



Report from a UK incident

Members of public pass through x-ray baggage inspection unit at airport

Description of the incident

A six year old boy jumped on to the conveyor belt of an x-ray baggage inspection unit at an airport and passed through the machine. The boy's mother also followed him through the machine, after attempts to prevent her son from entering it were unsuccessful. Both persons were exposed to the main x-ray beam. The emergency stop was then activated once both persons emerged had from the unit.

The conveyor in question was about 30 cm above ground level and it's purpose was to allow passengers to check in heavy and outsize baggage. The equipment operator is seated next to the conveyor and was able to view the area where items are loaded onto the conveyor.

Radiological consequences

The whole body dose received by the boy and his mother was assessed during the subsequent investigation to be approximately 5 μ Sv.

Lessons learned

Despite the low doses involved, the employer must be in control of access to the area inside the machine when it is switched on, and steps must be taken to ensure that persons are not unnecessarily exposed to radiation.

The operators and other staff working with x-ray inspection machines should be able to observe and supervise the entrance to the machine, and be ready to press the emergency stop button should anyone climb onto the conveyor belt.

There have been incidences where babies have passed through x-ray inspection units after parents have placed baby carriers on conveyor belts without removing the baby first. Staff should watch out for baby carriers and ensure that all such items are empty before they are placed on the conveyor. Again, the emergency stop button should be pressed without delay, before the baby enters the x-ray machine.

Not surprisingly, these incidents can often cause distress to members of the public, particularly where babies or young children have been exposed to radiation. In any case, it is recommended that users assess the possible doses to persons who may pass through the machine, eg as part of the prior risk assessment process, and also to provide reassurance that the doses are low if such an incident does occur.

It should also be noted that the conveyor system is not designed for persons, and represents a (potentially more serious) mechanical hazard.