factsheet

Transport of Radioactive Material

Radioactive material is used every day to enhance the quality of our lives and to protect our environment. The transport of this radioactive material is fundamental to enabling important healthcare and industrial applications.

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The transport of radioactive material is critical to the following beneficial applications:

- **In healthcare**, radioactive material is used to diagnose and treat cancer. Most surgical gloves and approximately 40% of single use medical devices (e.g. syringes, catheters, dressings) are sterilised using radioactive Cobalt-60.
- **In industry**, radioactive material is used for non-destructive testing and to improve the performance of some materials. Smoke detectors use small amounts of radioactive material. Some foods, packaging material and a wide range of other products are also treated using radioactive material to kill micro-organisms that would otherwise be harmful to our well-being.
- **In our environment**, radioactive material is used to control disease carrying insects and remove pests from food. Radioactive technology is replacing fumigation with Methyl Bromide gas that is both toxic and harmful to the ozone layer.

These products and applications are taken for granted and are dependent on the reliable transport of radioactive material from manufacturer to end user.

Denial of shipments

Denial of transit for Class 7 (Radioactive) cargo has become commonplace. There are regions of the world that cannot receive essential radioactive material, for example Cobalt-60 that is necessary for some cancer treatments and the sterilisation of medical devices used in surgery.

Several reasons are cited for denial of shipment: sometimes carriers do not want to invest in the necessary training or ports don't have designated storage areas for Class 7 cargo; or there may be concerns about international regulations or the requirements for special licences, permits or insurance. The is also a general apprehension of radiation that results in carriers and ports adopting a policy of not accepting Class 7 cargo.

Regulation & Safety

The IAEA published its first regulations for the safe transport of radioactive material in 1961. These have been reviewed and updated regularly and form the basis of international regulation adopted by national regulatory authorities. This global regulatory framework covers all aspects of transport including: the design and testing of packages used for the transport of radioactive material; radiation dose rate limits; labelling and documentation requirements; and the requirements for radiation protection programmes and training. The radioactive materials industries and their transport supply chain have an exemplary safety record.

The International Irradiation Association is a member of the Transport Facilitation Working Group and supports the work of the International Atomic Energy Agency (IAEA) who ask carriers, ports and port authorities to:

- Develop a positive corporate attitude towards the transport of radioactive material
- Raise staff awareness of the benefits of radioactive material
- Train personnel in Class 7 Dangerous Goods (radioactive material)
- Unify regional offices with head office directives in support of radioactive material transport
- Improve transparency and communication
- Remove internal barriers to the acceptance of radioactive material

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