

# ***R2 Practices:***

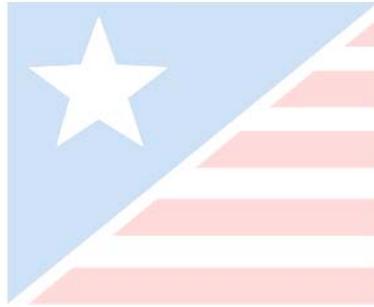
***Interpretations and Lessons  
Learned for Clients***



**PERRY JOHNSON REGISTRARS™**  
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## ***Introduction***

The following review of R2 Practices provides some examples for interpretation and guidance for recyclers planning on implementing the R2 Practices and establishing an EHSMS (Environmental Health and Safety Management System). It is based on “Lessons Learned” by the R2 auditors at PJR, and focuses on some of the more problematic areas of implementation and interpretation—it should not be considered as an all-inclusive list, but rather, should be used to address some of the more common issues that the auditors have encountered.

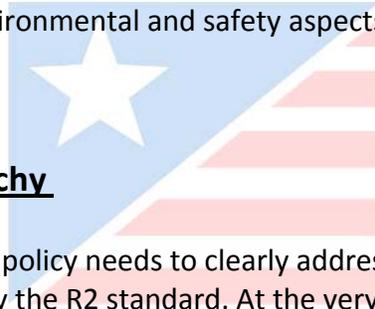


# ***R2 Practice Requirement***

## **1. EHSMS**

Recyclers with existing certifications have not always accurately incorporated R2 requirements in their documentation—there needs to be some linkage to existing procedures that will support the R2 requirement through a Table of Contents at a minimum—e.g. ISO 14001—4.5.2 (compliance evaluation) would link to R2 Practices 4c, and 3(1) which require compliance/process monitoring.

Additionally, the scope of the system is not always clearly identified in the manual/documentation in terms of how e-waste is collected. Many recyclers do pick-ups at businesses, have permanent collection sites (e.g. to support state take-back programs), and hold collection events at various locations (e.g. parking lot at city hall). These activities need to be identified within the scope of the organization, and environmental and safety aspects need to be assessed for these activities.



## **2. Reuse, Recover Hierarchy**

The recycler’s EHSMS policy needs to clearly address the “reuse, recover” hierarchy proposed by the R2 standard. At the very least, a policy and its associated “mission or objectives” (often seen as bullet-points after the written policy) must “define” the R2 expectation of a “reuse, recover” hierarchy. Practice **2a** clearly requires documentation and adherence to a policy based on this hierarchy. All employees of the recycler need to understand the role(s) they play in supporting reuse of e-waste.

## **3. Legal Requirements**

For most recyclers, the documenting of legal requirements has not been a serious issue—particularly if they have an EMS/OHSAS certified system already in place. Problems are typically seen with the lack of actual identification of what is required by the regulation. Auditors often see only titles of regulations rather than actual requirements—an acceptable linkage would be to a compliance check-sheet that captures actual requirements of the regulations. One of the areas of concern has been where state regulations require “permits of non-exposure or exemption”—e.g. storm-water and air quality. These must be

captured as part of any legal review, since non-exposure permits typically require re-application and some sort of monitoring to support the continuing exemption.

Also, be sure to review state rules for any electronic Take-Back programs that require periodic reporting and specific record-keeping by the recycler. You may want to check the Take-Back Coalition website.

#### **4. On-Site Environment, Health and Safety**

Issues have been identified with a lack of completeness on identification of health/safety hazards and risks. Remember that virtually anything within the facility or process can be a hazard—it is the risk that is critical to prioritize and control. Some “common” misses are stacking/loading hazards, internal forklift traffic, off-site pick-ups and collection events, as well as “unknowns” received at drop-offs or in boxes received from asset management clients.

A major area of concern is the issue of ongoing environmental/safety/health assessment while new “types” (see R2 Practice #4c) of materials are processed. An example would be that before receiving any medical equipment for recycling, the equipment may need to come with documentation of decontamination. Keep in mind that R2 dictates when new materials or processes are identified. Most e-waste contains the same basic components that are disassembled with small hand-tools and possess similar risks—however, if it suddenly takes a cutting torch to disassemble something, a hazard assessment for disassembly of this “new material” would be expected.

#### **5. R2 Focus Materials**

Overall, recyclers have created adequate “FM Plans” and downstream vendor flow-charts that accurately depict the movement of FMs through the recycling chain. However, some FM Plans have failed to adequately document the due diligence process on an on-going basis—e.g. what is the frequency? Will it be a self-assessment or on-site? What criteria are used to determine the need for on-site visits as compared to sending a self-assessment to the vendor? Additionally, verification by the client that copies of all vendor permits have been received is necessary.

An area that R2 clients often overlook is during the event of selling equipment to organizations performing refurbishment (see R2 Practice #6c3). Recyclers often repair (e.g. laptops), but do not necessarily refurbish. Refurbishing takes a

working laptop and performs “cosmetic” or performance changes to make it look or perform as new (e.g. change a scratched bezel, add more memory, or switching out a circuit board). In addition, components, such as batteries may fail even though they were tested prior to shipment to the refurbisher or reseller. Thus, the refurbisher **WILL** have an FM waste stream. R2 #6c3 requires a combination of methods (including auditing) to verify that the recipient refurbisher (6c3C) manages FMs in conformance to R2 Practices. In other words, the recycler’s FM Plan needs to address how they will “audit” such refurbishers/resellers. Often, recyclers have *many* such vendors and it can be economically impractical to perform on-sites audits, or to even audit them all—however, this could be accomplished by mailing a self-assessment asking how the refurbisher/reseller manages any FM waste (where does it go?—how is it handled?). Some recyclers have added a statement on their sales order that offers to take back any FM waste from their downstream refurbishers/resellers.

FM Plans or associated monitoring procedures also need to document how internal processes for FM control are monitored to verify performance and conformance of the processes to R2 requirements. An example is R2 Practice #5c2 that requires removal of batteries from circuit boards—recyclers do not always perform routine sampling to verify that batteries are being effectively removed from the boards prior to shipping to downstream vendors for shredding or smelting.

## **6. Reusable Equipment and Components**

Organizations need to verify the effectiveness of their test methods (R2 Practice #6c1), **particularly** with regard to test equipment calibration or maintenance. This should also include document control and review of any check-sheets that are used to direct a technician through a power-up test, for example. Documented training and verified competency of personnel conducting such testing is critical.

## **7. Tracking Throughput**

Tracking can get very complicated depending on customer requirements for the asset management services provided by R2 recyclers. Some recyclers may simply reconcile total weight input and output on a monthly rolling basis, while others track the weight of each scrap commodity (by scrap code: aluminum, steel, copper, precious metal, plastic, etc.) for each individual “lot” they receive. Recyclers need to verify that customer requirements are being followed, particularly if there are restrictions on the resale/reuse of any items (e.g.

everything is de-manufactured, no resale allowed). Recyclers should have some method of reconciling with their vendors regarding the weights shipped to them, particularly if there is a second tier vendor that gets material with FMs. Keep in mind that for R2, only e-waste containing FMs must be tracked to its final disposition—plastics and metals are not required to be tracked to meet R2 requirements.

## **8. Data Destruction**

This has been one of the more difficult parts of R2 for many recyclers—organizations MUST take the time to read NIST 800-88 to understand the intent behind this “guidance” document.

Problems that have been encountered most often include: failure to document ALL methods of data destruction –e.g. mechanical as well as sanitization; and, lack of review/validation of the process (remember, this must be an independent review—but 3<sup>rd</sup> party review is not required ). Remember that there are different types of memory storage media—optical disks, tiny SIM-cards from cell-phones, hard-drives, etc. Many recyclers focus on hard-drive erasure validation, but have often forgotten the more mundane practices of drilling/smashing that must also be validated. In the case of these mechanical destruction methods, it is the process that is validated, since the majority of such media are sent for shredding and/or smelting. And of course, the smelting process at the downstream vendor would need to be validated by the recycler.

Additionally, there may be a maintenance/calibration aspect to the “sanitization” or destruction equipment—even degaussing wands have specific storage (maintenance) requirements described by the manufacturer.

## **9 & 10. Storage & Facility Security**

These practices complement one another. For example, some recyclers use metal detector systems that check employees on entry and exit to ensure no electronic materials are brought in or taken out—without this type of very positive control, there should be additional controls for data security and storage of memory media on the facility floor (e.g. lockboxes for hard-drives, no unattended/uncontrolled media left out during employee breaks). In addition to internal security measures, some type of external perimeter security is expected.

## 11. Insurance, Closure Plan, Financial Responsibility

Recyclers need to check if states have any minimum financial insurance requirements—most we have encountered do not (e.g. MN does).

Closure plans should include at a minimum: an assessment of expenses in order to establish what financial assurance is needed to support closure (e.g. labor costs); responsibility for closure activities; the actions to be taken and expected timing where appropriate (e.g. estimated time to closure); and a post-closure monitoring component.

## 12. Transport

Some recyclers have had difficulty addressing this requirement, and have simply provided evidence of carrier insurance—THIS IS NOT ADEQUATE. Information on carrier safety history (only the past 2 years, however R2 requires a 3-year history) is available free at [www.fmcsa.dot.gov](http://www.fmcsa.dot.gov) (Federal Motor Carrier Safety Agency). More detailed information is available for a fee (\$20 per request). The carriers themselves can provide a letter identifying their safety history.

## 13. Recordkeeping

The major issues that have been encountered with this R2 requirement are when facilities are leased. Often, the recycler does not have copies of sprinkler system or fire alarm annual inspections, and many times the landlord is responsible for fire extinguishers. These records need to be available to support the ability to respond to emergency conditions. This is also part of scoping for the recycling site—the R2 manual/documentation should identify what activities that support the EHSMS are outsourced to the landlord.

### **FOR MORE INFORMATION, PLEASE CONTACT US AT:**

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