



THE COLLEGE OF OPTOMETRISTS

Department for Business, Energy & Industrial Strategy

A call for evidence on the market, and potential uses, for laser pointer

3 October 2017

Thank you for giving us the opportunity to respond to this consultation.

Question 19 – Do you have any other comments or views which might inform the Government's recommendations?

We are concerned that the availability of handheld lasers has notably increased in recent years along with their output power¹. Today hand held lasers with power outputs of over 1000mW, are widely and cheaply available.

Class 4 lasers (500mW or more) are capable of causing irreversible sight loss, if observed from a short distance (several meters). In addition, these lasers can cause short-term visual glare and disorientation from several hundred meters. This sight loss may be preventable with increased public awareness and enforcement.

We are also concerned about the potential for a serious incident to occur as a result of glare or disorientation to a person such as a pilot or train driver, or anyone in charge of a vehicle or dangerous machinery.

It has been reported in the British Medical Journal² by Professor Marshall *et al* that an estimated 150 children in the UK^{3, 4} have experienced eye injuries in recent years, some of whom will have irreversible sight loss. It is possible that lasers contained within toys are being imported from overseas, and are either unlabelled or mislabelled, the lasers contained within the toys being of a much higher output power than what is currently considered safe.

According to the Civil Aviation Authority, there are approximately 1400 laser attacks on pilots each year. The primary visual risk to pilots is flash glare, disorientation, temporary blind spots and after images, which all have the potential to cause a serious accident, but fortunately no long-term sight loss, due to the large distances 100-1000+ meters. However, pilots have, for many years, been well briefed on a protocol to minimise the potential risk of or anyone operating dangerous machinery

¹ <https://www.college-optometrists.org/the-college/blogs/laser-pointers-an-optometrist-s-perspective.html>

² <http://bjophthalmol.bmj.com/content/early/2016/04/18/bjophthalmol-2016-308798>

³ <http://www.sciencedirect.com/science/article/pii/S1091853116000549>

⁴ <http://www.nature.com/eye/journal/v28/n2/full/eye2013315a.html?foxtrotcallback=true>

who's temporary loss of vision could result in an incident and harm to the general public.

For the reasons of irreversible sight loss in children, and secondary harm from the dazzling of a pilot, motorist or anyone operating dangerous machinery we support calls that the government should review the current regulation.

We would also recommend the government to:

- Run public awareness campaigns to educate parents of the potential harm of lasers from children's toys, in particular those imported from overseas or that are unlabelled.
- Run public awareness campaigns to educate drivers and machine operatives of what to do in a laser attack. Introducing reporting of such incidents and ensure that those affected have a sight test following the incident to ensure no long-term visual loss.
- Ensure adequate enforcement of the current legislation