

Advice for operators of BAM air quality monitors - complying with Radioactive Substances Regulations – October 2018

Air Quality Monitors using beta attenuation monitoring (BAM) technology are in common use by local authorities. These monitors contain radioactive sources, typically carbon-14 (C-14) (3.7 MBq) or krypton-85 (Kr-85) (1.85 GBq). The purpose of this update is to clarify the regulatory arrangements which apply to these sources.

1. Environmental Authorisations (Scotland) Regulations 2018 (EASR)

BAMs in active use

From 1 September 2018, both types of radioactive source are regulated by SEPA under the EASR. Organisations in control of these sources are required to notify SEPA by 31 March 2019, using the EASR Notification form found at <https://www.sepa.org.uk/regulations/authorisations-and-permits/application-forms/#RSA>

Conditions apply to the management of such sources, including, record keeping, safe management, security, appropriate disposal, and notification of loss or theft of the sources. Further details can be found in [Schedule 9](#) of the Environmental Authorisations (Scotland) Regulations 2018 or by contacting RSEnquiries@sepa.org.uk.

Operators holding AQM's with Kr-85 (1.85 GBq) sources, such as Eberline FH62 I-R, are asked to contact SEPA at the above email address at the earliest opportunity.

BAMs at end of life

Radioactive sources greater than 200 kBq require specialist disposal, and must be transferred to a person legally entitled to accept them. This may be a manufacturer or supplier of similar equipment (for example a source take-back agreement may be included as part of a contract to supply new BAMs) or to a disposal company holding a permit which allows them to accept radioactive waste. Local Authorities should be aware of the potential costs of disposal of the radioactive sources when budgeting to upgrade equipment.

2. Ionising Radiation Regulations 2017 (IRR17)

Work with the Kr-85 source or more than two C-14 sources will require registration from HSE under the requirements of the Ionising Radiations Regulations 2017. Any such employers would also need to consult with a suitable radiation protection adviser as to which aspects of IRR17 would apply to the use of the radioactive source. An employer holding only one or two 3.7 MBq C-14 sources is exempt from the requirements of IRR17.

3. Transport

The requirements of the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG) need to be met where certain radioactive sources are transported by road or rail in Great Britain. Up to two AQM devices containing a single C-14 source of activity 3.7MBq each may be transported as a consignment exempt from the requirements of CDG, however more than two C-14 devices in a consignment or a single Kr-85 source of activity 1.85GBq will fall within scope of CDG. This means that the organisation preparing the AQM for transport (the consignor) needs to meet certain legal obligations, as does the carrier, and for road transport, requirements are detailed in CDG and in the European Agreement concerning the International Carriage of Dangerous Goods by Road

(ADR). It would be appropriate to refer to information provided by the manufacturer/supplier in relation to detailed requirements such as required transport documentation, and the need for marking and labelling.

The Ionising Radiations Regulations 2017 (IRR17) apply during the transport of radioactive substances. Where a registration is required for general compliance with IRR17 (see point 2 above), this also covers the practice of transporting these sources. Note: ONR regulates most aspects of IRR17 during transport operations.