

ADMIE Public Consultation on the amendment of the maximum power thresholds for determining the importance of power plants and the amendment of the connection requirements of power plants

JOINT EUGINE AND EUROPGEN RESPONSE

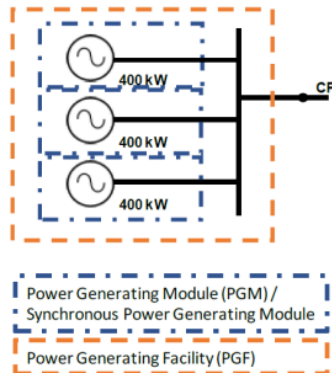
The following comments are prepared in response to the public consultation by ADMIE proposing amendments to RAE Decision 1165/2020.

Appendix A: Amendment of Thresholds

In RAE Decision 1165/2020, Article 5, Paragraph 2 the determination of significance (or type classification) of “Power **Plants**” is defined. The term “power **plant**” is not defined in EU 2016/631 (NC RfG), only the terms “power generating **facility**” and “power generating **module**” are found in the legislation. Furthermore, a power generating **module** may be either a synchronous power generating module (SPGM) or a non-synchronous power park module (PPM). Per the definitions provided in NC RfG Article 2 (5), (9) (17), and Article 5 (2) the determination of significance or type classification should be defined separately for SPGMs and PPMs according to the definitions provided in NC RfG, and further clarified in the presentation by ACER in the Grid Connection European Stakeholder Committee (GC ESC) meeting held on 27th June 2024. For SPGMs refer to slides 7-12 of the presentation ([LINK](#)), and for PPMs refer to slides 13-20.

Therefore, the following changes are proposed to the amendment:

1. Remove the references in RAE Decision 1165/2020 to “power **plant**” and replace with “power generating **module**”.
2. Provide clarification on how the determination of significance (type classification) should be determined for SPGMs and PPMs (diagrams would be helpful). Specifically, for SPGMs we suggest following the example provided in G99 (Great Britain), shown on slide 11 of the presentation by ACER (extract below).



- (c) 3 x 400 kW **Type A Synchronous Power Generating Modules**
= 1.2 MW **Power Generating Facility**

Figure 4.2 Examples of Type A Power Generating Modules

Source: www.energynetworks.org, ((non-profit industry body representing the companies which operate the electricity wires, gas pipes and energy system in the UK and Ireland), Engineering Recommendation G99 Issue 1 – Amendment 5, 5 November 2019, Requirements for the connection of generation equipment in parallel with public distribution networks on or after 27 April 2019

Appendix B - Modification of power generation unit connection requirements

Amendment 2: Article 13 (2)(f) General requirements for type A power plants

1. The first sentence of the addendum translates as; “*For power plants with modern generators with gas-fired internal combustion engines or air turbines, the maximum permissible step response time in LFSM-O operation.....*”. If this translation is accurate, then the following modifications are proposed:

“For power ~~plants~~ generating modules with ~~modern~~ synchronous generators with gas-fired internal combustion engines, ~~or air~~ gas turbines, or fuel cells the maximum permissible step response time in LFSM-O operation.....”.

Justification: the proposed changes align the requirement with EN 50549-1/-2 and the power generating **module** term suggested in Appendix A.

2. In the justification section, point (g) states; “*the international standards EN 50549-1 and EN 50549-2 concerning connections to the CT/MT in distribution networks do not have provision for minimum step response times*”. It should be noted that Amendment 1 of both EN 50549-1 and EN 50549-2 published in 2023, now includes the following addition:

Art) The generating plant shall be capable of activating active power response to overfrequency as fast as technically feasible with an intrinsic dead time that shall be as short as possible with a maximum of 2 s. An intentional delay shall be programmable to adjust the dead time to a value between the intrinsic dead time and 2 s. The response time shall be as fast as technically feasible.

EXAMPLE:

- The following response times are considered technically feasible for specific generating technologies.
- For PV and battery inverters below 1 s for ΔP of 100 % P_{max} .
- For wind turbines 2 s for $\Delta P < 50$ % P_{max} .
- For combustion engines, gas turbines, fuel cells below 2 MW 66 % /min for a 100 % change.
- For combustion engines, gas turbines, fuel cells above 2 MW 20 % /min for a 100 % change. Art)

Therefore, it should be pointed out that the amendment proposed to RAE decision 1165/2020 is in alignment with the latest revision of the EN 50549-1 and -2 standards.

Additional proposals:

3. EUGINE and EUROPGEN would also welcome guidance on the compliance scheme (as defined in the upcoming NC RfG 2.0 Art. 2 and found below for reference) and certification scheme (if required) to be published in the amended RAE Decision. Guidance related to acceptance of Family certificate and acceptance of equipment certificate from other EU member states is also important, as well as the content from Art. 43a of the upcoming NC RfG 2.0).

‘Compliance scheme’ means a compliance verification programme provided by the relevant system operator which shall specify all evaluation and assessment measures to be taken, aimed to demonstrate the compliance of a power-generating module, PGU and/or components with the relevant technical requirements during the operational notification procedure for connection. When equipment certificates are applied within the compliance scheme, it shall include, or provide a reference to, a certification scheme for the equipment. The applied equipment certificates must be valid for the specific equipment installed within the power-generating module for which a connection request has been made.

‘Certification scheme’ means conformity assessment system according to internationally recognized standards, that the relevant system operator may include in the compliance scheme, which shall be related to the power-generating module, PGU or components, and their fulfilment with specific rules and procedures to demonstrate compliance.

‘Power generating unit’ or ‘PGU’ means an aggregation of components converting a primary source of energy into electricity at the terminals of a unit generating electricity, which is synchronously connected to the network or which is either non-synchronously connected to the network or connected through power electronics.

‘PGU family’ means a group of PGUs from the same manufacturer with equivalent characteristics to a representative unit which has undergone conformance tests (tested PGU), in terms of electrical performance. The range of applicability of the PGU family will be defined within the compliance scheme by the relevant system operator.



EUGINE is the voice of Europe's engine power plant industry. Our members are the leading European manufacturers of engine power plants and their key components.

Engine power plants are a flexible, efficient, reliable and sustainable technology, helping to ensure security of electricity supply and providing (renewable) electricity and heat.



EUROPGEN represents the voice of the Generating Set in Europe and brings together Europe's most prominent corporate companies and trade associations in order to form a powerful and unified voice.

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