



Power Transformers: Recommendations on the final Ecodesign proposal

November 2018

Member States are expected to vote in January 2019 on a proposal¹ from the European Commission to revise the Ecodesign regulation on Power Transformers. The Commission's proposal foresees weakening the existing Tier 2 requirements that enter into force in 2021, and introduces a series of exemptions and derogations to the existing rules. In our opinion, the current proposal sets a dangerous precedent with regards to the certainty of European regulations, which would undermine regulatory stability and the climate for investment. The Commission's actions run counter to Article 7 in Regulation 548/2014 which does not call for a review of the ambition of Tier 2, and postpone to 2023 crucial aspects listed in the review clause only. Moreover, we believe that the number of exemptions from the scope and derogations introduced risk generating massive loopholes and undermine the energy savings of the existing regulation.

Building on the above, we recommend that Member States do not vote in support of the revision in the terms proposed. Should Member States decide to move forward with this revision, then we request that at the very least, the following recommendations are taken into consideration.

Toughen derogations

While recognising the challenges of granting derogations for certain situations, **we are convinced that exemptions from the scope and particular derogations based on costs or technical infeasibility fully undermine the political objective of the Ecodesign Directive.**

Specifically, alarming new provisions have been inserted, that were not presented in the October 2017 draft, which allow regulatory concessions not to meet Tier 1 nor any efficiency requirements at all for large power transformers. These significant derogations must be removed as they contravene the nature of the implementing measure itself. If the European institutions refuse to withdraw them, then both must be mitigated with strict core loss limits.

What is more, the proposed formulations risk opening the door to abuse, and cannot be kept as such. We share the many concerns expressed during the revision process regarding the technical and application processing capacity of Market Surveillance Authorities (MSAs) to assess derogations in a timely and thorough manner. The onus is now passed to MSAs to evaluate that evidence, and work with suppliers to set suitable precedents for the level of detail, and what is and is not acceptable. The scope of applications for which derogations are admitted should be reduced to help mitigate this –

¹ [Draft Commission Regulation on ecodesign requirements for power transformers. Notified to WTO on 27 August 2018.](#)

specifically, we believe that derogations should never be allowed for greenfield installations and never be allowed for industrial sites (the preparatory study found that no derogation was required or justified for industrial sites).

As we have already proposed, for the very exceptional cases for which derogations are permitted, we recommend that all of the following requirements are considered as prerequisites for the acceptance procedure:

- 1) **Economic justification** – must demonstrate the disproportionate costs incurred relative to other installations in that same utility’s network and that the future savings from the more efficient transformer would not otherwise recover those costs in a reasonable timeframe;
- 2) **Technical feasibility** – must demonstrate that alternative core steels, different core designs and higher flux densities would not otherwise achieve the same requirements;
- 3) **Application declaration** – the end-user would need to specify the application into which the transformer is being installed, demonstrating that it is not a greenfield site and that it is not an industrial site. As such, derogation would only ever be granted for an individual unit, never a batch of designs. Furthermore, the declaration could also include photographs of the existing installation, load forecasts and other relevant information about the site.
- 4) **Information requirement** – the end-user would be required to comply with all the information requirements of Regulation 548/2014 so as to give guidance to the Commission for future revisions of the regulation.
- 5) **Fall-back requirement** – it is absolutely essential that any derogation granting the inclusion of fall-back minimum criteria includes core loss limit and meeting Tier 1. Confirmation of this fact must be demonstrated in the application submission for derogation.

As it stands, the regulatory proposal sets modest conditions for accepting a derogation, but the general default approach remains weak, lacks clear ambition and perpetuates massive loopholes for way too many product types. While we remain convinced that there is no justification for carte blanche requirements or derogations for these applications, we insist on the fact that any proposed exemption or derogation must meet all of the following conditions:

- Core losses limit should be defined for any alternative offered
- Green field sites should be excluded
- Industrial sites should be excluded
- Batch exemptions should not be allowed
- Specific limitations on exemptions should be placed for new installations, as the Consultation Forum has heard far less evidence about contrary economics for new sites.

Remove concessions for pole-mounted
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The evidence overwhelmingly shows that the old technology routinely deployed for pole-mounted applications does not belong in the efficient grid needed for the coming decades. Many economies have already recognised this and moved on and that is exactly what the EU should be doing. **We urge a staged transition to removing the concessions for pole-mounted transformers and this should be set out as such in the Review clause.** The essential transition requires long term planning to install stronger poles whenever replacements are installed – the signal to begin that transition can be given in an unambiguous review clause in this regulation.

Retain general Tier 2 thresholds, expand specific thresholds

We regret that the new specific requirements for both dry-type and liquid-immersed transformers in the capacity classes below 4 MVA have been significantly relaxed compared with the blanket coverage of the previous regulation. By doing so, the Commission is no longer in alignment with the international standard for Transformers IEC 60076-20, which gives energy efficiency values in two tiers. This is a step backwards and reduces the energy savings of the measure overall.

Reinforce the exclusions from the scope

We register some concern at the wording that has replaced the exemption for ‘transformers specially designed for emergency installations’. We are concerned that ‘transformers specifically designed to provide for a situation limited in time’ appears to exempt a much wider range of products and so could present a loophole.

Tighten EU MEPS for medium power transformers below 60 kVA

The most disappointing aspect of the proposed MEPS is the **failure to address the poor ambition of EU MEPS for medium power transformers below 60 kVA which remain weak compared with all other economies**. At the very least, this must be noted as a priority topic in the review clause.

We are concerned that a loophole is offered for exemption of ‘either a specific location or a specific installation type (e.g., station or cabin model)’ which remains very open to interpretation of how specific the situation is that earns the exemption. This must be quite clear to apply to a fixed and specific size and type of cabin in a particular type of location with a specific model of transformer – in fact covering all of the conditions for which the economic and technical analysis to support the exemption was carried out.

Set MEPS for single phase transformers

Minimum performance requirements for single phase transformers are specifically mentioned in the review clause for the current regulation, and no evidence against their introduction has been presented to our knowledge. But these are neither addressed in the proposal nor retained in the review clause and so we would request to see the evidence justifying rejection of Option 3A. **We support this option to bring the EU more closely in line with other economies that do not have this unnecessary loophole and call for its retention for review at the earliest opportunity.**

Other aspects

We note some improvements in the text. We welcome that the **general exemptions to the scope for ‘disproportionate costs’ and ‘technically infeasible’ in Article 1 have been swept away** but the gaps noted above allow scope for much improvement. We welcome the **extended range for “Medium power pole-mounted transformer” to be included within scope** (now up to 400 kVA, was 315) but to deliver any benefit from this, the table of requirements must be expanded. It currently presents no requirement for capacities above 315kVA – interpolation is allowed, but 400kVA requires extrapolation from the presented figures.

We support the much-improved **detail on correction factors for special windings** with more restricted allowances for many types; and the marginally **stricter requirements for dry-type with Um <36kV and for liquid-immersed >100MVA (Tier 2)**. We note the new exclusion for all three-phase medium power **transformers with a power rating below 5 kVA** and accept this on the understanding that they are outside of the scope of EN 60076-1. **We call on the Commission to consider if these should be included in the next standardisation request.**

We back progress to define retrofit, repair and refurbish. We suggest replacing “increase significantly the energy performance” with “increasing the efficiency of the transformer” to avoid confusion or potential loopholes due to the unclear wording.

Finally, considering that the route to improved compliance for this product group remains very challenging, we strongly **support the addition of options to reinforce market surveillance verification** of transformers (e.g. witness testing of Factory Acceptance Tests).

Contact:

ECOS – European Environmental Citizens’ Organisation for Standardisation

Nerea Ruiz, nerea.ruiz@ecostandard.org