# Exemption Request 17 a: Lead in glass of electronic components and fluorescent tubes, or in electronic ceramic parts (including dielectric ceramic capacitors) used in industrial monitoring & control instruments (only sub-category 9 industrial); exemption to expire in 2024

1. Checking the submitted information, there is no substantiated evidence that the substitution of lead in the requested exemption is scientifically and technically impracticable. Your exemption request is hence based on the longer time needed to achieve RoHS compliance (redesign and qualification of new products) and the related socioeconomic impacts if compliance is required in 2017 already.
   1. Is this correct?

The fact there are alternatives offered on the market is obvious – the problem with these is that their reliability is not assured for our products which since the ROHS recast is a recognized ground for granting an exemption. The mere existence of an alternative does not guarantee its functionality let alone allow one to assume it is a reliable one. So though we hesitate to claim there are no substitutes neither is it reasonable to claim the opposite namely that these substitutes will be functional in all cases.

From a Metrology perspective, Calibration is performed “*To establish the reliability of the instrument i.e. that it can be trusted*”[[1]](#footnote-1) Reliability in this context refers to the consistency of accurate results over consecutive measurements over time. Please refer to the additional insights provided relating to Metrology and reliability in response to your General Questions (Q2) covering exemption requests 17a, 18a and 20a. Consequently, these submissions additionally support the T& M Coalition’s assertion that the “the reliability of substitutes is not ensured” in the context of the performance of Industrial Monitoring and Control Instruments.

* 1. Additionally, assuming RoHS compliance is required by 2017, please provide information to clarify the character and range of socio-economic impacts expected (economic impacts on industry, environmental impacts, health impacts, impacts on labor, wider trade impacts)

Europe’s core competitive industrial markets are related to high technology manufacturing and similar applications. The availability of a vast range of test and measurement equipment is essential to ensure the manufacturability of European industrial products as well as to manage the networks for knowledge intensive industries. Furthermore the deviation of limited engineering knowledge and resources to redesign and qualifications for almost nil additional benefit to the environment of human health is a downright wasteful exercise. If the exemption is not granted manufacturers will make choices to not make available certain instruments on the European market concentrating their resources instead on what they can achieve and leaving some markets for being redeveloped after redesign cycles catch up.

Furthermore many elements of the Socio-economic impacts have previously been provided relating to the members of the T&M Coalition[[2]](#footnote-2). The ability to deliver new product offerings that meet customer’s new and emerging measurement needs would be clearly impacted. As Test & Measurement instruments require highly technical engineers for their design and manufacture; and Category 9 producers have specialized and finite resources available in line with existing business commitments; the existing New Product Introduction plans would be decreased to divert resource to rework products already developed and released to the market which were expected to meet the RoHS Substance Restrictions. At a time of such global economic uncertainty, the wasteful diversion of resources to repeat product compliance activities is even a greater risk to Producer’s fiscal performance and shareholder value. It is widely accepted that delayed introduction of new products causes’ loss of revenue over that period that cannot be recovered. Likewise the customers of our members will suffer from the reduced availability of new technologies hampering Europe’s global competitiveness.

The availability of our equipment to develop and test new technologies or protocols determines when National infrastructure is deployed and when consumers can demand these new services. These can involve multi-billion Euro investments such as are underway with the LTE “4G” wireless communication roll-out across the globe, which will deliver growth across the EU. The subsequent delays in launching products increases the time necessary to develop the next disruptive technology; and in our ability to provide the production test solutions to bring such innovations to market.

More generally we can list 5 key socio-economic costs to the T&M industry due to rework of previously completed activities and the need to modify ongoing long term compliance plans:

Compliance System reconfiguration – this requires ERP software redesign and repopulation with data that hitherto not been gathered – this labour intensive exercise in itself has a vast cost with no recurring benefit of any kind in the long term.

Renew Supplier’s declarations for any part relying on an expired exemption where there is no clear mapping or equivalent in the new exemption structure.

Products developed and released to the market which were expected to meet the RoHS Substance Restrictions will have to be re-evaluated after new part compliance data has been obtained.

Unless the specific exemptions requested are restated, product redesign ***will*** be required.

Supply of spare parts to support products removed from the market prior to the enforcement date will not be able to utilize expired exemptions that have not applied to category 8 and 9 products.

The expenditures of T&M members for compliance so far have exceeded the € 25 million mark just based on the ERP and surveys required – the reset that the absence of this exemption requires can in no way compare to any monetized damage that might occur from the extension of the exemption[[3]](#footnote-3). Our point of view on this is that we have substantial technical reliability barriers to assess and the added cost c.q. need to prioritise and withdraw certain instruments from the market is completely disproportionate to the amount of lead that is put on the market and which on top of that is recycled to practically 100%. Enforcing the ban on these capacitors against category 9 benefits no one and is sure to harm some due to the constraints of conversion.

* 1. If not, please provide substantiated evidence that and why the substitution of lead is scientifically and technically impracticable for industrial monitoring and control instruments.

The criteria for granting an Exemption according to Art. 5 1(a) is not limited to whether the “substitution of lead is scientifically and technically impracticable” but can also be granted when “the reliability of substitutes is not ensured.” Reliability of category 9 producer’s products extends to measurement performance: the consistency of accurate results over consecutive measurements over time. Proving measurement reliability when substituting components has not been proven across the portfolio of Category 9 instruments. For example, suppliers of low-voltage ceramic capacitors are still transitioning their portfolio of parts. These then need to be built into evaluation samples to assess the long-term reliability. So while there is no argument that it is scientifically and technically practical to start the substitution, there are years of evaluation effort required to assure reliability in Category 9 products. Insight into the tasks and duration of these activities has been previously submitted ([[4]](#footnote-4) and below)



1. Lead-containing ceramic low-voltage capacitors may no longer be available on the market after 2013.
   1. Please explain how you want to secure the supply with such capacitors.

In case you want to solve the problem with last time buys: Long storage of components affect the life time and reliability of components and of the assemblies that are produced with these components. Please explain how you ensure the reliability of the ceramic low-voltage capacitors during the intended storage over many years.

The above statement is a surprise to us – at this time we have absolutely no indication whatsoever that manufacturers are in short supply for the non ROHS version capacitors. Within the limited time frame we checked this in China and from the anecdotal (one source) response from a producer cannot agree with OEKO’s statement. In fact our impression is that manufacture of these components will continue most likely for a 10+ year period.

In any case even if we had to resort to last time buys this is in itself not unusual in any industry including high technology. The purchased parts will be stored in an environmentally sound and controlled manner. Usually this is in temperature and pressure controlled storage houses in packing that is sealed to include a desiccant. When the parts are taken into production years hence, they are warmed and reconditioned according to a rather routine process. This is done all the time in industry. Semiconductor manufacturers routinely create die banks for such purposes. The T&M industry manages huge banks of legacy parts precisely because there is a long term obligation to service instruments after they have gone out of production. The norm for the industry is to provide full qualified service 5 years after an instrument is taken out of production – in many cases the actual service will be longer. This obliges us to maintain stocks of parts that would otherwise no longer be available and is a key part of the cost control required as a manufacturer – every additional part creates the need for storage and management for years and years. Such systems are laid down in industry best practice codes which are common to many companies.

1. Please provide a roadmap towards compliance including
   1. the various steps you need to go

We believe that we have answered this in detail several times and yet it seems to be unrecognized so far:



* 1. the related timelines

Based on the information above – which we have also submitted as individual plans at an earlier stage we can calculate that based on a reasonable assumption of best vs. worst case scenarios the timeline to carry through all the steps will average around 11 to 12 weeks or 3 months of FTE. We refer to the detailed example given for Agilent in the submission of December 2012 (attached below) which comes out as identical and also explains the necessity to allow enough time to transition all products.



1. “[Metrology In Short](http://resource.npl.co.uk/international_office/metrologyinshort.pdf)” 3rd Edition, Page 17, Section 2.1.4 Calibration. [↑](#footnote-ref-1)
2. [TMC\_submission\_17\_a\_-\_final](http://rohs.exemptions.oeko.info/fileadmin/user_upload/RoHS_VIII/Request_17a/TMC_submission_17_a_-_final.pdf) Pages 3 and 4 [↑](#footnote-ref-2)
3. ECHA has established an extensive background on willingness to pay versus cost for the analysis of socio-economic benefits versus costs under REACH. <http://echa.europa.eu/support/socio-economic-analysis-in-reach> Under that scheme there is no possible justification to expend even a modest sum, let alone risk any uncertainty to European industries because there is no material cost for maintaining the exemption. [↑](#footnote-ref-3)
4. [TMC\_submission\_17\_a\_-\_final](http://rohs.exemptions.oeko.info/fileadmin/user_upload/RoHS_VIII/Request_17a/TMC_submission_17_a_-_final.pdf) [↑](#footnote-ref-4)