**Exemption Request 20a:**

**“Mercury in cold cathode fluorescent lamps (CCFL) for back-lighting liquid crystal displays not exceeding 5 mg per lamp used in industrial monitoring and control instruments (only sub-category 9 industrial)"**

The RoHS Directive stipulates that an exemption could only be justified if one of the three main criteria stated in article 5(1)(a) is fulfilled:

1. From the information provided, it is clear that substitution/elimination is possible, i.e this criteria is not fulfilled. If this is not true, please explain the technological purpose (technical and performance characteristic etc.[[1]](#footnote-1)) of the mercury back-lighting liquid crystal displays so that it can be clear why substitutes do not fulfil the application purpose sufficiently? Please provide detailed technical argumentation / evidence in line with the criteria in Art. 5 (1) (a) to support your statement.

In the set time frame and due to Chinese New Year and US President’s day it was unfortunately impossible to obtain further detailed technical information.

This issue on the availability of form-fit-function displays to directly replace the incumbent mercury back-lit displays. While new products can clearly adopt the current LED-backlit displays, displays used in current production instruments do not have a direct equivalent which has the same physical dimensions, mounting locations or video interface specifications. I such cases, enclosure and/or video interface redesigns would be required to adopt the latest display technologies. Consequently, there is not a technological equivalent drop-in display available in each and every case.

1. From the information provided it can be understood that for various reasons, the reliability of substitutes is not ensured. In this concern:
	1. It can be understood that reliability plays a certain role in the argumentation behind this exemption. However, the explanation as to how lamps in displays affect the reliability of applications is not completely clear. For example, if the display of a Xerox machine is less luminous because less mercury is used in the display lamps, the Xerox machine would still fulfil its main function. However, it can be understood that the luminosity of displays in sub-category 9 industrial applications can be critical: Please give a few concrete examples to demonstrate the necessity of display luminosity to certain applications for which this exemption is relevant.

The instruments of the T&M coalition that require these back lit displays are used in the most diverse environments. It is precisely the uncertainty around the use that makes it imperative to ensure legibility of the display.

1. The provided information alludes to various aspects concerning environmental and health impacts, however it is not clear what the scope of such impacts may be. If you believe that substitutes will produce negative environmental / health impacts that will outweigh the benefits thereof, please provide detailed information to explain this. This could concern possible impacts if display luminosity changes, early scrapping of production equipment, contribution of CFL lamps to lower energy consumption compared to LED lamps etc., however if this line of argumentation is relevant the scope of possible impacts must be clarified.

Based on input from some manufacturers there will be a number of instruments withdrawn from the European market if this exemption is not granted. The cost to redesign is excessive compared to the amount of product sold as the change in the display has further reaching consequences than a drop in replacement. Substitutes are to our knowledge not necessarily negative in any way – this is not the issue in the assessment of willingness to pay for environmental/health damage or prevention. The critical assessment is whether the environmental/health benefit that is being pursued is any way reasonable compared to the cost incurred for compliance. Due to the minute amount of mercury involved in this case and the near certitude of recycling under safe conditions there appears to be no reasonable grounds for the exemption not to be granted.

* 1. Your application does not propose a maximum validity for the exemption. How long do you anticipate this exemption to be needed – please explain why?

At this time we were unable to assess what the redesign cycle of the affected products is. We would suggest as an alternative to propose a review of this specific exemption in 2022.

* 1. You state that “As measurement equipment, many of the coalition member’s products need to undergo formal third-party qualification and / or certification. This process is lengthy and bureaucratic and requires additional review upon any material change to the instrument;“. You have stated the various phases relevant to product redesign and qualification and the average time required for each phase when a single product is regarded, however a key issue in your argumentation is the effort required to prepare the full range of products affected by this exemption for RoHS compliance. Please estimate the time needed for transitioning the full scope of products relevant in this application.

We believe that we have answered this in detail several times and yet it seems to be unrecognized so far. Please once again review and consider the information submitted to you in June 2012 inserted below that you have not published online as part of the public consultation



Based on this information, 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 per product. We additionally refer to the detailed example given for Agilent in the submission of December 2012 (attached below and also not published on the consultation website) which provides an identical estimate and also explains the necessity to allow enough time to transition all products.



1. You explain that “Coalition members produce a huge quantity of different kinds of products in rather low volumes”. For this reason, transition is anticipated to require more time. Please estimate how many different applications would be concerned in the scope of the requested exemption, i.e., how many different types of display screens are concerned.

Our current estimate is that it affects possibly 2 types of display screen used in possibly 5 critical products. The uncertainty lays in the inability of the supply chain to guarantee that the technology has not been in use.

1. You state that “Due to the equipment longevity there is also a need to ensure a supply of replacements for existing screens remains available to extend the support life of pre-RoHS equipment“. This sentence is not clear. Does this refer to the exemption of spare parts in equipment already on the market, as refered to in the article 4 (4) (e and f) exclusions?

As mentioned the products in question are unlikely to be redesigned before some time in compliant ROHS form. The absence of the exemption will eliminate the supply of the types of screens in question and thereby cause a long term service issue. The alternative of a long term buy is – according to our understanding from the manufacturers – problematic in this case.

1. In terms of ratio of light output versus energy absorption, colour spectrum, aesthetics and longevity [↑](#footnote-ref-1)