



Radiological Protection Institute of Ireland

An Institiúid Éireannach um Chosaint Raideolaíoch

**Guidance notes for the disposal of decayed
sealed sources to landfill facilities**



Guidance Notes

For the disposal of decayed sealed sources to landfill facilities

Radiological Protection Institute of Ireland
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In consultation with the Environmental Protection Agency (EPA) the RPII has developed this guidance note to facilitate licensees to dispose of decayed sealed sources to landfill facilities in compliance with the regulations. Sources that would fall into this category must have decayed to an activity less than the exemption values for the radionuclide involved, as set out in Schedule 5 of S.I. No. 125 of 2000. In order to ensure that sealed sources with activities in excess of the exemption value are not inadvertently disposed of, and to prevent alarm to people who might encounter sources which have been disposed of, the following procedures must be followed:

- Applications to remove a decayed sealed radioactive source, with the intention of its final disposal to landfill, will be considered on a case-by-case basis by the RPII.
- The licensee must demonstrate through calculation that the activity of the sealed source is now below the exemption value as set out in Schedule 5 of S.I. No. 125 of 2000 for the radionuclide involved. The calculation must take account of the activity of the source on the date when it was first acquired by the licensee.
- Where the licensee has documentation relating to the source e.g. a nominal source activity certificate, purchase invoice, sales receipt etc. these must be submitted in support of the calculation.
- When the RPII is satisfied that the source is below the relevant exemption value it will amend Schedule 2 of the licence, authorising the disposal of the source in question to landfill. The licensee will be obliged to provide a copy of the licence front cover and the amended Schedule 2 to the waste disposal contractor engaged to remove the source and retain the originals on its files.
- The licensee will be obliged to remove or deface any labelling indicating the presence of radioactive material e.g. trefoil symbol, radionuclide name etc. This may not always be a straightforward procedure. For example, grinding or filing-off engraved markings may not be feasible for very small sources and/or could lead to dispersion of the contents. Small check sources could be emplaced in an opaque, solid, water-resistant, binding-medium such as concrete. The method used would have to be agreed with the RPII.
- The licensee will also have to arrange for a waste classification of the source in accordance with the EPA's Hazardous Waste Classification Tool. This classification can identify whether any component of the source (e.g. casing, source matrix, radionuclide, etc), excluding any considerations in relation to ionising radiation, displays any of the properties of hazardous waste. This classification must then be submitted to the nominated landfill facility (either directly or via the waste collection contractor) for prior approval in accordance with the waste acceptance criteria and procedures for that facility. The waste classification tool may be downloaded from:

<http://www.epa.ie/whatwedo/resource/report/tools/>

A number of environmental consultancy organisations and waste contractors can perform the hazardous waste classification on behalf of licensees.

- Subject to obtaining the necessary approval from both the RPII and the landfill operator, the licensee can then hand over the decayed sealed source to an authorised waste collection contractor. The source must be accompanied by a copy of the RPII licence and the waste classification documentation.
- The licensee must ensure that a written record is maintained which demonstrates that the decayed sealed source has been removed from the licensee's premises by the authorised waste collection contractor. The contractor should be requested to sign this record.
- The waste collection contractor must arrange for the source to go directly to a landfill facility for burial. It is essential that the source does not find its way back into the public domain and accordingly it may not go to a landfill facility via a waste recovery/recycling centre. The waste collection contractor should be requested to provide the licensee with documented evidence that the decayed source has been brought directly to the landfill facility.
- The licensee must advise the RPII when the source had been disposed of. An application to remove the source(s) from the licence should be forwarded to the RPII. This application should be accompanied by the record which demonstrates that the source was handed over to the waste collection contractor and the documented evidence that the source was brought directly to the landfill facility.



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Mission Statement

“In the three year period from 2008 to 2010 the RPII will grow the level of awareness and implementation of the measures needed to protect people in Ireland from the harmful effects of ionising (and non-ionising radiation) through scientifically- based regulation, monitoring and advice.”

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