



Waste Electrical and Electronic Equipment (WEEE)

Guidance on the Management of X-ray units at end-of-life

This document is for guidance only. It does not purport to be and should not be considered a legal interpretation of the legislation referred to herein. Producers are advised to refer to the relevant legislation for comprehensive information on requirements.

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1. Introduction

X-ray units are in scope of the European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (SI No 149 of 2014), the WEEE Regulations. Under this legislation, the producer of a product must take responsibility for that product when it reaches end-of-life i.e. when it becomes waste electrical and electronic equipment (WEEE). If the X-ray units contain batteries, then they are also in scope of the European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014), the Batteries Regulations.

The objective of the WEEE and Batteries regulations is to ensure safe management of waste electrical and electronic equipment (WEEE) and waste batteries as they can contain hazardous substances. The regulations ensure that these wastes are taken out of the municipal and commercial waste disposal streams and are managed in an environmentally sound manner while at the same time maximising their recovery/recycling potential.

Any company supplying X-ray units onto the Irish market for the first time is a 'producer'. This guidance document summarises the legal obligations that apply to producers of X-ray units under the WEEE and Batteries Regulations.

2. Purpose of this Guidance

The purpose of this guidance document is to provide information on how to dispose of X-ray units when they reach the end of their useful life and become WEEE. This document will also guide compliance with EPA licence conditions and the WEEE Regulations.

The guidance is aimed at the following groups:

- X-ray Producers.
- X-ray equipment licensees (including dental and veterinary surgeons, hospitals, industry, embassies, ports and airports, etc.).
- WEEE compliance schemes and their approved waste management contractors.
- Waste collection permit holders and waste licence/facility permit holders handling WEEE.
- Operators and managers of waste management facilities.
- EPA and local authority enforcement inspectors.

3. The WEEE and Batteries Regulations

The WEEE and Batteries Regulations set up systems for the environmentally sound management of WEEE and waste batteries to ensure their safe recycling so that the environment is protected from harmful substances and that valuable resources are recovered and reused as part of a circular economy. The EPA is the lead enforcement authority for the WEEE and Batteries Regulations although enforcement responsibility is shared with the local authorities.

The regulations place significant obligations on **Producers** (i.e. manufacturers, importers) of electronic equipment (EEE) and batteries respectively (including portable, automotive and industrial batteries as well as batteries incorporated into appliances) and on the **Distributors** of those products once they are in the country.

A '**Producer**' is any person or organisation carrying out any one, or all, of the following:

- Importing EEE and/or batteries into Ireland.
- Manufacturing and selling EEE and/or batteries under their own brand or if EEE and/or batteries are designed or manufactured on their behalf and placed on the market under their own name.
- Reselling other suppliers' products under your own brand.
- Selling EEE via distance communication to consumers and businesses in Ireland where the company is based outside Ireland.
- Selling EEE via distance communication to consumers and businesses in other EU Member States where the company is based in Ireland.

A '**Distributor**' is any person or organisation providing EEE and/or batteries on a professional basis to an end user.

Note: A company can be both a **Producer** and a **Distributor**.

Separate guidance on the legal obligations that apply to producers and distributors under the WEEE and Batteries Regulations is available on the EPA website.

What is EEE and what is WEEE?

- **EEE** is Electrical and Electronic Equipment.

Categories of EEE are listed in Schedule 3 of the WEEE Regulations. An indicative list of EEE is provided in Schedule 4. Information on EEE categories and examples of EEE in each category are provided on the website of the Producer Register Ltd (the national producer registration body).

- **WEEE** is EEE that has become waste and is known as Waste Electrical and Electronic Equipment or WEEE.

In general, WEEE and any included batteries must not be disposed of in general refuse or mixed general waste streams. In addition, X-ray units contain radioactive sources and must therefore be managed appropriately, when they reach end-of-life. Products containing radioactive sources are also controlled by relevant legislation on ionising radiation.

4. Licensing of X-ray units

4.1 Licensing of X-ray Units

All users of sources of ionising radiation are required to hold a valid licence from the EPA for the custody and use of sources of ionising radiation such as X-ray units and radioactive sources. Although this licensing requirement applies only to those X-ray units that have a kV rating greater than 30kV, the advice outlined in this guidance document should be followed for all X-ray units, even if not licensable by the EPA. If an X-ray unit is rendered permanently incapable of producing X-rays, it is no longer deemed to be source of ionising radiation and not subject to licensing by the EPA.

4.2 Informing EPA of discard

An EPA licensee must request prior written authorisation from the EPA before discarding a licensed item, such as an X-ray unit. The licensee must also comply with the WEEE Regulations when discarding an X-ray unit. This is further outlined in section 6 below. The particular options available to the final end-user will depend on the date on which the X-ray unit was first placed on the market in Ireland by the producer.

After the end-of-life X-ray unit has been correctly managed as WEEE, all necessary details of its management must be provided to the EPA so that it can be removed from the inventory of X-ray equipment for the licence.

5. Environmentally Sound Management of X-ray Units at End-of-life

X-ray units are often used in dental and veterinary surgeries, hospitals, embassies, airports and ports. Their age profile will vary. The options available for their management at end-of-life depends on the date on which the unit was first placed on the market in Ireland. It will also depend on whether the unit is being replaced.

5.1 Discarding an X-ray unit that was placed on the market before August 2005

For X-ray units placed on the market before the 13th August 2005, when they become waste (known as historic B2B WEEE), the producer is only obliged to take back the historic WEEE if the user is purchasing a new unit from them (irrespective of brand). However, if the user is discarding the historic WEEE (i.e. the old X-ray unit) and not replacing it, the responsibility for ensuring the environmentally sound management of the historic WEEE remains with the user.

5.2 Discarding an X-ray unit that was placed on the market after August 2005

For X-ray units placed on the market after the 13th August 2005, the producer must either (i) take back the unit(s) from the business end user and manage the WEEE themselves without the obligation on the user to purchase a new one or (ii) make an alternative financing arrangement with the end-user for the environmentally sound management of the waste X-ray units.

Note: For a unit sold post 13/8/05, the producer must take back the waste X-ray unit even if the user is not buying a new unit from them.

5.3 Disposal and Recovery

Prior to disposal and in order to comply with EPA licence conditions, the end-of-life X-ray unit must be rendered permanently incapable of producing ionising radiation¹. This can be done for example by arranging for a suitably qualified and competent person² to disable the unit by removing cables and disconnecting the timer unit. The X-ray unit should be otherwise left fully intact. This approach should also be followed in the case of X-ray units that are not licensable by the EPA, i.e. those that are under 30kV.

¹ X-ray units can ONLY produce ionising radiation when connected to an electrical power source. X-ray units are not inherently radioactive and once the timer unit has been disconnected and the power cables/batteries permanently removed it can no longer generate X-rays. In this case it can be considered solely as WEEE.

² Suitably qualified electrician or engineer or similarly approved. Details may be available to the end user from the distributor of the equipment.

The WEEE Regulations also require the removal of components containing radioactive substances from separately collected WEEE³.

5.3.1 X-ray units - Manufactured prior to 1986

X-ray units manufactured before 1986⁴ can contain PCB oils in transformers or capacitors. Where such end-of-life X-ray units are being discarded as WEEE, it should be assumed that they contain PCBs, unless certified PCB-free and they should be transferred to an authorised waste management operator, where all relevant hazardous and non-hazardous components will be managed in an environmentally sound manner in accordance with the WEEE regulations. The final end-user should inform the waste management facility in writing that the end-of-life X-ray unit might contain PCB oils. A certificate of destruction should be issued from the recovery operator.

5.4 WEEE Waste Management Facilities

Any waste facility must be appropriately authorised either by holding an EPA waste licence issued or a waste facility permit or certificate of registration issued by the relevant local authority. EPA-licensed waste management facilities are listed on the EPA website (www.epa.ie).

³ Refer to Schedule 9 of the European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (SI No. 149 of 2014) as amended

⁴ In the EU, the sale of certain items of PCB-containing equipment was banned from 1986. In the absence of contrary information, any transformer which was manufactured in 1986 or earlier (or if from the USSR or former USSR countries, 1993 or earlier) should be considered to potentially contain PCB oils until such time as analytical testing or other evidence may prove otherwise. PCBs are known to have been used in capacitors up until 1989 and in the absence of contrary information, any capacitor manufactured during or prior to 1989 should be assumed to contain PCBs.