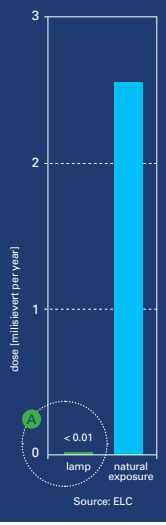
EUROPEAN LAMP COMPANIES FEDERATION

Commitment to safety and performance

Comparison of exposure doses



Source: ELC

Typically in Europe, a human's annual dose of radiation from background sources amounts to what scientists define as 2.4 milisievert per year. By comparison, we receive from radiation sources in lights and lamps less than 0.01 milisievert, or less than 0.5% per year – half a percent – of the background figure.

Note: the lamps include mainly high intensity discharge lamps

Rules and regulations

The International Atomic Energy Agency (IAEA) provides the regulatory framework for the handling and use of all radiationemitting substances. The regulations state that such materials may only be used if the resulting benefit is higher than the possible harm to humans or the environment and if their use is justified.

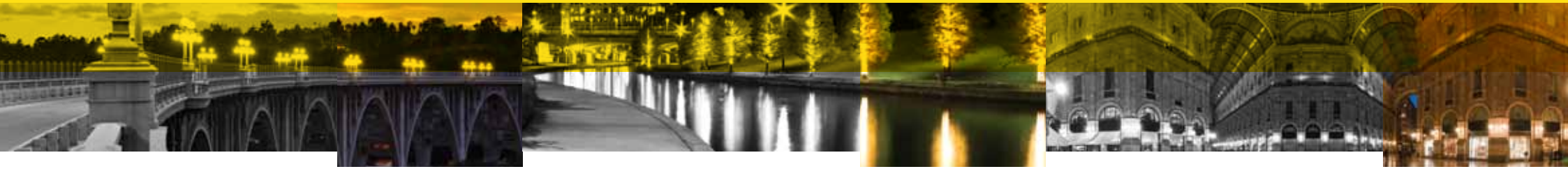
Moreover, the radiation exposure must not exceed a given safety limit. These criteria are defined in the IAEA Basic Safety Standards. All global lighting products produced by the ELC members meet these criteria.

Despite these facts, lighting products using low level radiation emitters are currently subject to an unharmonised and therefore complex set of regulations around the globe. ELC is working with IAEA and national authorities to harmonise national and international rules. Moreover, independent studies conclude that the lamps at stake could well be exempted from regulations.

An industry topic put into perspective

Low level radiation emitters

For more information see ELC web page **www.elcfed.org**



Safety comes first

Members of the European Lamp Companies Federation (ELC) are committed to a demanding corporate and social responsibility agenda. Over the last twenty years we have pioneered in sustainability and energy efficiency. As part of our commitment, we pay foremost attention to safety in all its forms: safety with regard to employees of ELC manufacturers, safety for all those who use, handle, transport – and ultimately dispose of – the products. In short, the safety of everyone involved is high on our agenda.

Tiny amounts of low level radiation emitters

Some types of lamps produced by our members contain tiny amounts of Krypton 85, Thorium or Tritium to facilitate a quick start-up and achieve high and reliable performance. These lamps are mainly produced for professional purposes, for example in public lighting, football stadiums, airports and other professional applications. These lighting products are safe throughout their life-cycle, from production to recycling. The radiation exposure they cause is less than one percent of the natural background radiation everyone experiences in everyday life.

Natural radiation: your daily dose

'Radiation' is a very emotive word when you think about it. And yet, radiation is a natural phenomenon that exists, always and everywhere. Indeed, low level radiation emitters are all around us, in many daily-life applications which we take for granted. Some entirely commonplace products contain traces of radioactive materials: smoke detectors, certain types of optical glass, luminous watch dials, ceramic colour glazes, construction materials and even some of the food and water we consume.

To put this into perspective, on average every person in Europe is exposed to 2.4 millisievert (mSv) of natural background radiation per year. 0.8 mSv is in the air around us. Our daily food accounts for a radiation dose of about 0.2 mSv/yr.

Living in high altitude locations also increase the background radiation level, due to being closer to the ionizing radiation from the sun. Radiation-emitting gas radon is found in considerable concentrations, particularly in granite-bearing rocks, for example in Cornwall (UK) or the Erzgebirge (Germany), and also in construction materials such as concrete.

By comparison, we receive from radiation sources in lamps less than 0.01 millisievert per year, a dose which is marginal compared to the natural background radiation and other man-made levels.