



16/09/2016

Preparatory study for the review of Commission Regulation 548/2014 on Ecodesign requirements for small, medium and large power transformer

Kick-off meeting with stakeholders

Paul Van Tichelen

Brussels, DG GROWTH

16th of September 2016

Agenda



- » 9h30: registration desk opens in EC building Breydel in Brussels (please check that you have your ID card or passport with you)
- » 10h00-10h20 Coffee in meeting room Ayrat
- » 10h20-10h30: Presentation of the study team and tour de table
- » 10h30-10h50: Scope of the assignment (Paul Van Tichelen, VITO)
- » 10h50-11h20: Regulation 548/2014 (Paul Waide, Waide Strategic)
- » 11h20-11h40: Data needs and data sourcing (Berend Evenblij, TNO)
- » 11h40-12h: Comments on data sourcing
- » 13h-13h20: State of art in CENELEC TC 14 standardization (Angelo Baginni, CENELEC TC14, University Bergamo)
- » 12h20-13h20: lunch

Agenda afternoon



- » **13h20-14h40 Stakeholders view in the review of Commission Regulation 548/2014.**
 - » **13h20-13h40 The present time situation viewed by the manufacturers (Michel Sacotte, Orgalime, Schneider-Electric)**
 - » **13h40-14h10 The view of a DSO: Wim De Maesschalck (Synergrid) & Anthony Walsh (ESB Networks)**
 - » **14h10-14h40 Any other welcome**
- » **14h40-15h: Closing, participants expectations and priorities with respect to the review of Regulation**

EC policy officer & Study Team

- » EC policy officer: Cesar Santos
- » Study Team:
 - » Team leader: **Paul Van Tichelen (VITO)**
 - » Koen Vanthournout (VITO), Electrical grid expert/smart grids; Dominic Ectors (VITO), website
 - » **Berend Evenblij (TNO); Peter Heskes(TNO)**; Julian Croker (TNO): Electrical machines and power electronics expert, including transformers, data sourcing and processing
 - » **Paul Waide (Waide Strategic)**, Energy efficiency policies including transformers
- » Table round
- » Use of voice recording

Introduction

- » Background is the Ecodesign Directive 2009/125/EC that resulted in 'Implementing Measures' (EC Regulation ..) which is:
COMMISSION REGULATION 548/2014 ON ECODSIGN REQUIREMENTS FOR SMALL, MEDIUM AND LARGE POWER TRANSFORMERS
- » This is a preparatory study for the review
- » More information on the Regulation will be in the presentation of Paul Waide
- » Further info: <https://transformers.vito.be/>

Article 7 of Commission Regulation 548/2014

- » **Article 7 Review No later than three years after the entry into force(10/6/2014). Specifically, the review will assess, at least, the following issues:**
 - » the **possibility** to set out minimum values **of the Peak Efficiency Index** for all medium power transformers, including those with a rated power below 3 150 kVA,
 - » the possibility to **separate the losses** associated **to the core transformer** from those associated with **other components** performing voltage regulation functions, where this is the case,
 - » the appropriateness of establishing minimum performance **requirements for single-phase power transformers**, as well as for **small power transformers**,
 - » whether **concessions made for pole-mounted transformers** and for **special combinations of winding voltages** for medium power transformers are still appropriate,
 - » the possibility of **covering environmental impacts** other than energy in the use phase
- » **In addition investigate if, in the light of technological progress, minimum requirements set out for Tier 2 in 2021 are still appropriate.**

Additional requirements of the assignment

Therefore the following tasks are specified:

- » **Task 1: Verification of existing minimum requirements for Tier 2**
- » **Task 2: Consideration of minimum requirements for single-phase transformers**
- » **Task 3: Verification of existing exemptions and regulatory concessions, with subtasks:**
 - » Task 3.1 - Verification of exemptions in Regulation 548/2014
 - » Task 3.2 – Analysis of criteria for the repair of transformers in Regulation 548/2014
 - » Task 3.3 – Verification of concessions for transformers with unusual combinations of winding voltages
 - » Task 3.4 – Verification of concessions for pole-mounted transformers
- » **Task 4: Analysis of other environmental impacts**
- » **Task 5: Conclusions and recommendations**
- » **Task 6: Reporting and workshop**

Objectives in a nutshell

- » verify if requirements for **Tier 2** are still **cost-effective** from a lifecycle analysis perspective;
- » provide **evidence** for a consideration of minimum efficiency requirements **for single-phase transformers**;
- » **verify** if regulatory **concessions** made for **pole-mounted transformers** and transformers with **special combinations of winding voltages** are still appropriate;
- » analyse if existing requirements for medium power transformers based on absolute levels of losses should be **converted to** relative values based on the **Peak Efficiency Index**;
- » analyse if widely accepted **criteria for the repair** of transformers can be developed;
- » analyse if **other, non-energy, environmental impacts of transformers** should be regulated

Task 1: Verification of existing minimum requirements for Tier 2

- » **verify if the minimum energy efficiency requirements in Regulation 548/2014 for Tier 2 level, applicable in 2021 (see also presentation on the Regulation)**
 - » In the light of technological progress: cost-effective, and technologically feasible?
 - » estimate of the efficiency levels of the installed base of transformers in the EU, broken down according to the different categories described in Regulation 548/2014?
 - » Use the Peak Efficiency Index such as for power transformers?
 - » introducing a Tier 3 level with stricter requirements, indicatively sometime between 2023 and 2025?

Task 2: TASK 2 CONSIDERATION OF MINIMUM REQUIREMENTS FOR SINGLE-PHASE TRANSFORMERS

- » **Single-phase transformers** were excluded from the scope of Regulation 548/2014
- » Mainly used by utilities in Ireland and the United Kingdom
- » **investigate whether it is technically and economically justified to extend existing minimum energy efficiency requirements during Tier 2?**
- » Follow the MEErP methodology (see previous preparatory study)

Task 3: VERIFICATION OF EXISTING EXEMPTIONS AND REGULATORY CONCESSIONS

» TASK 3.1: VERIFICATION OF EXEMPTIONS IN REGULATION 548/2014

- » See later presentation on the regulation
 - » Is the rationale behind it still valid? Are there unintended consequences?

» TASK 3.2: ANALYSIS OF CRITERIA TO INCLUDE THE REPAIR OF TRANSFORMERS IN REGULATION 548/2014

- » Should we cover them in an update? Are there market figures on this?
- » proposal for a regulatory extension

Task 3: VERIFICATION OF EXISTING EXEMPTIONS AND REGULATORY CONCESSIONS

- » **TASK 3.3: VERIFICATION OF CONCESSIONS FOR TRANSFORMERS WITH UNUSUAL COMBINATIONS OF WINDING VOLTAGES**
 - » Table I.3 of Annex I in Regulation 548/2014 (see later presentation)
 - » needs to be expanded for cases not yet covered?
 - » Reconsidering existing regulatory concessions
- » **TASK 3.4: VERIFICATION OF CONCESSIONS FOR POLE-MOUNTED TRANSFORMERS**
 - » Table I.6 of Annex I in Regulation 548/2014 provides concessions
 - » an assessment of whether regulatory concessions for pole-mounted transformers should be maintained or should be phased out?

TASK 4 ON ANALYSIS OF OTHER ENVIRONMENTAL IMPACTS

- » Note: The Ecodesign methodology (MEErP) used for this preparatory study has been revised in 2013 compared to those used in the existing preparatory study.
- » MEErP 2013 was updated with a view to elaborating on the material efficiency aspects. (note that recycling is more elaborated)
- » Will use data Task 1 (Bill of Material)
- » **Purpose: investigation of significant environmental impacts, other than energy, are justified to consider additional requirements**

TASK 5 ON CONCLUSIONS AND RECOMMENDATIONS

- » collect the findings made in Tasks 1 to 4 with a view to making targeted recommendations to improve, extend or reduce the coverage of Regulation 548/2014
- » An **inventory of any technical and position papers** (both solicited and unsolicited), submitted by social and economic actors in the context of Tasks 1 to 4 will be included in this task.
- » The actual papers will be included as annexes.
 - » **Output is draft final report**
 - » **Will be discussed in a validation workshop** (all stakeholders)

Planning chart

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Task 1	x	x	x		x	x			
T1-market screening data collection (= also input to Task 2,3,4)	x	x							
T1- elaborate enquiry missing data			x						
T1- start working with LCC and data processing				x					
T1-final data processing& report					x				
T1-report calculate			x	x	x	x			
Task 2	x	x	x	x	x	x			
T2-collect UK missing data and/or extrapolate from IRL	x		x						
T2-calculate Ecoreports all tasks + scenario									
T2-report				x					
Task 3		x		x		x			
T3 input data from T1		x							
T3.1(exemptions), T3.3(unusual types), T3.4 (pole mounted)		x							
T3-cross check with other policyAU/US				x		x			
T3.2 Repair									
Task 4		x		x		x			
T4 input data from T1		x							
T4- process in report				x		x			
Task 5				x		x	x		
T5 Collect and process finding T1-4									
T5 Process tech & position papers									
Task 6						x	x	x	x
T6 report									
T6 workshop									
Contract coordination& project management& main author	x	x	x	x	x	x	x	x	x

Planning important milestones

- » 1 Sep 2016: Launch project & website:
<https://transformers.vito.be/>
- » 16 Sep 2016: Project kick-off meeting with EC/Stakeholders
- » Draft final report (within 6 months) (<March)
- » Stakeholder workshop in March
- » Final report (within 8 months) (<May)

Questions & Conclusion

- » Scope: any?
- » Questions, AOB?