Asiantaeth yr Amgylchedd Cymru
Environment Agency Wales

Radioactive Contaminated Land

Radiation Protection Principles

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The Health Protection Agency's (HPA) Radiation Protection Division (formerly the National Radiological Protection Board (the NRPB)) has published advice on applying radiation protection principles to land contaminated with radioactivity. This advice is presented in the publication "Documents of NRPB: Volume 9, No. 2 Radiological Protection Objectives for Land Contaminated with Radionuclides"1998, and is summarised below.

The UK's framework for radiation protection recognises two broad situations for exposure to ionising radiations: "practices" and "interventions". A practice situation is any controlled situation that increases an individual's exposure to ionising radiation, whilst intervention results in a reduction in an individual's existing exposure. Each situation requires a different approach to protecting the individual. The Part 2A regime relates to intervention situations whereas the planning regime relates to practice situations.

Practices

Changing how land contaminated with radioactivity is used may increase the exposure of people using the land in the future. This is likely to be regarded as a practice situation. The planning system should ensure the following principles are applied to protection those using the land:

The developer's proposal should consider the available remedial options for cleaning up the site and ensure exposures to future users of the land would be as low as reasonably achievable, taking into account economic and social factors. The proposal should also show that the excess risks to an individual representative of those most exposed will not exceed the risk constraint of 1x10-5 per year (i.e. equivalent to an annual effective dose of about 0.3 mSv).

These principles do not apply to radioactive contaminated land regulated under the extended Part 2A regime.

Intervention

Intervention to reduce the exposure of people already present on a site may be appropriate where land contaminated with radioactivity continues to be used. This might include taking action in respect of the source of the radioactivity, the transmission pathway or the people exposed. However, intervention may only be taken where it is justified and optimised.

Intervention is justified when the benefits of reducing the detriment outweigh the harm and costs (including social costs) of taking a specific action. Detriment refers primarily to health detriments associated with the exposure of the people concerned, but it may also include a detriment associated with blight, for example to property. For an intervention to be optimised, the chosen action must maximise the difference between the benefits produced by the reduction in detriment and the harm or costs (including social costs) of achieving it.

These principles apply to radioactive contaminated land regulated under the Part 2A regime. The HPA has provided guidance on the dose criteria for the definition of radioactively contaminated land for the Part 2A regime in the publication “Documents of the Health Protection Agency: Radiation, Chemical and Environmental Hazards: RCE-2 - Dose Criteria for the Designation of Radioactively Contaminated Land” 2006.