

e-Waste Responsible Recycling



PERRY JOHNSON REGISTRARS
PJR

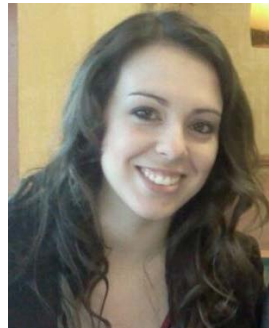
Presented by:
Austin Matthews
EHS Assistant Program Manager



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Responsible Recycling – R2



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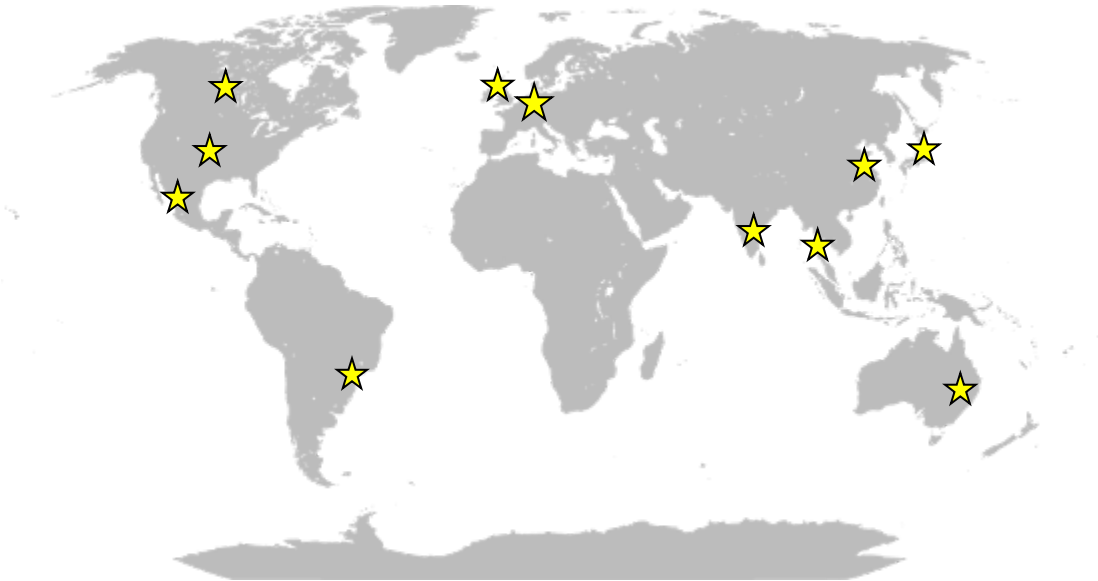
- Welcome from PJR Headquarters:
 - PJR
 - 755 W. Big Beaver Rd, Suite 1340
 - Troy, MI 48084
 - Phone: 1-800-800-7910
 - Email: PJR@PJR.com
- Audience for today's meeting
- Introduction of speaker
- Today's Session (1 Hour)
 - Certification Process
 - R2:2013 Requirements
 - Top Nonconformances / Lessons Learned
 - Informational Standard Overview
 - Questions





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
 - Hong Kong
 - Brazil
 - India
 - Ireland
 - Japan
 - Malaysia
 - Mexico
 - Thailand
 - Singapore
 - European Union
 - United States





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
- TL 9000
- OHSAS 18001
- ISO 27001
- RCMS® AND RC14001
- ISO 22000
- HAACP Compliance
- FSSC 22000
- e-Stewards



Benefits of Getting Certified:

- Meeting legal requirements and improving the organization's EHSMS performance
- Management commitment and employee engagement
- Business management, notably for meeting stakeholder requirements, improving public image, achieving strategic objectives, and integrating with business management systems
- Supplier environmental performance
- Providing a competitive advantage
- Providing financial benefit



Certification Process

PJR conducts a cursory review of documents in house prior to Stage 1. Once this is completed, the initial audit process 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.





Certification Process





About R2:2013

- The initial R2 Standard was published in 2008 (R2:2008). It was later revised to the current standard, R2:2013, effective July 1, 2013.
- R2:2013 is not intended to be an EH&S Management System by itself.
- R2:2013 requires a company to meet one of the following requirements:
 - Certification to ISO 14001 **and** OHSAS 18001; **OR**
 - Certification to the Recycling Industry Operating Standard (RIOS).



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



R2 Allowances

- Broker Allowance
 - Takes legal possession but does not physically handle equipment or materials.
 - Provisions 4 (on-site processing) and 11(b) (facility closure) will not apply. Provision 9 **may** not apply, if determined appropriate by the auditor.
- Campus Allowance
 - A campus is where a company has physically separate addresses in the same metropolitan area that are used together as one interconnected operation.
- Co-Location Allowance
 - Co-location means two or more legally separate entities sharing the same physical address.
- FM Processor Allowance
 - Only provides specific processing of a Focus Material in the recycling chain and does not provide full electronics recycling or refurbishment.
 - Provisions 6 (reuse) and 8 (data destruction) will not apply.





R2 Requirements

1. Environmental, Health & Safety Management System:

- Establish the Scope
- EHSMS standards required
- Management review and internal audits, at least annually
 - EHS and **data security** objectives
 - List of activities and documents necessary to conform to R2

2. “Reuse, Recover,...” Hierarchy of Responsible Management Strategies:

- Develop policy for managing used and end-of-life electronics equipment (consistent with FM Plan), based on the hierarchy of responsible management strategies:
 - Reuse, Materials Recovery, Energy Recovery and Land Disposal





R2 Requirements

3. Legal Requirements:

- Develop a legal compliance plan, including import/export requirements
- Maintain facility compliance and [import/export compliance](#)
- Periodic compliance evaluations

4. On-Site Environmental, Health, and Safety:

- Expertise, knowledge and capability to process equipment
- Adhere to good housekeeping standards
- Identify and assess EHS risks, and implement controls (including engineering, administrative, and PPE controls) for everyone performing activities under organization's direction
- [Conduct monitoring and sampling of EHS risks and controls](#)
- Designate qualified employee(s) to manage EHS
- Prepare, periodically test, and update an emergency plan





Focus Materials

The following are considered “Focus Materials”:

- CRT vendors (Monitors, TVs, equipment)
- Battery vendors
- Mercury Containing Device vendors (switches/relays, bulbs, laptops, LCD displays, TVs)
- PCBs vendors
- Circuit Board vendors
 - This includes materials such as keyboards, mice, cell phones, power supplies, etc. that contain a circuit board.





R2 Requirements

5. Focus Materials:

- Development and adherence to an FM Management Plan
- Removal of FMs prior to shredding or materials recovery
 - See two exceptions in the R2:2013 standard
- Processing, recovery, and treatment of FMs, utilizing facilities which meet all applicable regulations and use appropriate technologies for the safe and effective management of FMs
 - Examples: mercury retorting (not incineration), metals recovery processes after the removal of batteries and mercury, etc.
- Prohibition on energy recovery, incineration, and land disposal of FMs, unless required by law
 - Exclusions may apply in extreme or rare instances.



R2 Requirements

5. Focus Materials (ctd.):

- Selection of Downstream Vendors for FMs that conform to 5(e)(1)-(7) and conducting of audits at least annually
 - R2:2013 certified downstream facilities only require verification of 5(e)(1) and 5(e)(6)
- Non-Focus Materials requiring specific management must be managed according to Provision 2
 - Print Cartridges





R2 Requirements

6. Reusable Equipment & Components:

- No sale or donation of equipment/components if contrary to commercial agreements
- Label and sort each shipment per Provision 7, sanitize data per Provision 8, and handle shipments per Provision 12
- Assure and identify (prior to shipping) equipment and components containing FMs:
 1. Tested for Full Functions, R2/Ready for Reuse
 2. Tested for Key Functions, R2/Ready for Resale
 3. Evaluated and Non-Function, R2/Ready for Repair
- Excludes “collectible electronics” or “specialty electronics”
- Provision 3 (export requirements) and 5 (downstream requirements) do not apply to shipments of Tested for Full Functions, R2/Ready for Reuse or Tested for Key Functions, R2/Ready for Resale



R2 Requirements



6. Reusable Equipment & Components (ctd.):

1. Tested for Full Functions, R2/Ready for Reuse
 2. Tested for Key Functions, R2/Ready for Resale
 3. Evaluated and Non-Function, R2/Ready for Repair
- Effective test methods and include legally licensed software and device specific drivers (1 and 2)
 - Written Quality Assurance Plan and policy to verify accuracy (1, 2, and 3)
 - Or ISO 9001 or RIOS certification
 - Disclose in writing any functions not working (2)
 - Product Return Plan and Policy for final disposition (1 and 2)
 - No major cosmetic defects (1)
 - Meet customer requirements (1, 2, and 3)
 - Confirm buyer meets all relevant due diligence requirements (3)



R2 Requirements

7. Tracking Throughput:

- Maintain records of tracking throughput 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
- Provide recycling chain information to R2 certified customers (or those in the process of obtaining R2:2013 certification)
 - Upon request and with appropriate controls





R2 Requirements

8. Data Destruction:

- Sanitize, purge, or destroy data on hard drives and other data storage devices
 - Example: NIST Special Publication 800-88 (Rev. 1) requirements
- Documented procedures
- Regular training and competency evaluation for affected employees
- Periodically review and validate processes
- Ensure quality controls are in place
- Ensure security controls are in place
- Records maintained
- If handled by a downstream vendor:
 - The R2:2013 electronics recycler shall maintain responsibility for data destruction
 - Data-bearing media must be **tracked and secured** during transportation, storage, and processing
 - Must adhere to the requirements of Provision 8





R2 Requirements

9. Storage:

- Protect from atmospheric conditions/floods
- Full legal compliance
- Prevent unauthorized access
- Container labeling and storage area identification



10. Facility Security:

- Maintain a security program, considering equipment, sensitivity of media containing data, and customer needs
- Controls upon acceptance of said equipment





R2 Requirements

11. Insurance, Closure Plan, and Financial Responsibility:

- Risk evaluation of the organization's activities and hold adequate cover liabilities, including environmental pollution and worker health and safety
- Develop and maintain a documented Closure plan and financial instrument that assure proper closure in case of closure or abandonment
 - Must be assigned to an independent party or corporate parent
 - Shall cover reasonably foreseeable costs of processing remaining inventory, sampling for environmental contamination, and site remediation to restore premise to sellable condition



R2 Requirements

12. Transportation:

- Packaged per Provision 10
- Verify that transporters (including organization's own fleet) comply with regulation, maintain adequate insurance coverage, and had acceptable vehicle and driver safety records the previous 3 years



13. Documentation and Recordkeeping:

- Maintain access at the certified facility to documents and records necessary to demonstrate conformity to all requirements



Top Nonconformances by Provision

Provision 3: Legal Requirements

Provision 4: On-Site Environmental, Health, and Safety

Provision 5(e): Selection and Ongoing Due Diligence of Downstream Vendors for FMs.

Provision 6: Reusable Equipment and Components

Provision 7: Tracking Throughput

Provision 8(d)-(h): Data Destruction

Provision 11(b): Closure Plan and Financial Responsibility





Questions





Responsible Recycling

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