E-Scrap Workgroup
Draft Plan of Action
December 2006

Assumptions

A voluntary tiered approach is our first course of action, with fees for participating

There is an educational component.

This approach needs some funds for inspection, website and educational materials, but not as much as a full regulatory effort.

This approach does not require legislation or rulemaking and as such can be put in place much quicker.

This approach will be judged against baseline measures and established goals. If the goals are not met within 2 years, then a more formal regulatory approach such as a landfill ban for electronics must be considered.

Infrastructure is in place in St. Louis, with some in Kansas City, Springfield and Columbia. Because of this, the first phase will be directed towards the major metropolitan areas to build more infrastructure and capacity. The second phase will focus on rural collection and disposition.

December 2006 Hazardous Waste Commission and Stakeholder Meetings	▪ Go over timeline and activities and seek agreement: ► tiered approach ► components for tiered approach ► best management practices ► components for educational efforts attached ► goals for effort ► who will do what? DNR, various stakeholders ▪ What is the future for the stakeholders? ► Meet again in 6 months to 1 year? ► Set up steering committee ► Set up education committee ► Set up rural committee	Tiered approach document attached Components at a minimum are peripherals, TVs, computers and monitors Best management practices attached All electronics part of educational effort Goals listed below

February 2007	▪ Polished proposal for ► Department ► Hazardous Waste Commission ► Solid Waste Advisory Board	The above components plus, what can or will DNR do
February – April 2007	▪ Identify needs and sources for funds ▪ Identify target audiences ▪ Contact sources and draft proposals ▪ Develop logo for **E-Cycle Missouri** and educational effort components ▪ Gather baseline data on e-cycling in Missouri from those on current database	▪ Pounds of e-scrap out ▪ Pounds and % of total from residential ▪ Pounds and % of total from all other ▪ Number of collection sites ▪ Number of demanufacturers ▪ Locations for collection and demanufacturers ▪ # of Echo Valleys that will trigger the need for a ban and legislation
May 2007	Send letters to demanufacturers about the tiered system and invite them to join	
May – November 2007	Develop educational campaign based on agreements and funds	
June 2007	▪ Start up tiered approach and website ▪ Establish baseline data	
November – December 2007	Kick off educational effort in St. Louis, Kansas City, Springfield and Columbia	
January 2008	Develop rural collection strategies and measures	Develop partners – Rural Electric Cooperatives, USDA, solid waste industry, solid waste districts
June 2008	Evaluate progress on goals and adjust effort	With stakeholders, Hazardous Waste Commission, Solid Waste Advisory Board, department

Goals for E-Cycle Missouri

- Increase the amount of residential e-scrap recycled out by demanufacturers by 5% from baseline
- Increase the amount of all other e-scrap recycled out by demanufacturers by 2% from baseline
- Maintain 75% of the e-cycling services currently in DNR's database
- Increase overall services enrolled in Tier 2 and 3 by …..
- No new Echo Valley's during first 2 years of E-Cycle Missouri
- Increase the number of hits on the website by ……
- Increase e-cycling infrastructure (and thus capacity) by……..

Statewide E-scrap Education Outreach Program
Proposed Scope of Work / Funding Options
Draft - September 28, 2006

Category	Sustainability	Materials/Tools	Strategies	Target Audience	Issues	Funding Source/Cost
Basic Model	High	Website Brochures Flyers Posters Articles (newsletters) Press releases, PSAs Presentations Exhibit Materials Retailer displays Clipart (logos, photos)	▪ Initial production, posting materials on website, & distribution ▪ Statewide kick-off w/ dignitaries, etc. ▪ Tap into existing network of environmental groups, SWMDs, agencies, Stream Teams, etc. to promote website ▪ Speakers bureau ▪ Media outreach (PSAs, press releases) ▪ Retailer outreach ▪ In-store displays ▪ Bill inserts & notices ▪ Employee training (ongoing)	Primary owners of electronics: ▪ Baby Boomers ▪ Teen ▪ Young adult ▪ Broad audience: ▪ Residents ▪ Businesses ▪ Statewide	Website host & ongoing updates: • U-MO • MORA • ***E-cycle St. Louis*** • Consortium Set-up partnerships: ▪ Rural co-ops ▪ Retailers ▪ Districts ▪ Internet providers	▪ Grant application for initial production and program kick-off ▪ Partnership support for ongoing promotion (leverage existing resources) ▪ Modest Host Site annual registration fee/dues to participate in statewide awareness program ▪ Dedicated funding source – ARF (legislation?)
Extended Basic	Moderate	Hotline	Same as above. Greater focus on TV recovery	All audiences	▪ Need host ▪ Local contacts for more info	▪ Dedicated funding source- ARF (legislation?) ▪ Telephone Monthly Expense for hotline
Upgrade	Low	Bill Boards Paid Advertising (Radio, TV, print)	• Initial program launch & periodic promotions when funding is available	All audiences	• Larger initial investment • Need on-going funding source	▪ Dedicated funding source- ARF (legislation?) ▪ Pursue pro bono

Proposal scope of work to include estimated FTEs to implement and manage program on an on-going basis.

E-Scrap Certification/Permits Sub-Group
Proposed Levels for Tiered Approach

Registration Level 0

1. Voluntary registration with the Department of Natural Resources.
2. Registration would be by completing the required form.
3. Facility will be listed on the department's webpage with no endorsements. The webpage is located at the following location: http://www.dnr.mo.gov/env/swmp/rrr/computerlist.htm
4. The facility will receive a cursory visit by the department to determine if the facility is operating within RCRA.
5. The facility shall notify the department of any change in their operation.
6. The facility shall strive to recycle as much of the demanufactured components as possible.
7. There is no fee associated with this level.

Registration Level 1

1. Voluntary registration as for Level 0, above, plus
2. The registration form is the Electronics Recovery Host Site Self-Audit Form
3. Once accepted, all electronics managers at this level will be listed on a department web page and a clickable link will lead to the self-audit form and all inspection reports.
4. The Newly Organized Missouri Electronics Scrap Best Management Practices (NOMESS BMPs) are standard operating procedures
5. An annual registration/re-certification will be submitted to stay on the web page, it will include: basic company information, the maximum inventory of electronics in pounds, the number of pounds of electronics accepted in the last year, the number of pounds of electronics shipped out in the last year, and the number of pounds of electronics on-hand. It would also ask how many pounds of the electronics accepted were from individuals and how many were from businesses. There will be a certification statement signed by a corporate officer or non-profit board member that the NOMESS BMPs are followed.
6. A fee based on covering the costs of the program, annual fee of $350 was proposed to cover the costs of an inspection and data verification/entry
7. There will be a site visit by the department at registration and once every 3 years thereafter (the estimated cost of this is $1,000 per visit, these inspections and the data verification/entry will be what the annual fee pays for)

Registration – Level 2

1. Voluntary registration as for Levels 0 and 1, above, plus
2. A "financial responsibility for closing cost" estimate based on the maximum pounds of inventory certified to annually as above. A corporate officer or non-profit board member must certify the cost estimate. A demonstration of financial responsibility at least equal to the closing cost estimate will be required. (Preliminary costs for financial responsibility will be developed with industry input.)
3. This cost estimate will be submitted to the department with either one of the methods of closure financial assurance in 40 CFR 264, Subpart H or with a legal contract with other registered electronics manager(s) or an environmental company to close the facility.
4. The department will review the cost estimate and financial assurance mechanism. If they are acceptable, the company will receive a Level 2 registration. An additional $350 fee per year will defray the costs of the annual financial assurance review. The total estimated cost of administering this level is estimated as $350 + $350 = $700 per year.

Registration – Level 3

1. Voluntary registration with financial assurance for closing as for Levels 0, 1 and 2, above, plus
2. To obtain a Level 3 Registration, used electronics managers may either:
    - submit documentation that an outside group (ISO 14001, IERA, ISRI(RIOS), possibly others) has certified their EMS (The cost of the outside EMS certification depends on the outside group involved. The department's estimated cost for this option is the same as for Level 2, $700 per year), or
    - used electronics managers may submit an application for a voluntary R2 resource recovery certification from the department. The application would contain discussions of how the BMPs are met and the other elements of a resource recovery certification application. (This is generally a less expensive option to be listed at Level 3 than the outside group EMS certifications given above. The additional cost will be $1000 every 2 years application fee and an estimated $800 per year for engineering review time. The total estimated cost of level 3 registration by R2 resource recovery certification is therefore $700 + $1300 = $2000 per year.)

Summary of Tiered Approach

Registration Level	Requirements	Cost and What You Get for the Fee	Advantages and Disadvantages
Level 0	1. Voluntary Registration 2. Cursory Site Visit at Registration 3. Unannounced inspections will occur after initial cursory site visit to verify compliance with RCRA. 4. Registration Form on Internet	$0.00/year	Advantages 1. Voluntary 2. No Cost to facility 3. Good advertising 4. Government Registration 5. Includes a site visit Disadvantages 1. Does not prevent bad actors or illegal activities 2. Don't have to follow BMP's
Level 1	1. All the items for the Level above 2. Follow BMPs 3. Site Visit at Registration and Every 3 Years 4. Annual Report on the Internet (Throughput, Inventory)	$350/year [initial inspection, verification inspections every 3 years, listing on the web site as Level 1 Registration, data verification]	Advantages 1. Relatively inexpensive 2. Good advertising 3. Government Registration 4. Simple Internet forms for application 5. Simple annual re-certification forms/reports 6. Includes a site visit 7. Consumers can choose company that follows BMPs. Disadvantages 1. Not required for all 2. Does not prevent bad actors or illegal activities 3. Some cost 4. Reporting and record keeping, increased business costs

Summary of Tiered Approach continued

Level 2	1. All the items for Level, above 2. A financial responsibility for closing cost estimate certified by an officer or board member 3. Submission of the costs to the department with a financial assurance mechanism	$700/year [initial inspection, verification inspections every 3 years, listing on the web site as Level 2 Registration, data verification, closure cost estimate and financial assurance review]	Advantages 1. Demonstration of a higher level of responsibility for business marketing 2. Voluntary 3. Relatively inexpensive 4. Good advertising 5. Government Registration 6. Simple Internet forms for application 7. Simple annual re-certification forms/reports 8. Includes a site visit 9. Higher level of comfort for consumers and regulators 10. Consumers can choose company that follows BMPs with closing cost assurance Disadvantages 1. Increased costs 2. Money may be tied up in a financial assurance mechanism
Level 3	1. All the items for Level 2 Level, above 2. Either Submit acceptable proof of EMS certification by outside group or obtain a voluntary R2 resource recovery certification	$700/year for the above and listing on the website as a level 3 registration, plus the cost of either: 1. third party EMS certification [cost varies according to the type] OR 2. an R2 resource recovery adds $1300 per year for a $2000 per year total [as above with a review of the R2 application]	Advantages 1. Maximum demonstration of responsibility for business to business marketing 2. Credit for prior EMS certification 3. Consumers can choose companies with better practices if they want to 4. Highest level of comfort for consumers and regulators Disadvantages 1. Highest Cost

Newly Organized Missouri E-cycling Standards (NO MESS)
Best Management Practices for Electronic Equipment
Disposition Service Providers

A. General Operations
1. Comply with all applicable state and federal environmental and safety laws and regulations, including notification, permit and registration requirements.

2. Document environmental, safety, and security audits of facilities.

3. Maintain general liability insurance coverage; make certificate copies available to upstream sources (generators/suppliers).

4. Maintain and document a closure plan.

B. Inventory Control
1. Document all electronics coming in and components going out, so that what is in shop may be evaluated by an audit.

2. Document the transfer of ownership of all electronic equipment, components and materials received.

3. Provide documentation of tax-deductible donations of equipment (non-profit organizations).

4. Maintain an audit trail of all off-site facilities to which electronics and components are sent from the facility.

5. Maintain a level of recycling at or above 90%

C. Maximize Value, Minimize Risk
1. Evaluate electronic systems and components to determine their functional value, implementing the following hierarchy of management options in order of preference:
   a. Reuse;

b. Repair/Refurbishment/Remanufacturing;
c. Recovery of functional components; and
d. Recycling of constituent materials

2. Remove all components such as fluorescent tubes, mercury-containing switches and relays, nickel-cadmium, leaded glass and lithium batteries before shredding equipment for recycling.

3. Audit downstream vendors in the chain of custody, both domestic and international, requiring documentation of regulatory compliance and responsible recycling and disposal of materials.

D. Responsible Export Practices

1. Comply with all applicable laws and regulations, including country-specific import/export regulations.

2. Maintain documentation for exports from the United States of electronic systems and components, including:
   a. Shipping manifests identifying the recipient and showing make, model, and condition for all declared reuse items; and
   b. Any other information necessary to complete the export.

3. Tested, working cathode ray tubes, electronic equipment and raw materials derived from manufacturing may be exported. All other electronic equipment are excluded from export except countries that meet the following criteria:
   a. Members of the Organization for Economic Cooperation and Development;
   b. Members of the European community; or
   c. Countries that have entered into an agreement with the United States that allows for such exports.

E. Transportation Practices

1. Comply with CRT regulations at 40 CFR 261.39 regarding transport, storage and labeling of CRTs in transport. Since this regulation is not currently found on the e-CFR the regulation can be found at the following website: http://www.epa.gov/fedrgstr/EPA-WASTE/2006/July/Day-28/f6490.htm, located at the very end of the register.