

Life Span

Technology Recycling

**Electronics Recycling Update
Best Practice Trends**

October 2008

Agenda

- Vendor Certification Programs
 - IAER (International Association of Electronics Recyclers)
 - ISRI (Institute of Scrap Recycling Industries)
 - NAID (National Association of Information Destruction)
- EPA R2 – Responsible Recycling Initiative - AITP
- Evolution of Technologies / Standards
 - Chain of Custody Solutions
 - Onsite Data Destruction
 - NIST 800-88

Certification Programs

Needs of Different Stakeholders :

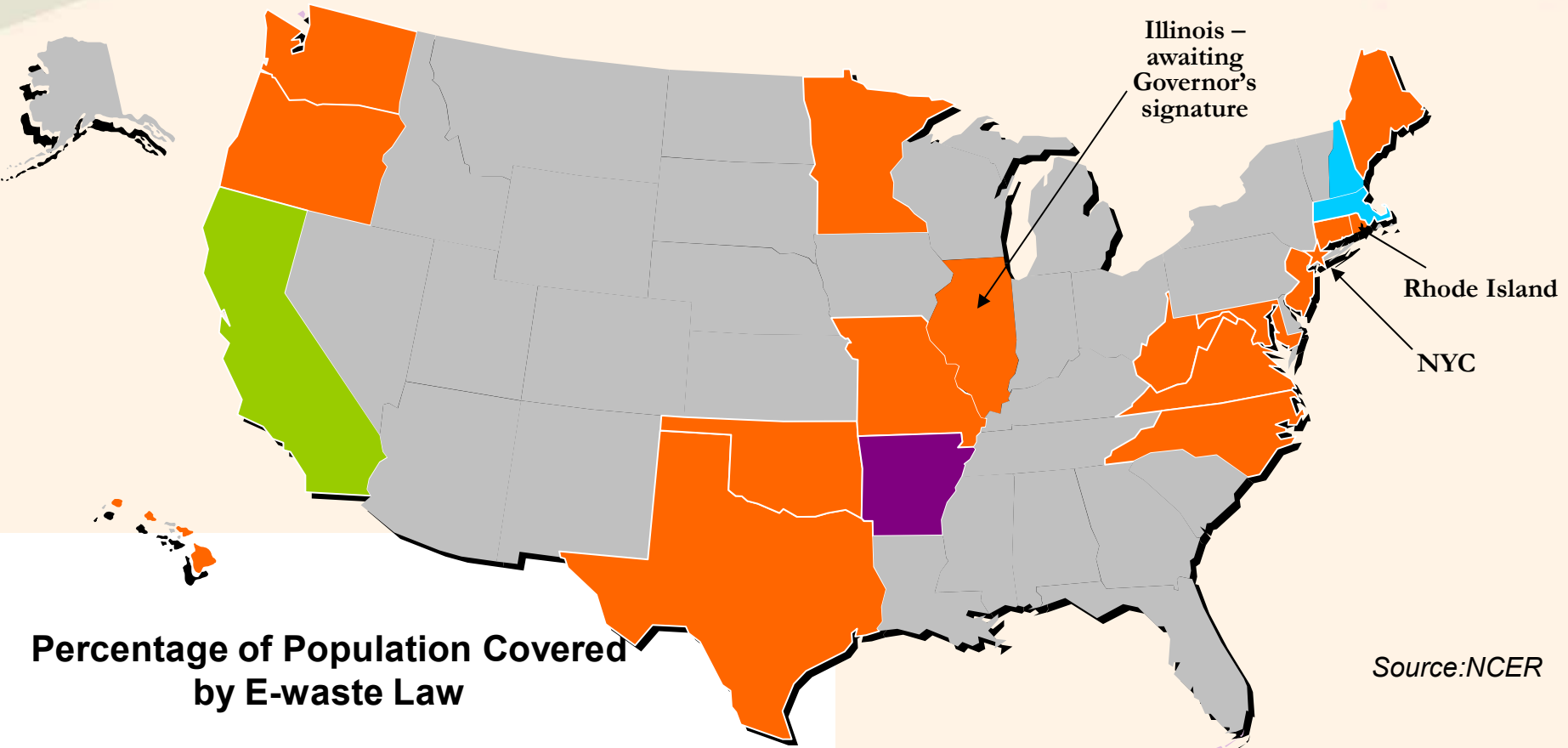
- **Customers/Generators**
 - Reliable & reputable service
- **Electronics Recyclers**
 - Market advantage
- **Manufacturers/OEMs**
 - Minimize risks & exposures
- **Government Agencies**
 - Compliance with laws & regulations

Certification Programs

Market Drivers:

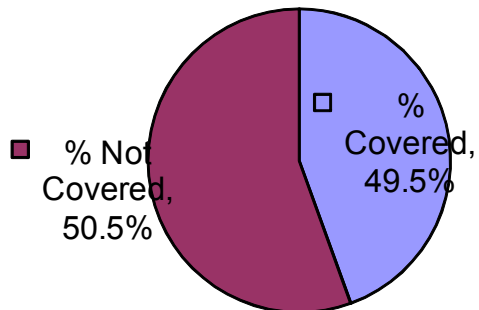
- **Increasing volumes of end-of-life electronics**
- **Consumer electronics/municipal collection**
- **Product Take-back programs**
- **Legislation**
 - **State, Federal, International**

States With E-Waste Laws



Percentage of Population Covered by E-waste Law

Source: NCER



- States With Producer Responsibility Laws
- States With ARF (Consumer Fees) Laws
- States With Landfill Disposal Fee
- States With Disposal Ban/No E-Waste Law

Federal Regulations

- CERCLA - Comprehensive Environmental Response Compensation and Liability Act
- RCRA - The Resource Conservation and Recovery Act
- HIPAA / GLB / FERPA
- CRT Registration
- Challenge: Little oversight....
 - Until Its too late

Certification Programs

Common Themes:

- Ability to provide an all encompassing – seal of approval
- Total Quality Management (TQM) / ISO 9001
- Environmental Management System / ISO 14001
- Health & Safety
- Security (IEAR/NAID)
- Independent, 3rd party audit

Certification Programs

IAER “Certified Electronics Recycler®” Highlights:

- 1st program in the world – Specifically Electronics
- Environmental Management System (EMS)
- Business requirements – Security & Financial
- Operational requirements – Operations, Personnel, Facilities, Equipment
- Exhaustive Audit Process
 - 3rd Party Independent **Accredited** Auditor
(typically ISO)

Certification Programs

ISRI RIOS (Responsible Industry Operating Standard) Highlights:

- Covers all recycle/scrap materials
- Reaction to increased Regulatory scrutiny
- Improve the U.S. industry's competitive position
- Closely resembles EPA – EMS system – Plan, Do, Check, Act
- Intent to be the overall management system

Certification Programs

NAID AAA Certification Highlights:

- Detailed Audit - Physical Destruction and Sanitization
- Detailed attention to Chain of Custody
- Specific Requirements for Employee background checks and drug testing
- Highest level of operational and physical security
- Security / Threat Prevention - Auditor

EPA R2 – Responsible Recycler

Facilitated by EPA

- Not driven by regulations
- Establishment of Best Practices

Multi-stakeholder

- OEM's
- State & Federal Government
- Asset Management / Recyclers
- Trade Associations
- Non-profits / Activist

Current Draft - V17 (V18?)

(AITP) Association of IT Professionals
Adopted - April of 2008

EPA R2 – Responsible Recycler AITP Stds. of Responsibility

- Establish both **environmental and privacy statements** and goals regarding how they will commit to manage end-of-life electronics, as well as **establish a written account of their management practices.**
- **Manage operations** and **downstream** vendor/technology selections in accordance with a hierarchy of **responsible management strategies** for end-of-life electronics equipment.
- Maintain compliance with all applicable **environmental, health, and safety legal requirements.**
- Employ an IT asset retirement solution that will utilize their internal or their vendor's Environmental, Health, and Safety Management System(s) (**EMS**) to ensure effective management of the environmental and health and safety impacts of their operations.

EPA R2 – Responsible Recycler AITP Stds. of Responsibility

- **Maintain documentation** sufficient to demonstrate the management and material flow of the equipment, components, and **materials that pass through their facilities.**
- Utilize practices at their facilities that **protect worker safety, public health, and the environment.**
- Obtain written assurances that **downstream vendors** that receive **Materials of Concern** – e.g., lead, PCBs, mercury, and other hazardous materials contained in electronic equipment – utilize practices that protect worker safety, public health, and the environment.
- Ensure that their business practices comply with all **legal requirements of each transit and recipient country** to which Materials of Concern are shipped, and require assurances that downstream vendors' **business practices are also compliant.**

EPA R2 – Responsible Recycler AITP Stds. of Responsibility

- Ensure the equipment and components that they and their **downstream vendors send for reuse or refurbishment are appropriate for reuse**, and that any such equipment or components containing Materials of Concern that are not reused are managed in adherence to legal and ethical business practices.
- Ensure that all **equipment and components that are impracticable** to reuse (or contrary to the organizations explicit direction are managed properly in accordance with # 2, using technologies that **are protective of health, safety, and the environment.**
- **Transport** all equipment, components, and materials using entities that have the necessary regulatory authorizations and in a **manner protective of public health and the environment.**

EPA R2 – Responsible Recycler AITP Stds. of Responsibility

- Ensure that recyclers possess **insurance** that is adequate to cover the potential **environmental and privacy** risks and liabilities associated with the nature and size of the company's operations.
- Work with recyclers that have assurances in place regarding the **proper closure of their facilities.**
- Employ current generally-accepted **data destruction procedures** unless otherwise directed by the organization.
- Follow **physical security** measures appropriate for the equipment they handle and maintain.

Evolution of Technology / Standards Chain of Custody

Challenges:

Where is transfer of ownership?

- Customers Dock
- Recyclers Dock

Where/When does Inventory get done?

- By who?
- How?

Evolution of Technology / Standards Chain of Custody

Portable Physical Destruction Technologies

- Small
- Operates on a 110V outlet
- Quiet
- Fast

- EDR - Hard Drive Crusher
- The Guardian

Evolution of Technology / Standards Onsite Data Destruction

Sanitization

- Equipment is leased
- Investment Recovery = Complete Machine

- Ensconse – Digital Shredder
- CPR Tools – The Hammer
- Blancco – Task Force Kit

Evolution of Technology / Standards Modern Data Security Standards

NIST 800-88 (2006)

- Compared to DOD 5220.22.M (1995)
- Defines:
 - Disposal
 - Clearing
 - Purging
 - Destroying
- Addresses All types of Technology
- Discussion of “Secure Erase”
 - Same security level as “Degaussing”
 - Reuse the Drives

Contact:

LifeSpan Technology Recycling has principal offices in Boston, Omaha, Denver, and San Diego providing I.T. investment recovery and recycling services through a network of 20 processing facilities nation wide.

LifeSpan's focus is to reduce their customer's environmental, privacy, and reputation risks associated with IT asset disposal by using best management practices.

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