

Executive Summary

Solid Waste Advisory Committee June 24, 2002

I. Call to Order and Announcements

Susan McLain

- Approval of Minutes: Mr. Korot motioned to move the summary; Mr. Misovetz seconded the motion; none opposed; Executive Summary passed as read.
- Councilor McLain stated the Metro's Recycling Information has taken 105,571 calls so far this fiscal year, breaking the previous record for number of calls during this period. Calls concerning electronic waste, as well as calls from businesses have increased.

II. REM Director's Update

Terry Petersen

- June 21, there was an incident at Metro South Transfer Station that required the station to shut down for 1 hour and 20 minutes. A customer of the hazardous waste facility brought in pool chemicals that reacted in her trunk creating a large cloud of gas. No one was injured.
- Ordinances to amend the Regional System Fee Credit Program were considered by the Solid Waste & Recycling Committee. Councilor Monroe introduced amendments including elimination of the sunset date, no cap on expenditures, and to count materials that DEQ counts. The amendments will be considered at the next Solid Waste & Recycling Committee meeting July 3.
- Metro currently has several non-system license (NSL) and designated facility agreement (DFA) applications pending. These include a NSL for KB Recycling to take 25,000 tons to Riverbend Landfill; a DFA amendment to include a material recovery facility at Hillsboro Landfill; and, a NSL for American Sanitary to take 7,000 tons to Clark County facilities. In addition, the process and criteria for evaluation of NSL requests will be reviewed by Metro in the future.

III. New Policies to Increase Dry Waste Recovery

Lee Barrett

Approximately 260,000 additional tons need to be recovered in the Metro region in order to meet the 2005 recovery goal of 56%. Mr. Barrett anticipates this can be achieved by recovering 50,000 additional tons on mixed dry recovery, 90,000 tons of organics and making up the balance in the commercial sector. Metro is considering inclusion of minimum recovery percentage requirements in designated facility agreements, in order to recover an additional 50,000 tons of waste. Mr. Vince Gilbert asked about the possibility of enacting disposal bans. Mr. Barrett explained that in a survey, the local governments have identified that option as one that would be effective in reaching the 2005 recovery goal. Mr. White said that haulers are concerned with new asbestos regulations and implications for hauling and recovery of construction and demolition waste (C&D). SWAC members discussed new asbestos rules that essentially expand the definition of friable asbestos; there doesn't seem to be consensus on the implications for the solid waste industry.

IV. CRTs and Hazardous Waste Regulations

Rick Volpel, DEQ

Mr. Volpel explained current trends for cathode ray tubes (CRTs) from computer monitors: reuse and stockpiling are up, while disposal and recycling are down. DEQ estimates that there are probably about 250 million monitors already stockpiled, with another 250 million expected to become obsolete in the next few years. DEQ released a rule May 7 that clarified CRT regulations and the EPA released their rule June 11. Essentially, households are exempt from regulations and can dispose of monitors, but businesses must manage them as hazardous waste. CRTs are exempt from hazardous waste regulations if they are recycled. The DEQ has developed a fact sheet and updated their web site to list the rules and options for CRTs. The DEQ is trying to move towards product stewardship approaches to CRTs. The DEQ is not considering a landfill ban on CRTs at this time because there is not adequate infrastructure for recycling electronics. SWAC members had many questions about DEQ's regulations, particularly as they apply to solid waste haulers and facility owners. There are still outstanding questions about how haulers and facility owners are expect to handle CRTs.

V. Tire Recycling Task Force Progress Report

Janet Matthews

Ms. Matthews reviewed the history of scrap tire management in Oregon and explained that because each tire contains 2.5 pounds of steel and 7 gallons of oil, the disposal of scrap tires is a resource management problem. Metro introduced legislation at the State level last year to encourage markets for scrap tire recycling. A compromise was reached when HB3909 established a task force to make recommendations for scrap tire management. Ms. Matthews was part of a sub-committee of this Task Force that recently presented a report to the full task force on recommendations to create more markets for tires. Ms. Puent addressed DEQs interest in protecting the clean-up fund that that sub-committee recommends partial use of to encourage market development. The Committee also discussed one of the primary impediments to market development for scrap tire rubber in Oregon - subsidized crumb rubber imported from Canada.

VII. Other Business and Adjourn

Susan McLain

There was no further business.

Documents to be kept with the record of the meeting:

Agenda Item III:

1. Overheads (2 pages; attached to this summary)

Agenda Item IV:

1. DEQ News Release: DEQ Adopts Interim Policy on Managing Cathode Ray Tubes (CRTs) as Hazardous Waste, June 4, 2002 (included in agenda packet)
2. DEQ Fact Sheet: Managing Used Computers & Other Electronic Equipment (handout; copy available upon request)

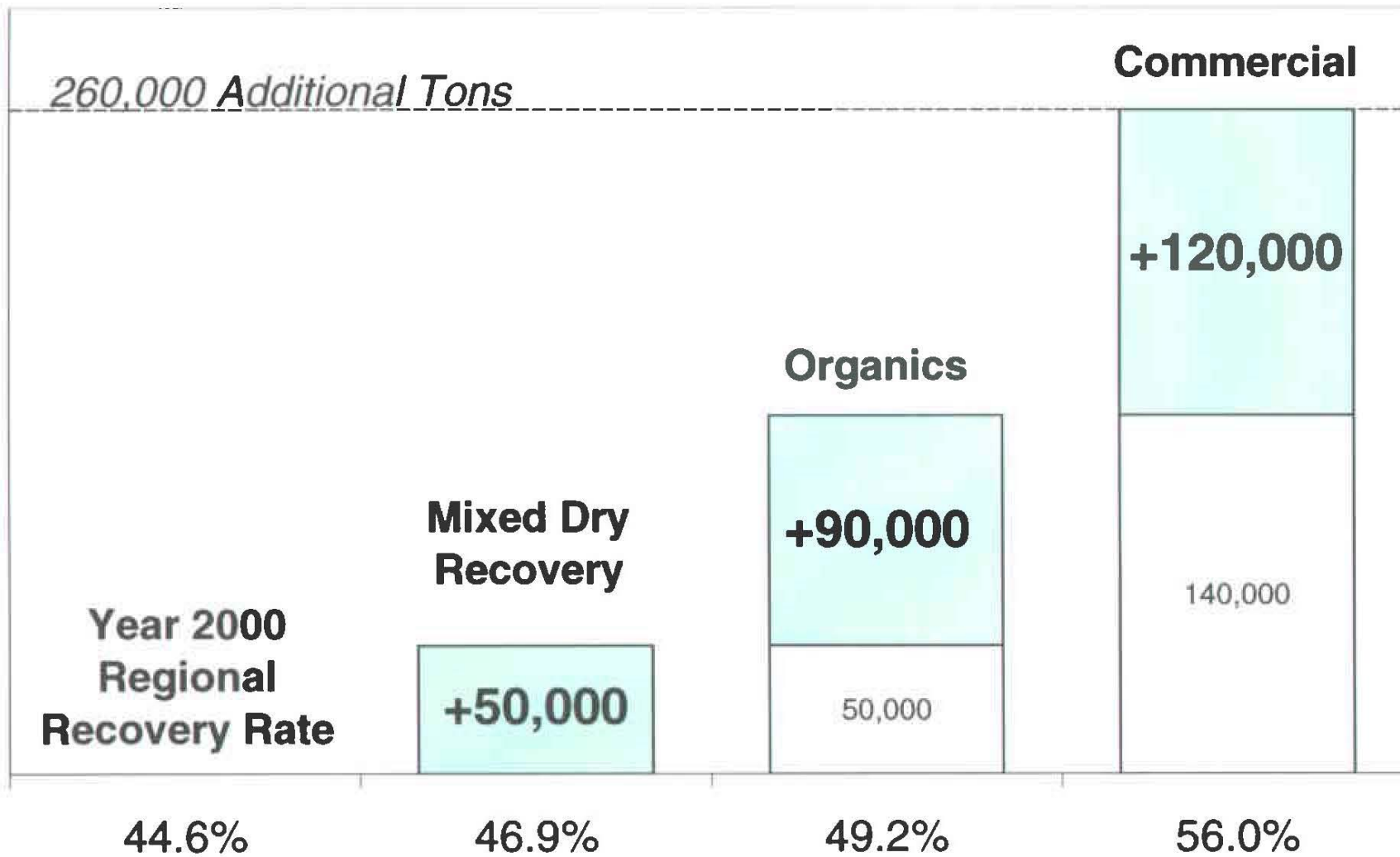
Agenda Item V:

1. State Tire Recycling Task Force: Report of the Market Development Group, June 7, 2002 (included in agenda packet)

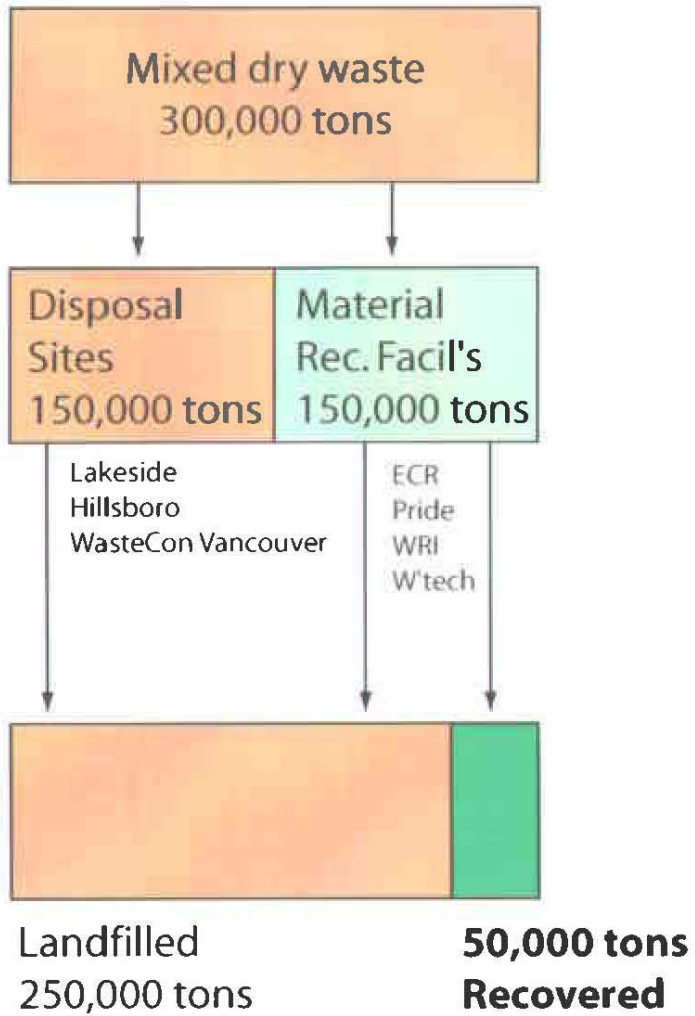
Other:

1. Copies of Ordinances 02-952, 02-951 and 02-950 and a staff report for the purpose of amending Metro Code Chapters 5.01, 5.02 and 7.01 to amend the regional system fee credit program (included in the agenda packet)

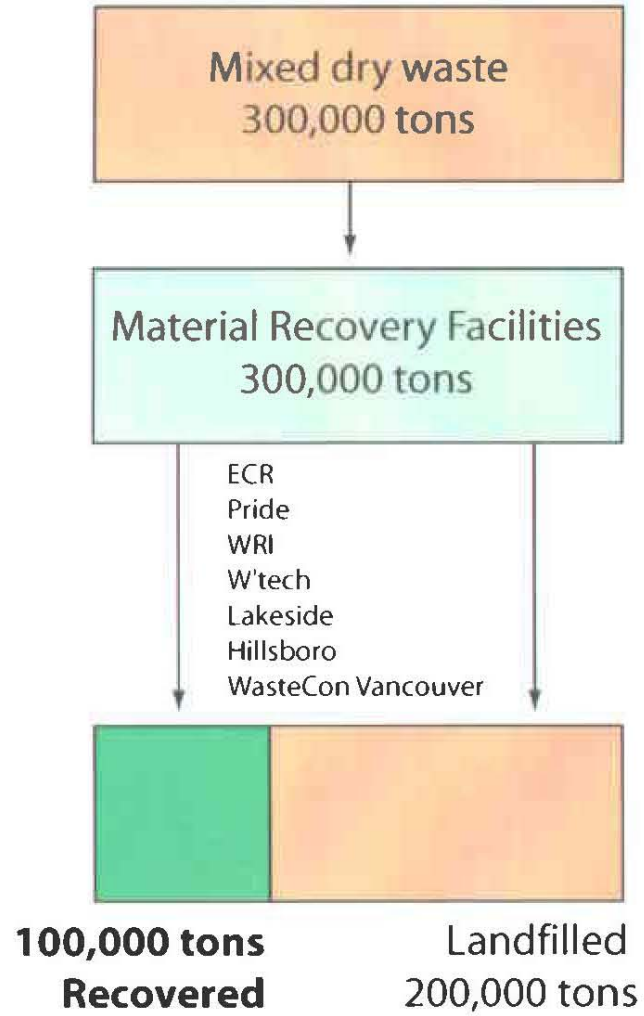
Tons of New Recovery Needed to Meet Goal



Current



Proposed



Managing Used Computers & Other Electronic Equipment

A guide for businesses and institutions

Background

The use of computers and other electronic equipment such as televisions, cell phones, fax machines and copiers rapidly expanded during the 1990s. Because this becomes obsolete after just a few years of use, disposal volumes of these items have risen rapidly. Many people do not realize that this equipment may contain toxic metals that may leak to the environment if not properly managed. In addition, their toxicity can make these items subject to full state and federal hazardous waste regulations when disposed in landfills or incinerated.

In May 2002, the Oregon Department of Environmental Quality adopted an interim policy for businesses and institutions to encourage reuse and recycling of electronic equipment, specifically the cathode ray tubes (CRTs) found in computer monitors and televisions. If CRTs are reused or recycled, they may be exempted from hazardous waste regulation. In order to qualify for this exemption, businesses must be able to demonstrate legitimate reuse or recycling.

Why computers can be regulated as hazardous waste

Items such as computers can be measured for their "hazardous waste toxicity characteristic." Regulatory levels of toxicity have been established for 40 chemicals, including eight metals. Computer monitors, central processing units, keyboards and printers all have printed circuit boards that contain toxic metals. In addition, lead in the computer monitor's cathode ray tube generally causes it to exceed the toxicity characteristic for lead. (Lead usually makes up about 25% of the monitor's total weight.)

All businesses and institutions disposing of waste materials in solid waste landfills and incinerators must determine if their wastes are hazardous waste. If computers or electronic equipment are burned or landfilled, heavy metals can be released, threatening human health and the environment. Businesses and institutions that dispose of their computers and other electronic equipment in a landfill or by incineration are subject to applicable solid waste

and hazardous waste rules, including hazardous waste generator requirements.

Oregon hazardous waste regulations prohibit businesses and institutions producing more than 220 pounds of hazardous waste per month from disposing computers and other electronic equipment in solid waste landfills and incinerators, if these items exceed toxicity characteristic levels.

Reuse/recycling of electronic equipment

Reuse: Although used computers and electronic items such as televisions contain toxic and hazardous substances, they can be given another life when reused or recycled. A computer or other electronic device that is fully functional, or can be repaired and used for its intended purpose, is *not* a waste and therefore not regulated by DEQ.

Recycling: Computers and other electronic devices that are legitimately recycled are not subject to management as hazardous waste. (Please note that businesses may be responsible for environmental damage and hazardous waste requirements when the recycling is not safely performed.) Legitimate recycling means dismantling of the computers and other electronic equipment into recyclable components for resource recovery.

- Businesses and institutions may store and recycle their used computer monitors and electronic equipment in a manner that will prevent breakage and release of hazardous substances into the environment.
- Businesses and institutions must collect and safely transport their own used computers and other electronic equipment to a central location for consolidation prior to reuse or recycling without a solid or hazardous waste transporter's license or hazardous waste listing.

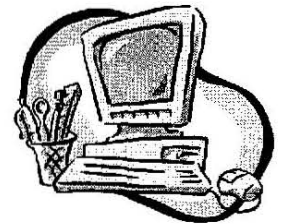
Regulations for transporters and recyclers of used computers

Businesses and institutions that transport used computers and other electronic equipment should check with the Oregon Department of Transportation about the applicability of the



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hazardous material transportation regulation. It is not necessary to have a solid or hazardous waste transporter's license for moving used computers to a recycling or reuse facility. Depending on the complexity of their recycling operation, computer recyclers *may* need a DEQ solid waste permit for operation.

Recycling facilities that receive electronic equipment from businesses, institutions or households cannot legally dispose of hazardous waste components or parts at a solid waste facility if they produce more than 220 pounds of hazardous waste (including waste electronics) per calendar month. The waste parts or components containing hazardous materials are subject to applicable hazardous waste determination and other applicable hazardous waste regulations.

Options for managing used computers and other electronics

Options are available that give old equipment a new lease on life, reduce the expense and regulatory burden of managing them as fully-regulated hazardous waste, and safeguard the environment. Electronic product management company information and DEQ's CRT Policy are available on DEQ's Web site at: <http://www.deq.state.or.us/wmc/electronics/>

Management options include:

- **Donation:** Donating usable equipment to a school or nonprofit group benefits both the receiving organization and the company making the donation. Check first with the potential recipients to make sure they can use your equipment.
- **Resale:** Some companies sell or offer their used computers to employees. Others sell or give them to computer repair/resale businesses.
- **Return to manufacturer:** Original equipment manufacturers such as IBM, Apple, Dell, Compaq and Gateway have programs to take back computers they produced.
- **Asset management:** Asset management companies provide full-service surplus electronics collection, component recovery and equipment refurbishing for corporations and environmentally acceptable disposal.
- **Recyclers:** There are several computer recycling centers and electronics de-manufacturers in the Pacific Northwest. These businesses disassemble computers, salvage parts and sell reclaimed materials. Businesses and institutions are responsible for choosing a recycler that will recycle the electronic equipment in a manner that does not release hazardous constituents into the environment. The business or institution having the equipment recycled should maintain documentation showing that the material was recycled. Ask the following questions when selecting a computer recycler:
 - What type of certification is available to document that the equipment was properly recycled?
 - Does the firm have necessary state and local permits?

- How does the facility manage the used computer equipment and electronic equipment and waste?
 - Does the firm have contracts with foundries and scrap dealers for its metals, or with precious-metal refiners for its circuit boards? Has the company completed an environmental audit of these facilities?
 - What is the firm's program for dealing with cathode ray tubes?
 - Can the firm track the materials that it processes?
 - Does the firm have sufficient liability insurance coverage?
 - Does the firm have a Hazard Communication Plan, Worker Safety Training Program, and Right to Know Training Program?
 - Is proper protective equipment available and used by employees?
- **Used computers from households:** Used household computers are not subject to hazardous waste regulation if they are managed together with household wastes. However, businesses that accept household computers may be subject to hazardous waste management requirements if the computers are not reused or recycled.

Technical assistance

DEQ technical assistance is available to businesses and institutions for free on-site visits, free telephone consultations and hazardous waste training.

Technical assistance can help businesses and institutions understand how hazardous waste regulations apply to their operation, determine which wastes are hazardous, complete reporting forms, manage wastes better, reduce disposal costs, minimize waste produced, and determine areas needing improvement.

Businesses and institutions seeking DEQ technical assistance or having questions about waste management may visit the DEQ Web site <http://www.deq.state.or.us/wmc/hw/hw.htm> or contact the nearest DEQ field office:

- Bend, (541) 388-6146
- Medford, (541) 776-6010
- Portland, (503) 229-5263
- Salem, (503) 378-8240

For more information

See DEQ's Web page at <http://www.deq.state.or.us/wmc/electronics/> or contact Rick Volpel of DEQ's Hazardous Waste Program, Portland, at (503) 229-6753, or by e-mail at volpel.rick@deq.state.or.us

Alternative formats

Alternative formats of this document can be made available. Contact DEQ's Office of Communications and Outreach, Portland, for more information at (503) 229-5317.

Program Implementation Policy

Hazardous Waste/Toxics Use Reduction

Policy Title: CRT Interim Policy

Policy Number: 2002-PO-001

Effective Date: May 7, 2002

What Is the Purpose of This Policy?

The purpose of the CRT Interim Management Policy is to describe how Cathode Ray Tubes (CRTs) can be managed under existing hazardous waste management regulations while EPA is finalizing its CRT management rule. This policy is patterned after EPA's stated intentions and proposed rule excluding CRTs as solid waste provided that they are recycled. The Oregon Department of Environmental Quality (DEQ) will review this policy in 90 days. This policy will remain in effect until DEQ adopts the federal CRT rule.

This policy is intended as guidance for DEQ employees and facilities that use equipment containing CRTs. It does not constitute rulemaking by the Oregon Environmental Quality Commission and may not be interpreted to create a right or benefit, substantive or procedural, enforceable by law or in equity, by any person. DEQ may take action at variance with this policy statement.

To Whom Does This Policy Apply?

This policy applies to non-household facilities that handle computer monitors and televisions containing CRTs for recycling. This policy also applies to businesses repairing and reselling CRT-containing equipment that decide the equipment will be recycled and not reused.

What Is Not Affected By This Policy?

Computer Monitors and Televisions destined for Reuse, Repair or Refurbishment

Computer monitors, televisions and other equipment containing CRTs that are destined for reuse or repair continue to be a product and are not affected by this policy. This material is not regulated as a hazardous waste or counted toward hazardous waste generator status.

However, if the electronic equipment is later determined to be unusable, unrepairable or cannot be recycled, the equipment is a potential hazardous waste generated by the person making the determination that it is unusable and cannot be recycled. The facility or

business making this determination will be subject to applicable hazardous waste management requirements.¹

Computer Monitors and Televisions Destined for Disposal

Computer monitors and televisions containing CRTs destined for disposal in a landfill or incinerator are not affected by this policy and are subject to applicable hazardous waste management regulations.

Households

Computer monitors and televisions from household sources are not subject to this policy. Computer monitors and televisions destined for disposal at a solid waste landfill or incinerator will be subject to management as household hazardous waste. Because computer monitors and televisions can contain up to 8 pounds of lead in their CRTs, they should be managed in a manner that will prevent the lead from entering the environment. Recommended management for computer monitors or televisions include:

- ❖ Reuse,
- ❖ Repair,
- ❖ Participating in a manufacture take-back program,
- ❖ Recycling in a manner that reclaims leaded glass for reuse.

Why Is This Policy Needed?

Currently there is a growing reuse and recycling industry for obsolete computer equipment. The current recycling structure is not set up to recycle equipment containing CRTs as hazardous waste. Color cathode ray tubes (CRTs) found in computer monitors fail the hazardous waste characteristic for lead (contain levels of lead that constitute a hazardous waste) and may pose a

¹ Electronic products destined for reuse or refurbishment must be handled in a manner that prevents breakage or damage. Facilities repairing or reselling should have criteria or specifications for evaluating the computer monitors or televisions. Monitors or televisions not handled in a manner that prevents breakage or damage prior to reuse will be viewed by the DEQ as potential hazardous wastes. Persons claiming that they are sending their monitors or televisions off for reuse or repair should have a receipt or contractual agreement with the receiving facility that monitors or televisions are received for the primary purpose of repair and/or reuse



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Last Updated: 5/7/02
By: Rick Volpel

human health hazard if improperly managed or disposed. Individually, a CRT may contain from 4 to 8 pounds of lead. Under current hazardous waste management requirements, non-household facilities are required to manage waste CRTs as hazardous waste if they fail the hazardous waste characteristic for lead. Implementation of this policy will ensure that CRTs continue to be recycled, reused or repaired in Oregon pending EPA's issuance of a final CRT rule.

Policy Discussion

This policy is written primarily for businesses and government entities that are potential hazardous waste generators. It gives them regulatory relief by DEQ when they take actions to legitimately recycle their equipment containing CRTs according to the guidance in this policy. The policy aims to encourage recycling and reduce the impact of this fast growing waste stream on the environment. Current hazardous waste regulations can be a barrier to this goal by requiring that these wastes be fully regulated as hazardous wastes. This interim policy is designed to: 1) promote resource conservation, 2) remove the regulatory barrier which prevents a prudent, common sense solution for managing computers and televisions containing CRTs, and 3) bridge the gap between existing rules and the future adoption of rules addressing the management of this waste stream.

This policy for conditional exclusion applies to the generation, transportation, collection, accumulation, and storage, dismantling, and recycling of equipment containing CRTs when they are legitimately recycled. Materials managed under the conditions of this exclusion will not be counted as hazardous waste, will not impact generator status, and will not require manifesting when transported off-site (although applicable Oregon Department of Transportation requirements for transportation of hazardous materials still apply). In this interim policy the recycling of CRT-containing equipment refers to any legitimate recovery process including glass-to-glass recycling, reclamation, reuse of parts, and lead smelting operations. CRT glass destined for use in a manner constituting disposal (e.g., use as road base, concrete ingredient, etc.) will not be considered to be legitimately recycled under this policy.

All CRT-containing equipment that is not recycled or reused remains subject to applicable hazardous waste regulations and DEQ enforcement under the hazardous waste regulations.

Policy Conditions:

This interim policy excludes certain end-of-life electronic materials and their management from the hazardous waste regulations. Under the exclusion, the person or facility deciding that their computer monitor, television or CRT-containing equipment is destined for recycling must ensure that the following conditions are met:

1. End-of-life users of CRTs-containing equipment ensure that their equipment is recycled. Materials can be taken to an intermediary consolidator or broker before shipment to a dismantling or demanufacturing facility provided that the destination of the recycling facility is known.
2. CRTs from computer monitors and televisions are accumulated in a manner that minimizes breakage and is protective to the environment. Residuals from the breakage of CRTs are managed in a closed container.
3. Computer monitors, televisions and CRT-containing equipment are sent to an appropriate recycler, dismantler, demanufacturer, lead smelter, or to a person who is consolidating electronics for more efficient transportation to a recycling location.
4. This exclusion is only for end-of-life computer monitors and televisions that are generated, transported, collected, accumulated, stored and physically dismantled for recovery and recycling of usable elements. Waste materials from the transportation and management of CRTs that are destined to be disposed, for example at a landfill or incinerator during any point in the process must be managed as a potential hazardous waste and managed according to applicable hazardous waste management requirements.
5. Regarding operators of collection, storage, and dismantling facilities:
 - ❖ Have applicable permits (if required) to accept and process the material.
 - ❖ Operate and maintain the facility to prevent threats to human health and the environment.
 - ❖ Store recovered hazardous materials in closed containers.
 - ❖ Conduct all physical dismantling activity inside a building.

- ❖ Utilize properly trained personnel and adequate equipment to ensure proper operation of the facility.
- ❖ Maintain documentation for at least three years to substantiate the final destination of all materials.

6. After physical dismantling, CRTs from monitors and televisions must be managed as recyclable material at facilities such as a smelting operation for the extraction of metals from the CRTs or a glass-to-glass recycling facility for the manufacture of new monitor glass. Intact CRTs can be shipped under a transportation bill of lading and must meet applicable hazardous material Oregon DOT transportation requirements. Recycling of other associated materials derived from the dismantling of monitors and televisions is highly encouraged but not required. Any material not going for recycling is subject to management as a potential hazardous waste.
7. To be eligible for the exclusion, the recycling facility must be recycling CRT equipment. Speculative accumulation² is not allowed.
8. CRTs exported outside the United States must have documentation that the receiving facility will legitimately recycle CRT-containing equipment. Documentation may include contracts and a tracking system that accounts for the distribution and arrangements for the recycling of the materials.

Management of Broken CRTs Sent for Recycling

In addition to the above provisions, broken CRTs sent for recycling may be managed under this conditional exclusion following the above measures with the additional conditions:

1. Broken CRTs are stored or accumulated in suitable containers to prevent releases of hazardous constituents into the environment from the broken CRTs, and
2. Containers holding broken CRTs must be labeled with the words "Broken CRTs for Recycling"

² For the purposes of this policy, persons are not speculatively accumulating if they can: 1) Show that the material can potentially be recycled and have the means and equipment available to recycle the material; and 2) During the calendar year demonstrate that at least 75% of the material collected during that year is recycled.

For More Information:

For further information contact Rick Volpel of DEQ's Hazardous Waste Program in Portland at (503) 229-6753 or e-mail: volpel.rick@deq.state.or.us