following categorization:



The most important elements for BGA are:

- the threshold for type B should be at 1 MW instead of 250 kW;
- the PGM's < 75 MW but connected < 110 kV should never be categorized as type D;
- the threshold between B and C should be at 50 MW instead of 25 MW.

### ***PGM's > 110 kV from type A & B***

BGA welcomes that Elia proposes to adapt the requirements for PGM's of type A and B with a voltage at the connection point higher or equal to 110 kV. This will result in an equal treatment of PGM's of the same size with a voltage at the connection point lower than 110 kV and will prevent exaggerated costs for installations with a rather insignificant grid impact.

Elia proposes to adapt the requirements via a derogation for each requirement. Other solutions seem indeed not possible by the code. Unfortunately, this means that the category in se will not change but only the requirements and therefore the installations in this situation remain dependent on derogations. What will be the duration of these derogations? Elia doesn't mention any duration for this kind of derogations. **BGA considers that these derogations should give as much certainty and stability as possible, as logically nobody questions these derogations.** The derogation should be equivalent to a permanent measure that cannot be questioned. Clearly the duration of 5 years – as proposed by Elia for the group 250 kW – 1 MW – is completely inappropriate here.

### ***Type B***

#### Threshold of 250 kW

Elia proposes the value of 250 kW for the lower threshold of type B.

For BGA it is still not clear why Elia proposes exactly the value of 250 kW, and not e.g. 300 kW, 500 kW or even 1 MW. **The consultation document gives a rather poor motivation.**

- Communication and information exchange

Elia describes this requirement as the need of mainly DSO's to have better knowledge of the power flows in the MV network so that they can predict them. BGA understands this reasoning, but doesn't derive from this the need to be able to control installations in a remote way. The motivation doesn't imply a heavy and expensive remote control because a simple Programmable Logic Controller (PLC) can do the required job. A PLC controller is indeed a simple tool for monitoring that can provide the required information. Can this interpretation be confirmed by Elia?

In any case BGA is opposed to imposing expensive tele control boxes to all installations as from 250 kW as the cost is always for the generator and will be – especially for smaller machines – substantial. **The threshold for imposing remote controlling should remain set at 1 MW, irrespective of the thresholds that are set in the framework of the NC RfG.**

- Electrical protection schemes and settings

Electrical protection schemes are asked for by the DSO's since many years in the connection process and the DSO's give settings for the protection of the local grids. **As electrical protection schemes are required even today for generators as from 10 kW, BGA doesn't see the need to tailor the A/B threshold to this requirement.**

– System Restoration

BGA understands the need of the DSO's to guarantee that during system restoration the offtake in a substation does not change significantly and therefore have 'control' of the production that is present on the feeder. **But, BGA doesn't see the motivation why this is exactly crucial as from 250 kW on.** What is the reasoning to have this requirement from 250 kW on? Moreover, PV production and cogeneration units are often imbedded production units, so what will be the actual control on this units? And how is offtake dealt with? Does the same threshold of 250 kW apply?

BGA considers the choice of 250 KVA by Elia as rather arbitrary and mainly based on the limit for remote control of active power in the Walloon Grid Code (see also Elia slides with the reasoning on the boundaries). This is contradiction to the limit in the Flemish Grid Code that is using 1 MVA (actually 1 MVA or lower). **The difference between the two regional grid codes demonstrates the arbitrary nature of this decision.**

Derogations for PGMs between 250 kW and 1MW

**BGA welcomes that Elia acknowledges that the group of PGM's between 250 kW and 1 MW should not have completely the same requirements as type B > 1MW,** at least for requirements with respect to robustness. Elia therefore proposes the following derogations:

- 14(3)a&b – Fault Ride Through (FRT);
- 17(3) – Providing post-fault active power recovery (SPGM);
- 20(2)b&c. – Providing fast fault current;
- 20(3)a&b. – Providing post-fault active power recovery.

Elia states that the initial duration of the derogation is intended to be set at 5 years. After this period a reassessment of the need for the derogation will be performed.

In consultation document Elia doesn't provide clarity on what happens for a new installation with capacity between 250 kW and 1 MW that has applied these derogations and for which the derogations are not prolonged. For BGA the process of derogations should not imply that the installation should fulfill the requirements after all. Such approach would have a severe retroactive impact and would undermine all advantages given by the derogations for this group. **BGA therefore assumes that the requirements via the derogations remain valid at least until the end of the technical lifetime of the PGM** (see point 12 of the criteria for granting derogations as decided by the regulators in April 2017). This assumption seems to be in line with the NC RfG that only accepts retroactive changes to existing installations after a CBA performed by the TSO and approved by the regulator.

The duration of 5 years should, according to BGA, only mean that it is possible that new installations that are built after this period of 5 years, might not be able to benefit from the same derogations any more. In this respect, **it is important to fix the elements that determine which derogation regimes are applicable on a certain installation.** For BGA, the moment of signature of the final and binding contract for the purchase of the main generating plant should count. This is in line with art. 4.2b of the NC RfG.

Moreover, it is crucial that derogation regimes are without disruption to ensure that investors are not confronted with a vacuum. It should also be known sufficiently upfront if the derogations will be requested again by Elia and if they are granted or not by the regulators. As the time to go through the process will not be negligible, and taking into account the time to come to an investment decision, **Elia should start the procedure of renewal sufficiently in upfront, e.g. 2 years.** Taking this into account, BGA consider a 5 year validity of the derogations as a short period and propose to extend the period with some years. In order to facilitate investments in production units, it is important to reduce all uncertainty about the technical requirements imposed to the units.

BGA furthermore pleads for a stakeholder consultation when Elia would doubt about requesting a renewal of the derogations and ask that Elia accompanies its decision with a cost benefit analysis.

As already mentioned before, the impact of the categorization goes beyond the NC RfG and the other connection codes. These impacts need to be carefully assessed and – if necessary – derogations have to be applied for. The Emergency and Restoration Network Code foresees for example that as from category B an installation can be considered as an ‘identified significant grid user’ which includes amongst other requirements the obligation to have a 24/24 hours functioning communication system: BGA proposes to ask for a derogation for this requirement.

### Technical requirements

With respect to category B units BGA welcomes that:

- the BGA proposals were considered as regards the reactive capability and voltage control requirements for PGM and SPGM;
- a simplified compliance process based on manufacturers’ certificates or simulations instead of specific tests would be proposed for FRT characteristics of category B PGM and possibly also for other requirements;
- no requirements for information exchange will be put on existing PGM’s, only on new PGM’s.

BGA is also positive about the approach for PGMs with respect to the injection of reactive fault current during voltage dips. The need for this service is indeed related to the characteristics of the network at the connection point. Therefore Elia will not request this functionality of all the PPMs. The characteristics and activation of the service will be agreed upon with the relevant TSO during the connection procedure. **BGA also welcomes that Elia will take into account what capability is available on the market:** BGA understands that this case by case approach is possible following art. 20.2 (b) of the NC RfG. BGA assumes the same approach for reactive fault current injection for type C and D, including offshore PGM’s.

BGA does want to point out that even if the class derogation from FRT requirements for the subcategory 250 kW to 1MW PGM’s would be obtained, **a FRT requirement imposing a Critical Fault Clearing Time of 200ms remains very challenging for the remaining part of category B. BGA remains very worried** about the impact of such a requirement on the level playing field for production installations.

### Asynchronous generators

BGA would like to ask Elia to apply for another general derogation, i.e. a derogation on the reactive power requirement for asynchronous generators as for asynchronous generators (e.g. (μ)CHP’s) the reactive power is uncontrollable.

### *Type C*

#### PGM’s connected $\geq 110$ kV

**BGA pleads to treat installations of type C but connected  $\geq 110$  kV not as a type D, but as a type C.** This follows the same approach as Elia suggest for type A and B.

The current Elia proposal will have the following consequences:

- It will result in discrimination between units connected to the lower voltages and units connected to the 110kV grid or beyond, e.g. because the latter units are embedded in an industrial site.
- The FRT requirement of 200ms (CFCT) @ 0.3 p.u. remaining voltage is already very ambitious for most SPGMS. The requirement of type D in which 200 ms @ 0 p.u. should be withstood by the installations, is very demanding and not even always possible. BGA fears that this would deteriorate the investment climate for units > 25 MW on industrial site, whereas this is now considered as a segment with a lot of potential for investments in renewable generation.
- In some regions, e.g. in 'Boucle de l'est', generators are imposed to connect to 110 kV. This leads to more expensive connection costs, but being subject to the requirements of type D is making this involuntary situation even worse.

#### Threshold between B and C

Elia proposes a threshold between B and C of 25 MW. **For BGA this threshold should be put at 50 MW** instead for the following reasons:

- In particular combined with the proposal in which type C units > 110kV are considered type D, this threshold would place a more than acceptable burden to the PGM's with maximum capacity between 25 and 50 MW and connected  $\geq$  110kV. Especially the requirements on FRT and reactive power of type D are problematic for most of the smaller units.
- Large cogeneration units are often in the range of 25 to 50 MW, e.g. the LM6000 being a typical gas turbine used in cogenerations. Cogeneration units are often imbedded in industrial sites and therefore have little relevance for the grid. It seems therefore exaggerated to impose requirements of type C to these installations.

Elia doesn't mention the topic of substantial modernization whereas this has an impact on the choice of the threshold between B and C. In case of a substantial modification, existing units of type C need to comply with the NC RfG.

Again BGA is of the opinion that it is not such a strong case to motivate the threshold of 25 MW mainly with the conformity with the current legislation. Network Codes are an opportunity to harmonize current regulation within (regions of) Europe and between best practices. Therefore, it is to BGA irrelevant to make choices for network code implementation based on current regulation (grid codes, laws and decrees). Furthermore, coordination between similar member states and control areas is needed as much as possible. **It makes logic sense that similar systems demand similar requirements of their grid users and that the level playing field for grid users isn't distorted.**

BGA welcomes that for SPGM the aggregated installed capacities per site will not be considered to categorize PGM, except in the case of indivisible set of installations.

Not mentioned by Elia, **but also important for the categorization between type B and C (and also in general an issue for type C and D) is the requirement for type C and D SPGM as regards reactive power absorption:** -35% is seen as very stringent for a unit (high risk for operator, possibly without return). BGA hopes sincerely that the -20% still under investigation – as mentioned by Elia in the slides presented on 21.02.2017 at the final TF 'INC' on RPM&VC – will be chosen.

BGA is pleased that, at least for the time being, no requirement on synthetic inertia will be set.



### Type D

For the sake of clarity, we would like Elia to confirm that offshore wind parks will be considered type D automatically, even though individual units have capacities smaller than 10 MW.

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