

# R2:2013 Lessons Learned



Responsible  
Recycling



Responsible Recycling vs. E-waste Dumping

Photo by Basel Action Network (BAN), © 2006



# Responsible Recycling – R2



## **Austin Matthews** **EHS Assistant Program Manager**

- Welcome From PJR Headquarters:
  - PJR
  - 755 W. Big Beaver Rd, Suite 1340
  - Troy, MI 48084
  - Phone: 1-800-800-7910
  - Email: [PJR@PJR.com](mailto:PJR@PJR.com)
- Audience for today's meeting
- Introduction of speakers
- Today's Session (1 Hour)
  - Informational Standard Overview
  - R2:2013 Overview and Lessons Learned
  - Certification Process
  - Questions

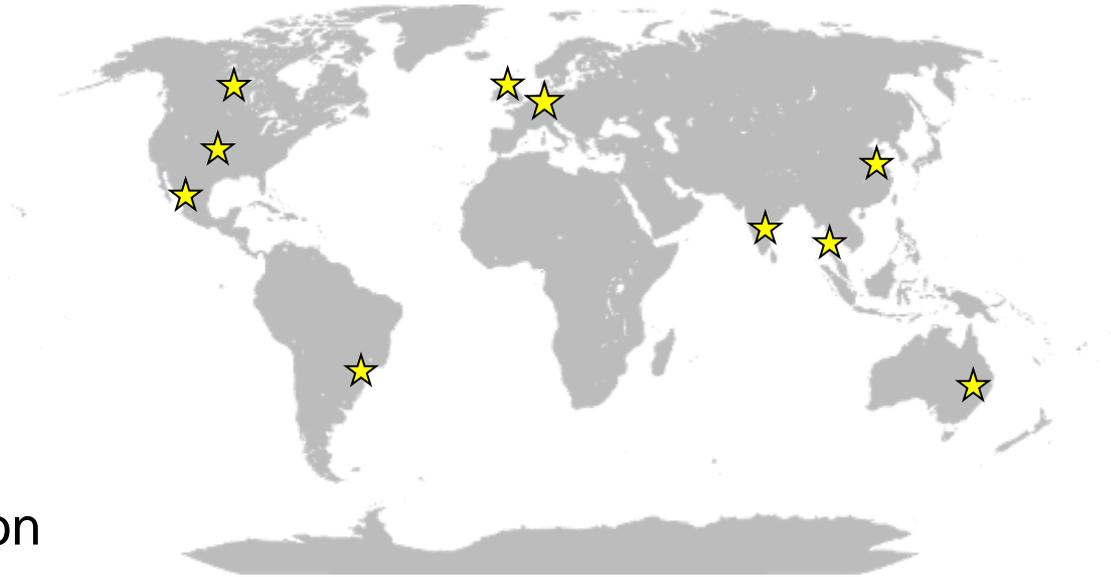
# Responsible Recycling – R2

PJR is accredited to grant certification for :

- ISO 9001
- ISO 14001
- AS 9100, 9110 & 9120
- ISO/TS 16949
- **Responsible Recycling-R2**
- RIOS
- ISO 13485
- SQF
- BRC
- TL 9000
- OHSAS 18001
- ISO 27001
- RCMS® AND RC14001
- ISO 22000
- BS 25999
- BA 9000
- HAACP Compliance
- FSSC 22000

# PJR is the #1 R2 Registrar

- PJR is the #1 R2 registrar in the world.
- Countries where PJR has certified companies to R2:
  - Australia
  - Canada
  - China
  - Brazil
  - India
  - Malaysia
  - Thailand
  - Mexico
  - Ireland
  - Singapore
  - European Union
  - United States



# R2 Requirements

1. Environmental, Health and Safety Management System
2. Reuse, Recover ... Hierarchy of Responsible Management Strategies
3. Legal Requirements
4. On-Site Environment, Health and Safety
5. Focus Materials
6. Reusable Equipment and Components
7. Tracking Throughput
8. Data Destruction
9. Storage
10. Security
11. Insurance, Closure Plan and Financial Responsibility
12. Transport
13. Documentation and Recordkeeping

# Provision #1 and Code of Practices

- (a) An R2:2013 electronics recycler shall document the scope of activities of activities included in the R2:2013 and EHSMS certifications, **including any allowance to the R2:2013 standard expressly listed in the R2 Code of Practices and authorized in writing by the Certification Body**
- Broker Allowance: **cannot be a personal residence**; Provisions 4 (on-site processing), 11b and possibly 9 will not apply
  - Campus Allowance: one certificate for separate addresses under the same management/EHSMS within the same metropolitan area
  - Co-Location Allowance: two or more separate entities at the same physical location where **one performs electronics processing and the other does not**
  - FM Processor Allowance: primarily end processors downstream of recyclers or refurbishers; Provisions 6 and 8 may not apply

**No provisions can be excluded, and the burden of proof resides with the R2:2013 recycler to demonstrate conformity to all requirements—even those activities which are outsourced.**

# Provision #3

## Legal Requirements

- 3(a) An R2:2013 electronics recycler shall develop **a legal compliance plan** to maintain full compliance with EHS and data security legal requirements applicable to its operations...including **import/export** requirements.
- 3(a)(1) Facility Compliance: The plan shall identify and document the EHS and **data security legal requirements** that cover the recycler's operations.
- 3(a)(2) Legality of **import/export** must be verified for all OECD and non-OECD countries.
- 3(a)(3) ...It shall also **periodically audit its compliance** with legal requirements, and take corrective action to address any issues of non-compliance.

# Provision #4

## On-Site Environmental, Health & Safety

- 4(b) An R2:2013 electronics recycler shall adhere to **good housekeeping standards**, including keeping all work and storage areas clean and orderly. Housekeeping for all areas of the facility shall be **planned, regularly implemented, and monitored**.
- 4(c) ...shall conduct on an ongoing basis a **hazards identification and assessment** of OHS&E risks. Risks could include emissions of and/or exposure to substances, noise, ergonomic factors, thermal stress, substandard machine guarding, cuts and abrasions, etc. Hazards identification and assessment shall be captured in **writing**.
- 4(c) R2:2013 electronics recyclers shall **prepare, periodically test, and update**, as appropriate and necessary, an emergency plan(s) for responding to the identified emergency situations and exceptional circumstances to protect workers (subject to Section (f)), the public, and the environment.

# Provision #5

## R2 Focus Materials

### Development and Adherence to an FM Management Plan

- 5(a) An R2:2013 electronics recycler shall analyze, **plan**, regularly review, and **update** as necessary how the FMs that pass through its facility or control will be properly managed **both on-site and down the Recycling Chain**

**Must be documented and include all downstream vendors/locations through end of life, including non-FMs to the first tier**



# Provision #5

## R2 Focus Materials

Selection and Ongoing Due Diligence of DSVs Vendors for FMs.

- 5(e)(2) Adhere to a **documented system to manage EHS risks and legal requirements**. The management system shall include at a minimum the components of Provision 3 (Legal Requirements) and Provision 4 (On-Site Environmental, Health, and Safety)
- 5(e)(3) **Comply with all applicable environmental and health and safety legal requirements** and maintain a current list of its environmental permits and copies of each, and
- 5(e)(6) Conform to Provision 7 (Tracking Throughput), documenting the flow of all FM's **down the Recycling Chain**, and
- 5(e)(7) Conform to Provision 10 (Physical Security), ensuring security of the equipment **down the recycling chain**.



# Provision #5

## R2 Focus Materials

- 5(f) An R2:2013 electronics recycler shall confirm **at least annually** and document, through audits or other similarly effective means, that each downstream facility to which Section (e) applies continues to conform to the requirements of Section (e) for as long as it receives FMs directly or indirectly from the R2:2013 recycler.
- 5(g) **If the R2:2013 electronics recycler uses an R2:2013 certified downstream facility, then verification of conformance to 5(e)(1) and 5(e)(6) satisfies the due diligence requirements of 5(e) and 5(f).**



# Provision #6

## Reusable Equipment & Components

6(c) An R2:2013 electronics recycler shall, prior to shipping used electronics equipment and components that contain FMs, either domestically or internationally, assure and identify each shipment as either:

- 1. Tested for Full Functions, R2/Ready for Reuse;**
- 2. Tested for Key Functions, R2/Ready for Resale; and/or**
- 3. Evaluated and Non-Function, R2/Ready for Repair.**



# Provision #6

## Reusable Equipment & Components

### **6(c)(1) Tested and Full Functions, R2/Ready for Reuse**

An R2:2013 electronics recycler, prior to shipping equipment and components that contain FMs to an end user, and that will be identified and shipped as Tested for Full Functions, R2 /Ready for Reuse shall:

- (A) Use effective test methods to confirm that **all functions for equipment and components** are working properly and ready for reuse, including properly configured with appropriate legally licensed software where required for operation of equipment and components, and device specific drivers within the product's hardware, and



# Provision #6

## Reusable Equipment & Components

- (B) Implement a written Quality Assurance Plan (or maintain current certification to **ISO 9001 or RIOS**) to verify the accuracy of test methods, equipment and results (e.g. calibration) and maintain records of effective testing methods, equipment results and,
- (C) Implement a written Product Return Plan and policy appropriate for the final destination of the equipment and components, and
- (D) Ensure that all equipment and components are clean and free of major cosmetic defects, as defined in Section (c)(1)(B), and
- (E) Ensure that the equipment or components meet the requirements of the recipient.

# Provision #6

## Reusable Equipment & Components

### **6(c)(2) Tested for Key Functions, R2/Ready for Resale**

An R2:2013 electronics recycler, prior to shipping equipment and components that contain FMs to a recipient vendor or end user, and that will be identified and shipped as Tested for Key Functions, R2/Ready for Resale shall:

- (A) Use effective test methods and testing equipment to confirm the **Key Functions** of the equipment or components are working properly, and
- (B) Implement a written Quality Assurance Plan (or maintain current certification to **ISO 9001 or RIOS**) to verify the accuracy of test methods, equipment and results (e.g. calibration) and maintain records of effective testing methods, equipment results and,



# Provision #6

## Reusable Equipment & Components

- (C) Disclose in writing to buyers any functions that are not working properly and provide a description of cosmetic defects and missing components for each shipment as applicable, and
- (D) Implement a written Product Return Plan and policy appropriate for the final destination of the equipment and components, and
- (E) Ensure that the equipment or components meet the specifications of the recipient vendor or the end user.



# Provision #6

## Reusable Equipment & Components

### **6(c)(3) Evaluated and Non-Function, R2/Ready for Repair**

An R2:2013 electronics recycler, prior to shipping equipment and components that contain FMs to a recipient vendor, and that will be identified and shipped as Evaluated and Non-Function, R2/Ready for Repair shall:

- (A) Implement a written Quality Assurance Plan and policy to evaluate equipment and components to ensure the condition, functionality, and sales price of the unit or component is capable of repair and refurbishment in the destination market, and



# Provision #6

## Reusable Equipment & Components

- (B) Confirm through an appropriate combination of contractual agreements, detailed materials tracking, recordkeeping, and auditing that equipment and components containing FMs are only shipped to:
- i. Electronics recycler(s) that are certified to R2:2013 and verified in accordance with Provision 5(g), or
  - ii. Recipient vendor(s) that can assure that all equipment and components shall be resold in conformance with Section (c)(1), R2/Ready for Reuse or Section (c)(2), R2/Ready for Resale, and



# Provision #6

## Reusable Equipment & Components

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- iii. Recipient vendor(s) that can manage all equipment and components containing FMs and residual FMs resulting from repair and refurbishing operations in conformance with Provision 3 and 5, (End-of-Life)

***and,***

(C) Ensure that the equipment or components meet the specifications of the recipient vendor.



# Provision #6

## Reusable Equipment & Components

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(E) An R2:2013 electronics recycler need not conform to the downstream requirements of Provision 5 and the exporting requirements of Provision 3 for shipments that are Tested/Full Function, R2:2013/Ready for Reuse in Section (c)(1), or Tested/Key Functions, R2:2013/Ready for Resale in Section (c)(2), or are new and in original packaging.

Carefully review description or listing verbiage to ensure items are not misrepresented (for example: eBay). Avoid misleading terminology such as “sold as-is,” “for parts only,” or “pulled from a working environment.”



# Provision #7

## Tracking Throughput

- (a) An R2:2013 electronics recycler shall maintain for at least three years commercial contracts, bills of lading, or other **commercially-accepted documentation** for all transfers of equipment, components, and materials. An R2:2013 electronics recycler does not need to track non-FM's beyond the first tier downstream vendor.
- (b) An R2:2013 electronics recycler shall provide to each customer upon request and with appropriate intellectual property controls as required by the discloser, the names and locations of all downstream vendors in the recycling chain that handle the customer's FMs that pass through the recycler's facility.

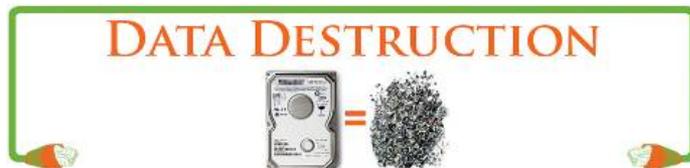
A mass balance is not required, however the total volume flow must prove the recycler is not diverting materials to vendors not identified by the FM Plan, vetted through the Downstream management process, or evidenced by tracking throughput records.



# Provision #8

## Data Destruction

- (d) **Process** reviewed and validated by **independent** party on periodic basis
- (e) **Quality controls** shall be documented, implemented, and monitored internally to ensure effectiveness of data sanitization, purging, and destruction techniques.
- (f) **Security controls** shall be documented, implemented and maintained that are appropriate to the most sensitive classification of media accepted at the facility. Security controls shall consider physical security, monitoring, chain-of-custody, and personnel qualifications.
- (g) Adequate **records of data destruction** shall be maintained by the R2:2013 electronics recycler and each downstream vendor for data destruction.



# Provision #8

## Data Destruction

(h) If Data Destruction is handled by a downstream vendor:

1. The R2:2013 electronics recycler shall maintain responsibility for data destruction and ensure appropriate security, controls, and processing techniques continue to conform to Provision 8 through audits or other similarly effective means.
2. Media or devices containing media with data must be tracked and secured during transportation, storage, and processing.
3. Each downstream vendor must adhere to the requirements of Provision 8.

All media types

Regardless of whether outsourced vendor is R2-certified



# Provision #11

## Insurance, Closure Plan and Financial Responsibility

a) The R2:2013 electronics recycler shall be able to demonstrate that it has evaluated the risks arising from its certification activities and that it has adequate insurance or reserves to cover liabilities, including **environmental pollution** and worker health and safety [...]

**Pollution coverage is assumed required by default, unless in writing from a qualified source. Again, the burden of proof is on the recycler. An example may include an environmental risk assessment conducted by a qualified environmental profession, such as but not limited to a CHMM (Certified Hazardous Materials Manager).**

**Pollution insurance policies are not currently acceptable to cover closure costs, according to SERI.**



# Provision #11

## Insurance, Closure Plan and Financial Responsibility

- b) Develop and maintain a current, written plan and a sufficient financial instrument that assures proper closure of the facility and assures against abandonment of any electronic equipment, and components and materials from such equipment:
- (1) Financial instruments must be assigned to an **independent** party or corporate parent.
  - (2) **Financial instruments** shall consider the risks identified in Section (a) and applicable law, including reasonably foreseeable costs of processing remaining inventory, sampling for environmental contamination, and site remediation to restore premise to sellable condition.
  - (3) Closure plans shall consider the risks identified in Section (a) including details assigning responsibility for closure, funding information, and plans for inventory processing, environmental sampling, and site remediation as needed.

Must be adequate for current maximum levels of on-site storage and FM types



# Advertising R2 certification (Code of Practices; PRO-3)

Upon final certification, R2 Solutions licensees are authorized to use the R2 Logo in accordance with ISO /IEC 17021 and the following rules. CBs will audit organizations for recertification in relation to adherence to the following.

1. Use only in relation with the specific facility certified and not be displayed in a manner that could be perceived as implying the entire company is R2 certified if it is not. If all the organization's eligible facilities are certified, the R2 logo may be used on company publications without delineation. **When all facilities are not certified:**
  - The R2 logo may only be displayed in conjunction with the site(s) certified.
  - R2 logos may not be displayed on corporate websites or other media that are not specific to the location(s) certified.

# Advertising R2 certification (Code of Practices; PRO-3)

2. Use only in relation with the activities or scope certified. **When all operating activities are not certified:**

- The R2 logo may only be displayed in conjunction with the activity(s) certified
- R2 logo may not be displayed on corporate websites or other media which are not specific to the scope certified.

3. Displayed in a size that is clear and readable.

4. **Hyperlinked** to <http://www.r2solutions.org>

5. **Unaltered** in any manner other than size, except that it may be displayed in black and white.

The R2 Logo shall be **promptly removed from all publications upon suspension, expiration, or withdrawal of active R2 Certification**, including but not limited to website usage, email signatures, printed marketing, business cards, etc.



# Certification Process

The initial audit consists of two stages:

- Stage 1:
  - On-site document review of your EHSMS
  - Evaluates the readiness of your organization to move to stage 2.
- Stage 2:
  - Scheduled 30 to 75 days after the stage 1 audit.
  - On-site audit of your entire EHSMS.
  - Nonconformities will need to be resolved prior to issuing of the certificate.



# Certification Process

- Surveillance audits
  - Scheduled at either six or twelve month intervals depending on the contract.
  - Partial system audit.
- Re-certification audit
  - On-site audit conducted prior to the third anniversary of the initial certification
  - Surveillance visits will then continue, as before, on a 3-year cycle.



# Questions

Please type any questions you may have.



# Responsible Recycling – R2

For additional technical information, please contact Scott Jones or myself.

Austin Matthews  
EHS Assistant Program Manager  
Perry Johnson Registrars, Inc.  
Phone: (248) 358-3388 Ext 5706  
Email: [amatthews@pjr.com](mailto:amatthews@pjr.com)

**Scott Jones**  
**EHS Program Manager**  
**Perry Johnson Registrars, Inc.**  
**755 West Big Beaver Road, Suite 1340**  
**Troy, MI 48084**  
**Website: [www.pjr.com](http://www.pjr.com)**  
**Ph: 248.358.3388 ext. 4790**

For a quote, please contact  
the sales department at:  
1-800-800-7910

