

IOP Institute of Physics

Institute of Physics submission to Health and Safety Executive consultation - CD282 - the implementation of Directive 2013/59/EURATOM laying down basic safety standards for protection against the dangers arising from exposure arising to ionising radiation.

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The Institute of Physics is a leading scientific membership society working to advance physics for the benefit of all. We have a worldwide membership from enthusiastic amateurs to those at the top of their fields in academia, business, education and government. Our purpose is to gather, inspire, guide, represent and celebrate all who share a passion for physics. And, in our role as a charity, we're here to ensure that physics delivers on its exceptional potential to benefit society. Alongside professional support for our members, we engage with policymakers and the public to increase awareness and understanding of the value that physics holds for all of us. Our subsidiary company, IOP Publishing, is a world leader in scientific communications, publishing journals, ebooks, magazines and websites globally.

The Institute of Physics (IOP) welcomes the opportunity to respond to the Health and Safety Executive consultation on the implementation of Directive 2013/59/EURATOM.

1. Issues raised in the consultation document

Practical work is central to the teaching of physics at A-level, and experiments involving radioactive sources make up an important component of this. The new Ofqual conditions and requirements¹ for the practical assessment ('practical endorsement') include the use of ionising radiation as one of the 12 practical techniques which students should have the opportunity to perform.

School science budgets are tight. In state-funded secondary schools, the average per capita spend on science in 2011/12 was £8.81.² So, a state school of 1000 pupils will have a total budget for all the sciences of £9000 with approximately a third of this being allocated to physics.

Schools that use radiation sources will already pay for a radiation protection adviser service from this budget. The additional annual fee of £50-100 will take out a further 3% of the departmental budget for an experiment performed only a handful of times a year. Moreover,

¹ Ofqual, 2016, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/526286/gce-subject-level-conditions-and-requirements-for-science.pdf

² <http://www.score-education.org/media/11805/score%20resourcing%20secondary.pdf>

while there is currently no fee for the safe disposal of school radioactive sources, a replacement set will typically cost a few thousand pounds -- a large proportion of a school science department budget.

We are concerned that these additional costs may mean that schools reduce the range of radiation experiments that students can perform. While the practical endorsement can still be obtained using domestic sources of ionising radiation, these are less satisfactory and do not always demonstrate the full range of properties exhibited by the different types of radiation. The proposed fee is therefore likely to reduce the number of students who have access to the rich learning experience of investigating the radioactive phenomena that comes from performing practical investigations.

Whilst we support the proposal for a register, we recommend that dispensation should be given to schools to avoid an unintended impact on the educational experience of physics students.

**For further information, please contact
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