

ENVIRONMENTAL STEWARDS,
JOB CREATORS, ECONOMIC LEADERS

www.isri.org



Voice of the Recycling Industry

Institute of
Scrap Recycling
Industries, Inc.

ISRI and Electronics Recycling

The *R2/RIOS Certified Electronics Recycler*[®] Program

Virginia Recycling Association's Electronics Recycling Workshop

Wyndham Virginia Beach Oceanfront

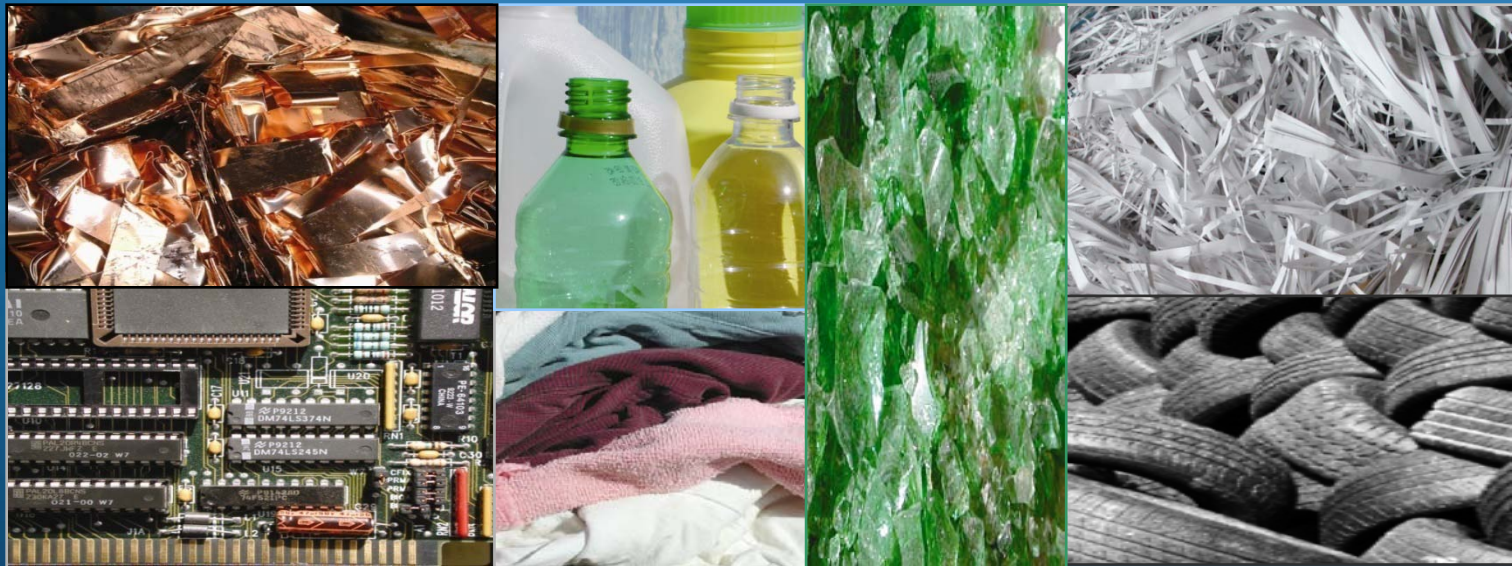
May 17, 2010

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Director of Environmental Management, ISRI

Institute of Scrap Recycling Industries (ISRI)

Trade association of 1,600+ member for-profit companies with 2,800+ facilities that process, broker & consume scrap metals, paper, plastics, glass, textiles, electronics, and rubber



“Scrap is not Waste. Recycling is not Disposal.”

ISRI's Approach to Electronics Recycling

R2/RIOS Certified Electronics Recycler® Program

- Joint implementation of R2 and RIOS
- Joint R2/RIOS certification



Become a
CERTIFIED ELECTRONICS RECYCLER®

A horizontal strip of five small images showing different types of electronic components and circuit boards, including integrated circuits, capacitors, and printed circuit boards.

Achieve Operational Excellence and Competitive Advantage

Why R2/RIOS?

- Blueprint for reputable companies to be recognized as responsible electronics recyclers
- “One-Stop Shop” for Implementation and Certification
 - The Responsible Recycling (R2) Practices
 - RIOS Program (membership required)
 - Recycling Industry Operating Standard (RIOS)
 - *RIOS Implementation Guide* for RIOS and R2
 - RIOS Train the Trainer Workshops
 - Eligibility for RIOS Certification
 - R2 and RIOS Certifications by ANAB-accredited certification bodies (CBs)

RIOS Program Membership

ISRI Members	Non-Members of ISRI	
	ISRI-Ineligible	ISRI-Eligible
<p>Initial Materials Fee: \$2,000 for 1st facility and \$1,500 for each additional facility, up to \$20,000</p> <p>Annual Maintenance Fee: \$975 per facility up to \$20,000</p>	<p>Initial Materials Fee: \$3,000 for 1st facility and \$2,250 for each additional facility, up to \$30,000</p> <p>Annual Maintenance Fee: \$1,000 per facility up to \$21,000</p>	<p>Initial Materials Fee: \$6,000 for 1st facility and \$4,500 for each additional facility, up to \$60,000</p> <p>Annual Maintenance Fee: \$2,925 per facility up to \$60,000</p>

The R2 Practices

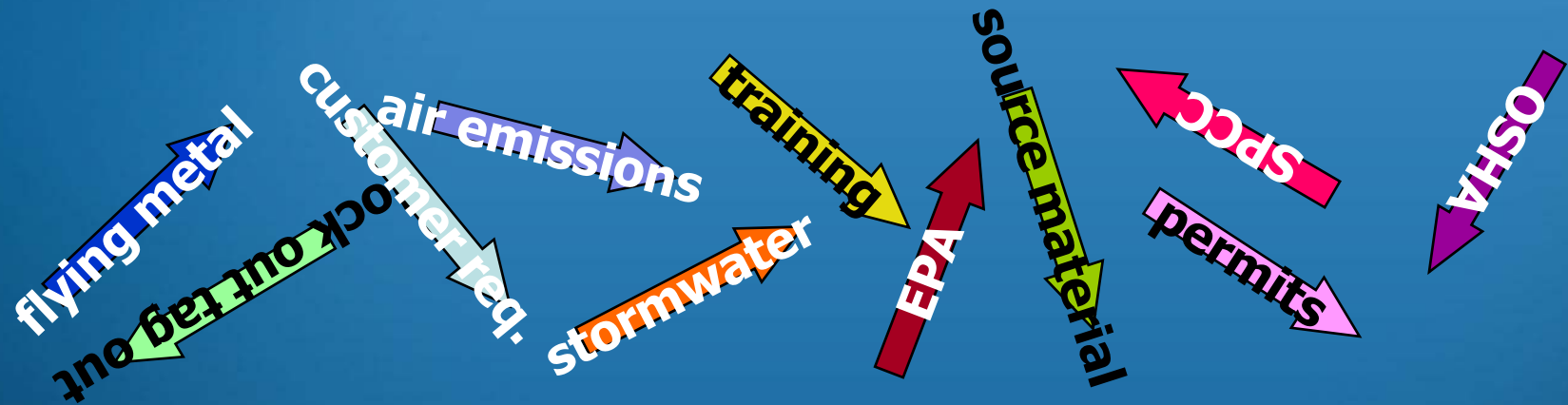
- Developed by broad-based stakeholder group for the electronics recycling industry, including EPA and ISRI, incorporating 13 principles ...
 1. EHSMS
 2. Reuse/Recover/Dispose Hierarchy of responsible materials management
 3. Legal requirements and compliance (including imports and exports)
 4. Protection of environment and worker health & safety
 5. Management of “Focus Materials” on-site and downstream
 6. Refurbishment and proper testing of reusable electronics
 7. Mass balance on electronics throughput
 8. Implementation of accepted data destruction procedures
 9. Proper and secure storage
 10. Appropriate facility control and security
 11. Adequate insurance, closure plan, and financial assurance
 12. Proper and secure transport
 13. Recordkeeping

Recycling Industry Operating Standard (RIOS)

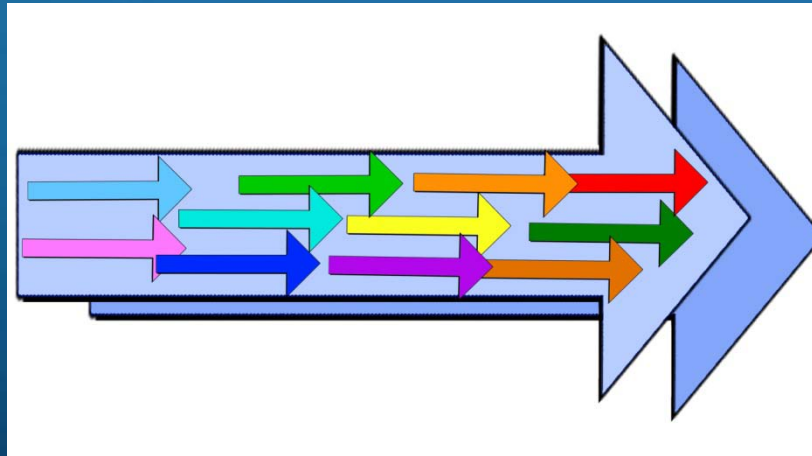
- Standard for integrated Quality, Environmental, and Health & Safety (QEH&S) Management Systems (MSs)
- Common elements with ISO 9001 (Q), ISO 14001 (E), and OHSAS 18001 (H&S)
- Built on Plan-Do-Check-Act Model for Continual Improvement
 - Section 1: General Requirements
 - Section 2: Policy
 - Section 3: Planning (Plan)
 - Section 4: Implementation (Do)
 - Section 5: Checking and Corrective Action (Check)
 - Section 6: Management Review (Act)

Conceptual Effect of RIOS

- Before



- After



How RIOS Works

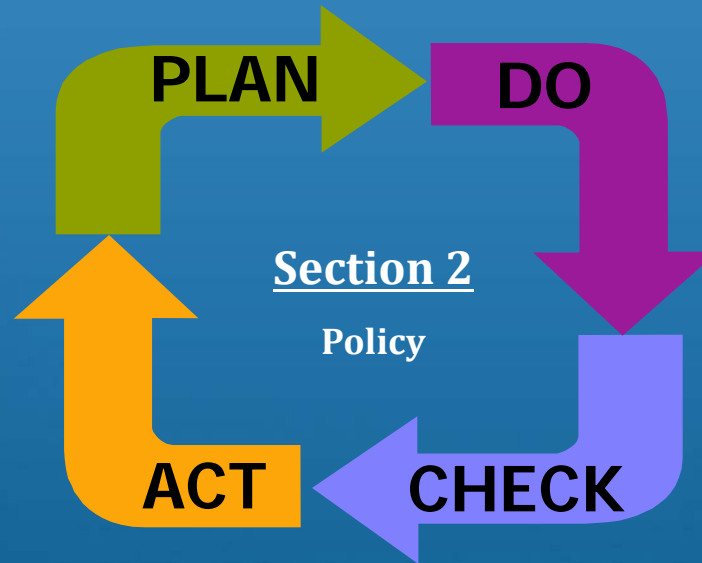
Section 3

Planning Requirements

- Defining the QEH&S Footprint
- Improvement Planning

Section 6

Management Review Requirements



Section 4

Implementation Requirements

- Training
- Communication
- Operational Control
- Emergency preparedness

Section 5

Checking and Corrective Action Requirements

- Monitoring and measurement
- Nonconformance and corrective and preventive action
- QEH&S MS audit

How R2/RIOS Works

(1, 3, 4, 6)

Section 3

Planning Requirements

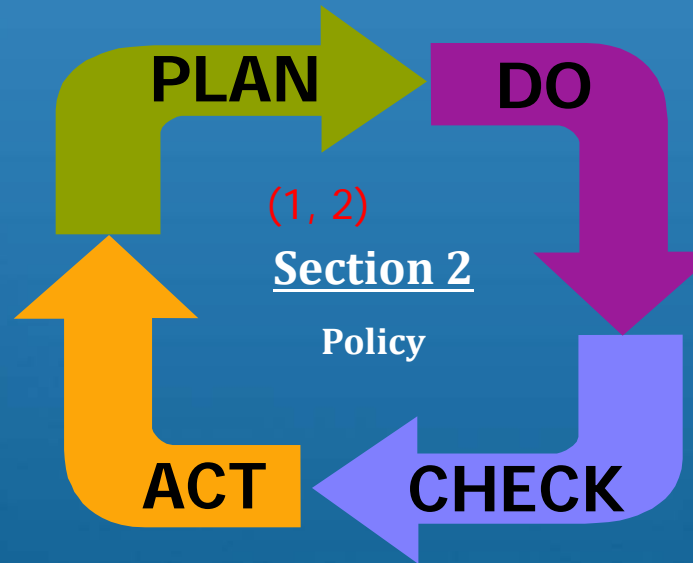
- Defining the QEH&S Footprint
- Improvement Planning

(1)

Section 6

Management Review Requirements

(R2 Principle Numbers)



(1, 3–12)

Section 4

Implementation Requirements

- Training
- Communication
- Operational Control
- Emergency preparedness

(1, 3–6, 8, 12)

Section 5

Checking and Corrective Action Requirements

- Monitoring and measurement
- Nonconformance and corrective and preventive action
- QEH&S MS audit

(1, 4, 11, 13)

Section 1

General Requirements

- Scope
- QEH&S Infrastructure

RIOS QEH&S MS Additions to R2 EHSMS

- Senior management directly responsible for H&S
- Written procedures for management and control of documents and records
- Policy elements beyond R/R/D Hierarchy and EH&S compliance
- Awareness training
- Communication for customers, suppliers, and interested parties
- Operational controls and verification for suppliers and raw materials
- QEH&S Goals
- Written procedures for and control of nonconforming product
- Internal MS Audits

R2/RIOS Certification

- Accreditation Programs for R2 and RIOS by ANAB
- CBs accredited to both R2 and RIOS
- Required training courses for “RIOS Auditors”
- Designation as “*R2/RIOS Certified Electronics Recycler*®” via R2/RIOS Certification



R2/RIOS Program Status to Date

- 37 facilities from 27 companies committed to R2/RIOS implementation and certification
 - So far in 2010, 16 facilities from 10 companies committed
- 6 facilities from 5 companies certified to R2/RIOS
 - Several more facilities approaching initial certification in coming months
- 1 Accredited R2/RIOS CB
 - 2 CBs nearing R2/RIOS accreditation



Questions?

Thank you!

Information Resources

- <http://www.isri.org> (ISRI)
- <http://www.isri.org/rios> (RIOS, certified-facility and accredited-CB lists)
- <http://www.certifiedelectronicsrecycler.com> (R2/RIOS and e-recycling)
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