



The EPA Wades In

Responsible Recycling (R2) Practices

“Are they EPA certified?”

This question is sometimes asked by people attempting to verify the professional practices of an IT disposal vendor. It is a very understandable inquiry since one could reasonably assume that a stamp of approval by the EPA would mean that such a vendor had been tested and proven compliant with environmental regulations. An ITAD company certified by the EPA would be an environmentally safe vendor choice to handle end-of-life electronics for any organization needing to dispose of their used computer equipment. It would be a very convenient and simple solution.

The problem with that solution is that there never has been an EPA certification program. There have been guidelines, educational efforts and regulations but no stamp of approval that could be earned by any electronics recycling company to validate their system quality to end user clients. EPA personnel have stated that they never will administer a program to certify electronics recyclers.

The EPA has recognized the need for a set of ITAD standards that could serve both clients and providers in directing the responsible retirement of IT assets, and they have helped with a solution.

The EPA has been very active in leading the development of a set of ITAD standards that can be adopted into an organizational QEH&S1 (Quality Environment Health & Safety) management system for additional certification by third party accreditation. The final product is called Responsible Recycling Practices; or simply, “R2”. It is the first set of standards specifically developed as a comprehensive system of best practices for IT disposal programs. By describing it as “comprehensive” we mean that R2 guidelines cover not only environmental and worker safety standards but also provide quality standards for data

destruction, facility security, downstream auditing for safe materials recycling, transport, storage, export compliance, and financial responsibility.

It may have been long in the making but the EPA endorsed R2 program was worth the wait since it covers all basic aspects of ITAD and finally gives organizations some of the simplicity in doing due diligence that they have been needing all along.

A viable standard has been set

This voluntary program goes beyond compliance with regulatory mandates to genuine corporate social responsibility. The EPA led the three-year effort to develop R2 but wisely included states, electronics manufacturers, recyclers, environmental groups and professional organizations like ISRI (Institute of Scrap Recycling Industries) in the process. This inclusive effort with input from a representative cross section of concerned parties made for a true product consensus. R2 is built to be a well balanced, practical and very thorough system for retiring used electronic assets.

The R2 guideline document was just released toward the end of 2008 and very recently approved by ANAB (ANSI National Accreditation Board) for adoption into accredited certification programs. The first ITAD companies to begin the certification process have only just started due to the newness of the release but R2 awareness is quickly on the rise.

First reuse then recover

The heart of the R2 program is a hierarchical strategy of recycling to which all aspiring R2 recyclers must commit. First reuse, and then recover. In other words, an R2 recycler must try to save all functional equipment for reuse before



considering processes such as dismantling, sorting, shredding and chopping to recover the raw materials. This strategy goes beyond just keeping old computer equipment out of landfills, it ensures recycling by the most efficient means possible since it only takes 1/3 the energy to prepare an electronic item for a secondary user (testing, cleaning, repairing, refurbishing, etc.) than it does to recover and prepare the raw materials as manufacturing stock. The savings in carbon emissions alone is huge. This is demonstrated by a recent 30 day carbon emissions reduction analysis that we did for one of our own clients.

That analysis (based on the EPA Waste Reduction Model²) showed that by first directing all functioning machines for reuse they achieved a reduction for one month of 329 MTCE (Metric Tons Carbon Equivalent) as opposed to a reduction of only 14 MTCE that would have been achieved through materials recycling only. The math is easy; a difference of 325 MTCE reduction. That is positive environmental impact through reuse.

Reuse also generates additional recovery dollars for the ITAD client since working units generally sell for many times more to a secondary user than they do for their metals value alone to a recovery facility. That difference in value between materials recovery and reuse is as dramatic as the difference in carbon emissions shown above. Asset recovery revenues commonly return thousands and even millions annually to clients that generate volumes of used IT equipment.

The guideline

This EPA supported strategy of first reuse then recover

boasts both significantly greater emissions reductions and exponentially greater revenues to both the disposing organization and the ITAD vendor. It's hard to imagine a more efficient recycling strategy than that.

As stated above, the Responsible Recycling Practices is a comprehensive standard for ITAD. This actually goes beyond the hope that clients once had for an EPA standard to ensure regulatory compliance. They have exceeded expectations with R2 by providing all parties involved in ITAD, a voluntary guideline specifically fitted to cover all related disposal practices.

Here is a brief summary of important issues covered by R2³:

- **Data destruction** – An R2 recycler is required to sanitize or destroy all data on storage devices to NIST 800-88 guidelines or other generally accepted standards, or be certified by an accepted program. Furthermore, all R2 compliant companies must document their data destruction procedures and their systems must be periodically verified by an independent third party
- **Downstream auditing of “focus materials” (FMs)** – Adoption of R2 principles means that an ITAD company is committed to the safe processing and monitoring of the downstream processing of any FM or items containing focus materials such as CRT monitors and glass, circuit boards containing lead solder or mercury, PCBs, batteries and toner cartridges.
- **Facility security** – An R2 certified company must maintain a full security program capable of protecting the assets that are stored in their facility.
- **Transport** – R2 recyclers must ensure that all



equipment is packaged appropriately for transport in light of potential risk or damage. Furthermore, they are required to verify that all contracted freight companies have all necessary regulatory authorizations and a proven track record of legal compliance.

- **Export compliance** - Recyclers must identify and document the legality - according to the laws of the importing country - of all international shipments of items containing FMs.
- **Financial responsibility** – R2 recyclers must maintain must maintain insurance to protect against the potential risks that it would be associated with the scope and nature of the ongoing operations including injury property, pollution and other accidents. Beyond this, an R2 certified company must maintain a written plan for facility closure to avoid abandonment of materials and must maintain a financial instrument sufficient to fund a closure plan.

R2 is the program of quality standards that both ITAD clients and ITAD providers have been waiting to see. It is a comprehensive approach to the retirement of IT assets that was built with the help and input from experts in every area of electronics recycling and regulation. This is a welcome contrast to unilateral approaches to asset recycling that (while we might assume they are well meaning) don't accomplish the "big picture" approach that R2 has achieved. Also,

ANAB has now approved R2 for incorporation into a RIOS (Recycling Industry Operating Standard) and the QEH&S management program which gives recyclers, arguably, the best opportunity available to distinguish themselves as professional service providers.

R2 has the added benefit of being supported by the federal government. This goes a long way toward client peace of mind in the all important areas of regulatory compliance. With EPA support, comprehensive design, maximum positive impact (both environmentally and financially) and tailor made to ensure high quality IT asset processes – R2 is a future standard of asset retirement practices that makes sense.

¹ QEH&S – Institute of Scrap Recycling Industries, Inc. Quality Environment Health & Safety in accordance to the RIOS – Recycling Industry Operating Standard's guidelines. <http://www.isri.org/AM/Template.cfm?Section=RIOS1&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=110&ContentID=19178>

² EPA Waste Reduction Model: http://www.epa.gov/climatechange/wycd/waste/calculators/Warm_home.html

³ A complete version of the Responsible Recycling guidelines can be found at <http://www.decideagree.com/R2%20Document.pdf>

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