European Engine Power Plants Association

Public Consultation on Revision of the Network Code on Requirements for Grid Connection of Generators

EUGINE reply, August 2026

EUGINE, the European Engine Power Plant Association, welcomes the European Commission proposal for the revision of the Network Code Requirements for Generators (NC RfG), which is an important opportunity to ensure that grid connection requirements remain fit for purpose in a rapidly changing electricity system.

A secure, flexible and resilient power system is essential for Europe's electrification, decarbonisation and competitiveness objectives. Engine-based power generation technologies provide important capabilities for system stability, including dispatchable generation, frequency response, voltage control, inertia, short-circuit contribution and ancillary services.

However, several provisions in the draft Delegated Regulation risk introducing requirements that are technically disproportionate, insufficiently technology-neutral or practically very difficult to implement within the proposed timeline. If not corrected, these provisions could increase costs, delay projects, discourage modernisation and decarbonisation investments, and create unnecessary barriers.

As the association representing manufacturers of engines power plants in the EU, and as a member of the GC ESC and SO ESC, EUGINE has historically offered valuable technical and practical insights for the revision of the NC RfG. We would like to highlight several issues that could impede the establishment of a level playing field among various manufacturers and technologies.

Our Recommendations

1. Significant modernisation should not discourage efficiency upgrades
2. Frequency stability requirements should remain technically proportionate
3. LFSM-O requirements should reflect technology capabilities
4. Frequency response activation times should reflect prime-mover limitations
5. Clarify requirements for island operation
6. Power system stabiliser requirements should apply at unit level
7. Certification requirements should remain proportionate and allow site testing
8. Certification timelines need workable transitional arrangements
9. Transitional provisions should protect projects already under development

EUGINE
Transparency Register
ID number 033807913798-84

www.eugine.eu
info@eugine.eu

European Engine Power Plants Association
President
Andreas Eberharter
Secretary General
Ralf Wezel

Avenue de Tervueren 188A
1150 Brussels
Belgium
Phone +32 (0)4 725 44 168
benedetta.marini@eugine.eu

Lyoner Str. 18
60528 Frankfurt am Main
Germany
Phone +49 (0)69 6603-1936
julia.luna-peter@eugine.eu

Significant modernisation should not discourage efficiency upgrades

Article 4 defines significant modernisation for Type C and D power-generating modules. Under the current wording, any change of components, except for changes resulting from maintenance, could trigger the application of the new Regulation to the entire power-generating module.

Even though, the proposed wording on significant modernisation builds on the work of the Expert Group on Criteria for Significant Modernisation (EG CSM), to which EUGINE actively contributed, the draft text should better reflect the full outcome of those discussions.

Updates aimed at increasing generating unit efficiency or reducing emissions should not automatically qualify as significant modernisation. These improvements support decarbonisation and should not trigger full re-compliance of the entire power-generating module.

Similarly, the replacement or upgrade of a single component should not lead to the modernisation of the whole unit. For example, replacing an automatic voltage regulator in a large hydropower unit should not require changes to the synchronous generator. The same applies to nuclear power plants, where replacing an entire generator would not be realistic as a consequence of a component-level change.

We recommend integrating the relevant additional elements proposed by the EG CSM. Efficiency upgrades, emission reduction measures, and component replacements that do not materially change the electrical performance of the power-generating module should be excluded from the definition of significant modernisation.

Frequency stability requirements should remain technically proportionate

Article 14(1)(b) sets three rate-of-change-of-frequency performance criteria for synchronous power-generating modules type A,B,C and D with a maximum power capacity below 140 MW. The current wording should be clarified to avoid any interpretation that these thresholds apply cumulatively or sequentially. They should be understood as **independent performance criteria**.

The text should also make clear that RoCoF requirements do not override the frequency range limitations in Article 14, Table 2. Where the frequency exceeds the applicable time-frequency limits, the power-generating module should be allowed to disconnect in accordance with Table 2.

We recommend clarifying that the RoCoF performance criteria are independent performance criteria and that they remain subordinate to the frequency range limitations in Article 14, Table 2.

Article 27.4(b) also introduces specific RoCoF performance criteria of 1Hz/s over a period of 500 ms for synchronous power-generating modules with a maximum power capacity above 140 MW. EUGINE welcomes that the current wording refers to the need to take into consideration the specific characteristics of prime-mover technology. This principle is important and should be preserved throughout the implementation of the requirement.

LFSM-O requirements should reflect technology capabilities

Article 15 sets requirements for Limited Frequency Sensitive Mode – Overfrequency (LFSM-O). For synchronous power-generating modules, the draft text refers to an active power reduction of 45% of maximum power within 8 seconds.

Although such a response may be possible in some cases, it can create trade-offs with other technical, safety or emissions requirements. Several Member States have already recognised this issue by applying different values or by allowing units to respond within their technical capabilities.

A rigid requirement could also make certification more complex. In practice, the use of case-by-case justifications or exemptions may lead to lengthy discussions with system operators and create uncertainty for manufacturers and project developers.

We recommend that LFSM-O response requirements be defined taking into consideration the specific characteristics of prime-mover technology and in this way allow longer response time based on technical justification.

Frequency response activation times should reflect prime-mover limitations

Table 11 in art. 22 sets a maximum full activation time of 30 seconds for Continental Europe and Nordic, but only 5 seconds for Ireland and Northern Ireland. With a frequency-response range of up to 10 percent of maximum power, full activation within 5 seconds would require very high sustained ramp rates both upwards and downwards.

For several prime-mover technologies, this may not be technically feasible. The requirement should therefore include a clear reference to the technical limitations of the relevant prime mover.

We recommend increasing the Ireland and Northern Ireland value in Table 11 from 5 seconds to 10 seconds, or adding the following clarification: "within the technical limitations of the prime mover, unless justified otherwise in accordance with Article 22(2), point (c)(v)".

Clarify requirements for island operation

Article 22.4(b) also introduces requirements on island operation. EUGINE welcomes that the current wording refers to the need to take into consideration the specific characteristics of prime-mover technology. This principle is important and should be preserved throughout the implementation of the requirement.

Further clarification is therefore needed on what a power-generating module is expected to do during an undetected island condition, where no information from the relevant system operator is available.

In such situations, the generating unit may not change its control mode automatically, and the stability of the island will depend on several factors beyond the generating unit itself.

Further discussion is also needed on the definition of houseload operation, the removal of the 55% load floor for rapid load rejection in regional island operation, and the proposed synchronisation window.

We recommend clarifying Article 22.4(b) to ensure that island operation requirements are technically achievable and reflect the specific characteristics of different prime-mover technologies.

Power system stabiliser requirements should apply at unit level

Article 27(2)(a) allows the transmission system operator to specify the capacity above which a Type D power-generating module must be equipped with a power system stabiliser.

If this threshold is applied at aggregated plant level, it may lead to disproportionate results. For example, a plant composed of several small generating units could exceed the threshold in aggregate, even though installing a power system stabiliser on each small unit would not be technically meaningful.

Power system stabiliser requirements relate to the behaviour of the individual machine. They should therefore be assessed at power-generating unit level.

We recommend replacing "power-generating module" with "power-generating unit" in Article 27(2)(a), so that the capacity threshold applies to the individual unit rather than to the aggregated plant.

Certification requirements should remain proportionate and allow site testing

Article 39(5) provides that the regulatory authority may require the Power-Generating Module Document (PGMD) to be issued by an authorised certifier. Combined with the requirement for a separate document per module, this could create additional cost and lead time for each individual project.

The compliance process is already complex. Where equipment certificates or other evidence are available, mandatory certifier involvement for every PGMD would not necessarily provide additional system-security benefits.

We recommend deleting Article 39(5).

Article 39.3(b) also refers to compliance test reports demonstrating steady-state and dynamic performance, including actual measured values during testing. In practice, some tests can only be performed after installation, in the real operating environment of the unit.

Without a clear possibility for site testing, project developers and manufacturers could face a circular process: evidence may be requested before connection, although the evidence can only be produced after the unit has been installed and tested.

We recommend clarifying that site testing is a valid route to demonstrate compliance. Where final certificates depend on tests to be carried out on site, an interim operational notification should be possible.

Certification timelines need workable transitional arrangements

Articles 47, 49 and 52 introduce new provisions on equipment certificates and national compliance schemes. While EUGINE supports the objective of harmonising compliance demonstration, the proposed timing may create implementation difficulties.

Equipment certificates can only be issued once the relevant national compliance scheme has been approved, certifiers have been accredited, and the necessary testing and validation procedures are in place. This process will take time. However, the draft Regulation would require the use of certificates

for modules connecting 24 months after entry into force, even if the certification framework is not yet fully operational.

To avoid legal and practical uncertainty, the application of Articles 47(2) and 52 should be linked to the approval of the relevant national compliance scheme. At the same time, Article 49(2) should set a clear deadline for the approval of such schemes, so that implementation does not remain open-ended.

During the transition, existing national certificates demonstrating conformity with equivalent technical requirements should continue to be accepted. For Type A modules, manufacturer declarations of conformity should also be accepted until the new framework is operational.

We recommend introducing a clear transitional framework that allows compliance to be demonstrated in practice from the first day of application of the new Regulation, without delaying projects or creating uncertainty for manufacturers, project developers, certifiers and system operators.

Transitional provisions should protect projects already under development

Articles 61 and 62 make the applicability of the new Regulation depend on the date when a power-generating module "connects to the network". This creates uncertainty for projects that are already well advanced, especially where the main generating equipment has already been ordered.

Large power generation projects involve long development timelines, including permitting, grid connection procedures, transformer lead times and construction schedules. As a result, a project may have a final and binding equipment contract before the end of the transition period, while the actual connection takes place only afterwards. In such cases, applying the new requirements solely on the basis of the connection date would create legal and commercial uncertainty for manufacturers and project developers.

The wording "connects to the network" should also be clarified, as it determines which regulatory regime applies. This is particularly relevant for Type D projects, where auxiliaries may be energised before the final operational notification.

We recommend introducing a clearer transitional regime that protects projects already under development and provides legal certainty on the applicable requirements. This should include contract-based grandfathering for projects with a final and binding contract for the main generating plant concluded before the end of the 24-month transition period, as well as a precise definition of "connects to the network", based on first energisation of the power-generating module and, for Type D modules, the energisation operational notification.

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.
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