



Report from a UK incident

Thickness gauge purchased from another country with the shutter still open

Description of incident

A fabric manufacturing company purchased a complete production line that had previously been used by a company in another country. The line included a scanning thickness gauge incorporating a 925 MBq americium-241 source. When the equipment was delivered, employees noticed two handwritten signs on the equipment warning of radiation and that persons should not approach. Fortunately, company employees had kept away from the gauge and the gauging equipment was not put to use.

None of the other production lines owned by the company used gauges incorporating radioactive sources and this was the company's first encounter with ionising radiation. Consequently, there was no radiation protection expertise within the company. A Radiation Protection Expert was appointed who discovered that:

- There were no proper warning signs, and nothing preventing access to the gauge
- The source shutter was a small, manually operated, hinged metal plate.
- Dose rates up to 1.5 mSv/h were measured around the gauge with the shutter open.

As a result, the company took a number of radiation protection measures, including restriction of access, the appointment and training of a Radiation Protection Supervisor, and preparation and dissemination of local rules for employees.

Radiological consequences

Based on the output of the sources involved and the duration of possible exposure, it is extremely unlikely that any persons received a significant radiation dose. It is, however, fortunate that the handwritten warning notices had been discovered – otherwise more significant radiation doses would have been received.

Lessons Learned

- Suppliers of equipment that emits ionising radiation must ensure that adequate information about the radiation sources and hazards is provided well in advance (eg to allow for any authorisations to be obtained). In addition, it should be ensured that information about the proper use, testing and maintenance of the equipment is passed to the user.
- Care should be taken when purchasing equipment from overseas suppliers as regulatory requirements and hence manufacturer-installed safety and warning systems may vary between countries. The user must ensure that all equipment meets local requirements.

- The above responsibilities apply equally to new and used (second-hand) equipment.
- It should always be ensured that equipment containing radioactive sources is clearly and appropriately marked in a way that communicates the hazard to persons who have no prior knowledge of radiation protection.
- If persons suspect that articles or equipment are capable of emitting ionising radiations then they should immediately seek technical assistance and not put them into use until they are satisfied that it is safe to do so.