This publication was withdrawn on 23 August 2023.

This regulatory position statement has been withdrawn because it is has expired.

Regulatory Position Statement 111

The treatment of liquid crystal display units containing mercury to comply with BATRRT

Background

The Waste Electronic and Electrical Equipment (WEEE) Directive requires that certain components and other parts of WEEE are removed before it can undergo any further form of treatment. This requirement is included in permits and exemptions relating to the treatment of WEEE.

Liquid crystal displays (LCDs) are one of the types of component that will need to be removed (together with their casing if appropriate) if:

- they have a surface area greater than 100 cm2 (larger than 4 inches by 4 inches) or
- they are back-lit with a gas discharge lamp.

The Directive also requires the removal of gas discharge lamps, and the removal of any mercury from them.

Sites storing and treating WEEE must do so under a relevant environmental permit or exemption. Treatment of WEEE must use the Best Available Treatment Recovery and Recycling Techniques (BATRRT) as detailed in Defra guidance on BATRRT published in 2006. This requires:

- The removal of certain LCDs, and the separation of the gas discharge backlights.
- Removed gas discharge back-lights and LCDs should be stored separately in appropriate labelled containers.

Removed gas discharge lamps are shredded and separated into glass, metal and powder. The separation process should be designed to prevent fugitive emissions of mercury vapour or dust. Recovery of the powder (which contains the bulk of the mercury) and its storage in appropriate labelled containers will be regarded as evidence that the mercury has been removed for the purposes of the WEEE Directive.

LCD televisions, laptops and monitors typically use cold cathode fluorescent lamps (CCFLs) which are a type of gas discharge lamp to illuminate the screen. There has been some debate over whether the mercury from CCFLs can be adequately captured by mechanical means, and therefore whether mechanical treatment meets the requirements of BATRRT.

On the basis of a 2010 WRAP report we have concluded that mechanical processes are likely to result in unacceptable emissions of mercury and contamination of the recyclates unless appropriate measures are used to prevent this from happening.

Based on the information we currently have, we do not regard mechanical treatment of whole WEEE items which contain an LCD with a CCFL, or extracted LCDs which still contain the CCFL, to be meeting the requirement of BATRRT unless specific evidence is provided to the contrary.

Our approach

There will be a presumption that manual dismantling, which enables LCDs backlights containing mercury to be removed and separated whole and intact, is the only way of achieving compliance with the treatment standards established by the WEEE Directive, unless treatment operators are able to demonstrate that alternative (e.g. mechanical) techniques are able to remove the LCDs and contain the mercury in a manner that achieves a similar degree of protection in relation to human health and the environment.

Operators who wish to mechanically treat LCDs and the CCFLs contained within them will have to demonstrate that the mercury is being captured and is not resulting in unacceptable contamination of the outputs.

Operators who mechanically treat LCDs back lit with a gas discharge lamp who cannot demonstrate that the mercury is being managed in a manner consistent with BATRRT may face action in accordance with our Enforcement and Sanctions Statement.

This statement is based on our understanding of the relevant legislation. It applies to England only. You can get advice on the approach being taken in Wales from Natural Resources Wales.

This regulatory position will be reviewed by April 2018

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