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Yifaat Baron
P.O. Box 17 71
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Germany

Reference:
Our ref: NDF/CW/adj/1514
Subject: Cadmium Quantum Dot applications

Date:
Date: December 3rd, 2015

Dear Ms. Baron,

Response to 2015 Consultation 3: Joint Revaluation of Two Requests for Exemption, First Reviewed in 2013-2014, Related to Cadmium Quantum Dot Applications

Established in 1999, we are an innovative company that produces high-end customized Cold Cathode Fluorescent Lamps (CCFL) with a unique patented technology.

Our products are used in professional LCD-applications for the industry, air- and spacecraft, air traffic control (ATC), medical and military systems, but also in emergency lighting as well as in the top level of decorative applications, such as points of sale (POS), retail and shop lighting.

In 2011 we expanded our backlight range with a new patented technology; ARPHOS® – an LED technology in combination with remote phosphor, offering you the highest reliability.

Since NDF Special Light Products B.V. was founded in 1999 we have become widely recognized among NGOs, governments, businesses and other stakeholders as an important actor with a unique expertise and focus on hazardous chemicals. This is why we feel competent and qualified to comment on the joint revaluation of these two requests for exemption of extension of use of cadmium-based quantum dots in lighting and display systems. We believe there are two main reasons why these Exemption requests should be dismissed – health and environmental risks and availability of safer and cleaner alternative technology.

The use of Cadmium and other heavy metals (Lead and Mercury) in electronic and electrical equipment is restricted in the EU under Directive 2011/65/EU¹ and the permitted concentration of Cadmium is limited to 0.01 wt. % (100 ppm). There are similar restrictions that are being adopted across the globe. These restrictions are being introduced because of the widely known health risks associated with Cadmium. There are tangible potential future liabilities from customer exposure, operator exposure, recycling risks and the toxic legacy of Cadmium.

Therefore, we believe that all manufacturers of electronic equipment should be aware of RoHS and avoid using Cadmium-based Quantum Dots. We believe that the industry should completely refocus on the development and manufacture of cadmium-free quantum dot materials that are RoHS compliant, toxic

¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0065&from=EN>

heavy metal-free and free of earth metal. Furthermore, we conclude that Exemption 39 is no longer justified because Cadmium-free QD displays are already widely available with high performance and reliability. This Exemption would discourage sustainable and responsible innovation and that would have a grave environmental effect, which can be avoided.

We are aware that, in general, quantum dot technology contributes to greater energy efficiency and colour gamut in displays. However, we believe that the benefits of Cadmium free QD technology outweigh those containing Cadmium. Some stakeholders may argue that one of the alternatives for Cadmium – Indium Phosphide – is a carcinogen and poses similar dangers to human health. While we at NDF Special Light Products B.V. have warned against the dangers of Indium Phosphide we believe that this should not be construed as support for Cadmium QD technology. There are available non-Indium Phosphide, Cadmium free alternatives to Cadmium QD technologies and we support their adoption in the EU market.

Lastly, it is important to take into consideration that the European Parliament has voted overwhelmingly against the proposed Exemptions 39(a) and 39(b) on the 20th of May 2015, which explicitly addressed the use of cadmium-based quantum dots in lighting and display applications. The European Parliament held that the European Commission's justification for the Delegated Act was *"manifestly incorrect, as not only are cadmium-free quantum dots technically available, but a whole line of TVs based on this technology has become widely available on the Union market, on offer by well-known major retailers"*.² The EU Parliament has made it clear the EU consumers do NOT want Cadmium on the European market, a position that we fully support.

NDF Special Light Products B.V. would like to once again underline its opposition to the renewal of Exemption 39 as it is no longer justified and as it carries significant environmental and health risks.

Yours sincerely,



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² <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2015-0205+0+DOC+XML+V0//EN&language=EN>