LEM/AM/19 Rev.1

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Radioactive Source Contamination in Scrap Metal

Did you know that sometimes radioactive sources can accidentally end up in metal products, like chairs, and even in architectural beams? Sometimes radioactive sources are not disposed of properly and may end up in scrap metal yards. Luckily, with the help of advanced technology, we are finding ways to locate misplaced radioactive sources before they get into scrap metal yards and contaminate consumer products.

Some radioactive sources lack adequate control, sufficient accountability, and proper disposal processes. Abandoned sources are described as “orphan” and they are known as Material Out of Regulatory Control (MORC) when their identifying marks have been removed or damaged. The Government of Malaysia has become more concerned with the “orphan” sources in view of the effort to control the safety and security of radioactive sources as to avoid potential contamination to the environment and endangering public at large.

Some industrial devices contain a small quantity of safely enclosed radioactive material called a “sealed” source. On the other hand, if this equipment is disposed of improperly or sent for recycling as scrap metal, the sealed source may accidentally

be placed in the possession of someone who is not licenced to handle it. For instance, if a steel mill melts a sealed source containing radioactive material, it contaminates the metal, the processing equipment, the facility. More importantly, the mill workers might be exposed to the radiation.

Steel manufacturing and melting industries are recommended to install sensitive radiation detection equipment on imported shipments to detect radioactive sources present to prevent these materials from causing widespread contamination.

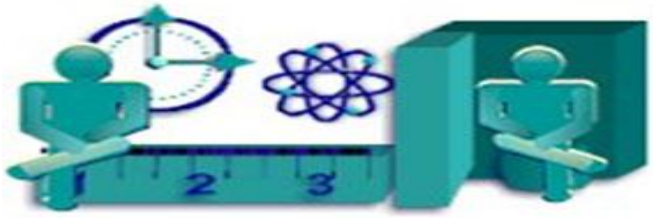
Who is protecting you?

Atomic Energy Licensing Board (AELB)

In Malaysia, AELB is entrusted through Atomic Energy Licensing Act 1984 (Act 304) with the task to ensure the safety of the public, radiation workers and the environment against hazards and threats from radiation. AELB has developed a specific programme stressing on the radiation protection and immediate action to carry out investigation upon detection of radioactive sources at scrap yards. Through joint cooperation with Royal Malaysia Custom Department (RMCD), a number of Radiation Portal Monitors (RPM) were installed at major points of entry and exit of the country including implementation of relevant capacity building programmes for the RMCD Frontline Officers. Awareness programmes are continuously conducted with the cooperation of Royal Malaysia Police to create awareness and enhance knowledge of scrap metal industries on the potential radioactive material contamination to the scrap metals.

What can you do to protect yourself?

Coming into contact with something believed to be an orphan sources or contaminated scrap metal is highly unlikely. However, if you think you have found an orphan source, contact AELB immediately, and avoid touching the item.



Three basic ways to limit unnecessary exposure include:`

- **Time**: Limit the time spent around the radioactive source.
- **Distance**: Increase the distance between you and the radioactive source.
- **Shielding**: Increase the shielding from a radioactive source with the protection barriers such as walls and building. Alpha radiation can be effectively shielded with the something as thin as a piece of paper or a plastic bag, while gamma radiation requires barriers as thick as lead-lined walls.

Please contact AELB if you see any equipment or material with this sign!

Emergency Hotline: 1 800 88 7999

Please visit AELB website for more Information

www.aelb.gov.my

Email: corporate@aelb.gov.my

Resources: International Atomic Energy Agency (IAEA)