Keeping your radioactive sources safe during school refurbishments

We wrote about source security in 2006 [1, 2] after a school lost its radioactivity cabinet, along with its stock of sources. Alas, in 2007, the same thing happened in another school. With three lost cabinets in five years, what can we all learn to stop further loss? The first happened just after a school closed down; the other two in major refurbishments in holiday time. The common factor in all three was that school staff entrusted outside contractors to shift the radioactivity cabinet. The message is a simple one. Do the job yourself, preferably with the help of trusted colleagues. Never call on an outsider to shift radioactive sources.

Therefore if your school is due to be refurbished, or move to other premises, let the school management know that even although your employers will engage others to shift your stock of chemicals and apparatus you and your colleagues will move the sources yourselves.

Flitting to a new home

The file on the SSERC website 'Transport 2007' [3] explains how sources should be transported by road. You can carry the sources in your own car provided that your insurers let you. Probably they won't, in which case the specialist carriers, *Strand Transport*, should be engaged. They are trustworthy, competent and the cost would be about £40. Contact details are in 'Transport 2007'.

However if the new building is not far away you could carry the package of sources - packed as instructed in 'Transport 2007' - on foot, perhaps with a colleague for security, to the new site. By this means the sources would be under your control all of the time and the chance of them going astray would be negligible.

If you decide to take the sources on foot, pack them in a rucsac to sit about 10 cm from your back. (I knew a university physicist who used to carry sources around the streets of Edinburgh in a wicker shopping-basket.) The radiological risk of harm to the carrier is negligible.

If you use *Strand Transport*, you need to ensure that the package does not go astray by seeing that there is someone from the science department in your present building on the day of shipment to hand over the package to the carrier and someone else from your department on site at the new premises to receive the package from the carrier. The sources must then be locked away. Since there can be lots of packages lying around during removals, take care to ensure that your package does not get lost with others.

HSE notification

If there is a change of premises, the Health and Safety Executive (HSE) should be told. Please ask your Radiation Protection Adviser (Jim Jamieson) for advice.

References

1. *Security of radioactive holdings*, Bulletin 217, SSERC, 2006.
2. Security of radioactive holdings: http://www.sserc.org.uk/members/SafetyNet/Radioactivity/Security.doc
3. Transport 2007: http://www.sserc.org.uk/members/SafetyNet/Radioactivity/Transport_2007_Guidance.rtf

Expectant or young mothers- Guidance on working with radioactive sources

Expectant or breastfeeding mothers can find guidance on working with radioactive sources on our website [1]. The risk to a woman in one of these conditions is very small. The additional dose from handling either a beta or gamma source while taking normal precautions is equivalent to about a 20-minute exposure to background radiation indoors. Therefore there is no reason why normal work with sources should not be carried out.

The only sources which should not be used are geological specimens. The risks from handling lumps of rock, though the risks are often small, are less predictable.

Reference

http://www.sserc.org.uk/members/SafetyNet/Radioactivity/Expectant_or_young_mothers_2007.doc