WEEE Tools

WEEE expert, **Gary Griffiths**, discusses the need to increase the re-use of electrical and electronic equipment, and the tools that could help us to do so…

The revised UK WEEE (waste electrical and electronic equipment) Regulations will be issued in 2014 by the UK Department of Business Innovation and Skills (BIS) following the Recast EU WEEE Directive. Both seek to increase the diversion of WEEE from landfill by promoting increased re-use and recycling. In the UK, this includes empowering local authorities to take control of the recycling or re-use of WEEE collected at designated collection facilities.

However, the UK Government and EU remain concerned at the amount of WEEE being illegally exported for unsafe and damaging recycling in developing countries, denying opportunities to British recyclers. The good news is that experience has led to the development of tools to assist organisations involved in the re-use and recycling of WEEE. This article looks at these tools and how to use them…

Why Re-Use?

THE WASTE hierarchy, adopted as an obligation in the EU Waste Framework Directive, requires all organisations to consider re-use before recycling. For WEEE, academic studies back up the argument.

Research by the UN University estimates that re-use of used electrical and electronic equipment (UEEE) can be up to 20 times more energy efficient than recycling the materials contained therein. In brief, much of the lifecycle impact of EEE is based upon energy consumption during the manufacturing phase of the product lifecycle. Re-use means less materials and energy are consumed than manufacturing new products, even allowing for improved energy use in newer designs. Re-used items are sold at affordable prices to low income families and organisations. Re-use also creates jobs in both the private and third sector social enterprises. For example, my own employer, RDC, has grown from a one-person start-up in 1992 to covering more than 380 jobs by January 2014.

There are problems, however, with the illegal export of WEEE for re-use. Much "e-waste" is now exported from the EU – and other parts of the world – to developing countries not as waste but classified "for re-use". Containers of TVs, fridges and computers flood into Ghana, China, Pakistan and others, despite efforts to stop them from local legislators. The contents are often sold at public auctions at docks to raise more than £10 000 per container, with little or no comeback once the unlucky buyers discover the estimated 80 percent of goods do not work. Landfill dumps sometimes play to host "informal" recycling, often by children, who unwittingly breathe in toxic bonfire fumes and contaminate their land and water with toxins.

Initially, the EU environmental regulatory authorities adopted the Correspondents Guidelines that required UEEE be subjected to a test to verify fitness for re-use. Unfortunately, the requirements of the test were never specified and so many container loads of WEEE are exported disguised as "for re-use". The UK Environment Agency led Interpol investigations and has prosecuted many UK-based businesses with increasingly punitive fines and confiscation of assets from illegal earnings. Yet the lucrative illegal trade continues.

One of the drivers is the cost of recycling in the UK, where initially setting up processes to recycle WEEE to meet the environmental and safety requirements of Annex II of the WEEE Directive and UK Regulations led to the introduction of charges. It was cheaper to export WEEE "for re-use" to developing countries than use legally compliant UK-based recyclers. However, investment and improvements in WEEE recycling technologies and infrastructure in the UK has reduced costs for most categories of WEEE, although recycling of fridges and screens may still cost.

Confidential Data – Don't Re-use/ Recycle

THE EU Data Protection Superintendent noted in comments on the EU WEEE Recast that there was no provision for requiring protected data to be removed from data storage media in UEEE and WEEE. The risks involved were exposed in the BBC *Real Story* TV programme that revealed a thriving trade in data-bearing hard disk drives sold in the "Computer Village" in Lagos, Nigeria. The BBC reporter bought hard drives assured to be data-bearing at a premium price greater than drives wiped of data. An IT data security expert easily recovered data – some of which turned out to come from a family in Braintree, Essex, who had taken their old computer to a civic amenity site believing it was going for recycling but somehow the "waste" item ended up exported.

Identity counterfeiting and fraud are a real consequence of uncontrolled disposal of data-bearing media. Many are unaware, but the fines for those responsible for a data breach are far greater than they would be for an environmental pollution fine. The UK Information Commissioner has powers to fine those held responsible for data breaches of up to £500 000 per incident, with the heaviest fine to date of £375 000 against one public body.

The UK Data Protection Act 1989 also requires remedial action to remedy any data breach, which may mean writing to every person or organisation whose confidential data has been breached and putting in place measures to prevent recurrence. IT security experts, Symantec's June 2013 *Cost of Data Breach Study* revealed the average cost of dealing with a

Computer equipment is checked and prepared for re-use at RDC's facility

security incident was a staggering £2.04m!

There are tools to aid in best practice re-use and recycling. Learning from experience, tools have been developed to help organisations demonstrate legal re-use of tested equipment and best practice recycling techniques for WEEE. Best practice standards have been developed that can be used by any organisation involved in trying to promote legal re-use and or best practice recycling:

PAS 141:2011 – Specification for the re-use of UEEE & WEEE. PAS 141 is a British-developed world first for EEE re-use. Developed by a working party of stakeholders set up by BIS, working with the BSI, PAS 141 sets out the requirements for the independent certification for any organisation involved in preparing UEEE and WEEE for re-use. The specified tests require examination of each item to check for damage or visible defect and electrical safety, functionality testing to ensure compliance with manufacturer performance specifications and the erasure of any protected data held in memory. Each re-used item will have the test details recorded and may bear a label with the registered PAS 141 mark. Records will be available for inspection by the environment agencies, who helped to develop PAS 141, to verify the re-use is legal.

Best Practice Recycling. The WEEELABEX (WEEE Labels of Excellence) standards have been developed by members of the EU WEEE Forum (see December 2013, *CIWM*). These specify best practice standards for the collection, treatment and recycling of WEEE. Certification by independent bodies ensures recyclers are legally compliant; and follow best practice using technology that is proven to be safe and environmentally sound with outputs traceable.

R2 – Responsible Recycling. A standard developed in the USA, the US Environmental Protection Agency has helped develop the "R2" (Responsible Recycling) standards for e-waste as part of its Electrical Products Environmental Attribute Tool (EPEAT) life cycle assessments. Recyclers are required to hold permits from regulatory agencies and to track materials even to downstream recyclers.

E-Stewards. This is a revision of the R2 standards with additional requirements to demonstrate equipment is not transferred to recyclers in developing countries. This standard was developed by the Basel Action Network, a US lobby group aiming to get the USA to sign up to the Basel Convention on the international control of hazardous waste.

How To Use These Tools

ORGANISATIONS THAT wish to avoid the pitfalls of improper and illegal re-use and recycling of UEEE and WEEE can use these tools in various ways.

Adopting the above standards as procurement specification requirements relating to re-use and or recycling of UEEE and WEEE will assure purchasers of demonstrable best practice and should also reduce compliance assessment costs.

Any organisation involved in transferring UEEE or WEEE to another organisation claiming to be preparing the equipment for re-use should enquire if they are certified to PAS 141, or if not, when they plan to be.

Any organisation discarding WEEE for treatment and processing should require the recyclers to be certified to WEEELABEX or R2/E-stewards. The bodies responsible recognise certification to the WEEELABEX standards as equivalent to the US standards, and vice-versa.

Prospective suppliers will invest in certification to benefit their operations to reassure customers of systematic management controls and legal compliance, giving a competitive advantage over non-certificated organisations, while certification is seen by stakeholders as better than introducing regulatory controls and red tape. CIWM

References & Further Information

PAS 141 – www.valpak.co.uk/compliance-services/weee/pas-141---weee-re-use
WEEELABEX – www.weeelabex.org/
R2 & E-Stewards – www.epa.gov/epawaste/conserve/materials/ecycling/certification.htm

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The Author

Gary Griffiths works as an international partner compliance officer at RDC, a computer re-use and recycling company. With over two decades experience in re-use and recycling of ICT equipment, Gary was an expert member of the UK Government WEEE Advisory Body and chaired the development of the BIS working party and BSI Technical Advisory Group that developed PAS 141. He is a Chartered Waste Manager and Chartered Environmentalist.