DOE F 1325.8
(8-89)

United States Government **Department of Energy**

memorandum

DATE: June 18, 2002

REPLY TO ATTN OF: Office of Environmental Policy and Guidance (EH-413):Sikri:6-1879

SUBJECT: EPA Notice of Proposed Rulemaking Concerning the Management of Cathode Ray Tubes and Mercury-Containing Equipment

TO: Distribution

Purpose of this Memo

To notify DOE elements that the U.S. Environmental Protection Agency (EPA) published a Notice of Proposed Rulemaking (NPRM) on June 12, 2002 (67 FR 40507-40528) that proposes to exclude used cathode ray tubes (CRTs) and glass removed from the CRTs sent for recycling, from the Resource Conservation and Recovery Act (RCRA) definition of solid waste. Also, the NPRM proposes to add used mercury-containing equipment to the Federal list of universal wastes. The intent of this regulatory initiative is to streamline the hazardous waste management requirements applicable to these wastes.

To request that DOE elements review and provide comments in response to this NPRM.

Contents of the NPRM

CRTs: The management requirements proposed by this NPRM primarily focus on used CRTs destined for disposal and processed glass from CRTs. The proposed requirements distinguish between intact and broken CRTs. The NPRM proposes to:

- Exclude intact CRTs from the definition of solid waste unless they are disposed. Therefore, they would not be subject to Subtitle C regulation and could be held indefinitely without becoming solid wastes.
- Amend 40 CFR 261, to add a new section 40 CFR 261.39(a), which would exclude used, broken CRTs from the definition of solid waste, if they meet specified conditions.
- Exclude used CRTs undergoing glass processing from the definition of solid waste, as long as the processing meets certain conditions.
- Exclude processed glass from used CRTs from the definition of solid waste if it is sent for recycling to a CRT glass manufacturer or to a lead smelter, as long as the processed glass is not speculatively accumulated, and as long as it is not used in a manner constituting disposal. Also, exclude processed glass from used CRTs sent for recycling at a facility other than a glass manufacturer or a lead smelter if additional conditions are met.

Mercury-Containing Equipment: The management requirements proposed for mercury-containing equipment are generally the same as the existing universal waste management requirements for mercury-containing thermostats (i.e., under 40 CFR 273). The proposal defines *mercury-containing equipment* as a device or part of device (excluding batteries, thermostats, and lamps) that contains elemental mercury necessary for its operation.

Availability of NPRM

A pdf file of the subject NPRM is attached for your convenience.

Action Item

DOE elements are requested to provide their comments (and available supporting data) to the Office of Environmental Policy and Guidance (EH-41) **on or before Thursday, July 25, 2002**. In providing your input, please refer to the specific sections of the NPRM to which each comment pertains.

Input may be submitted (with a signed, hard copy to follow) to:

E-Mail: *atam.sikri@eh.doe.gov*
FAX: (202) 586-3915

Contact

Questions regarding the NPRM or this request for comments, may be directed to Al Sikri or Don Lentzen of my staff at (202) 586-1879 or (202) 586-7428, respectively.

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for

Andy Lawrence
Director
Office of Environmental Policy and Guidance

Attachment

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cc: **Other Organizations**

Hazardous Waste Remedial Action Program, (HAZWRAP)
Remedial Action Program Information Center
Center for Environmental Management Information

Federal Register

Wednesday,
June 12, 2002

Part IV

Environmental Protection Agency

40 CFR Part 260 et al.

Hazardous Waste Management System; Modification of the Hazardous Waste Program; Cathode Ray Tubes and Mercury-Containing Equipment; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 260, 261, 264, 268, 270, and 273

[FRL–7217–7]

RIN 2050–AE52

Hazardous Waste Management System; Modification of the Hazardous Waste Program; Cathode Ray Tubes and Mercury-Containing Equipment

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: Many used cathode ray tubes (CRTs) and items of mercury-containing equipment are currently classified as characteristic hazardous wastes under the Resource Conservation and Recovery Act (RCRA). They are therefore subject to the hazardous waste regulations of RCRA Subtitle C unless they come from a household or a conditionally exempt small quantity generator. Today, the Environmental Protection Agency (EPA) proposes and seeks comment on an exclusion from the definition of solid waste which would streamline RCRA management requirements for used cathode ray tubes (CRTs) and glass removed from CRTs sent for recycling. In today's notice, the Agency also clarifies the status of used CRTs sent for reuse. In addition, EPA proposes and seeks comment on streamlining management requirements for used mercury-containing equipment by adding it to the federal list of universal wastes.

DATES: To make sure EPA considers your comments or suggested revisions to this proposal, they must be postmarked on or before August 12, 2002.

ADDRESSES: Commenters must send an original and two copies of their comments referencing docket number F–2002–CRTP–FFFFF to: RCRA Docket Information Center, Office of Solid Waste (5305G), U.S. Environmental Protection Agency Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460. Hand deliveries of comments should be made to the Arlington, VA address listed in the **SUPPLEMENTARY INFORMATION** section below. Comments may also be submitted electronically to *rcra-docket@epamail.epa.gov.* See the beginning of the **SUPPLEMENTARY INFORMATION** section for instructions on electronic submissions.

Public comments and supporting materials are available for viewing in the RCRA Docket and Information Center (RIC) located at Crystal Gateway 1, First Floor, 1235 Jefferson Davis Highway, Arlington, VA. The docket is open from 9 a.m. to 4 p.m., Monday through Friday, excluding federal holidays. To review docket materials, it is recommended that the public make an appointment by calling (703) 603–9230. The public may copy a maximum of 100 pages from the regulatory docket at no charge. Additional copies cost $0.15/page. The index is available electronically. See the **SUPPLEMENTARY INFORMATION** section for information on accessing it.

FOR FURTHER INFORMATION CONTACT: For general information, contact the RCRA/Superfund/EPCRA/UST Call Center at (800) 424–9346 (toll free) or TDD (800) 553–7672 (hearing impaired). In the Washington, DC metropolitan area, call (703) 412–9810 or TDD (703) 412–3323. For more detailed information on specific aspects of this rulemaking, contact Ms. Marilyn Goode, Office of Solid Waste (5304W), U.S. Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue NW, Washington, DC 20460, (703) 308–8800, electronic mail: *goode.marilyn@epa.gov.*

SUPPLEMENTARY INFORMATION:

Electronic Comment Submission

You may submit comments electronically through the Internet to: rcra-docket@epa.gov. You should identify comments in electronic format with the docket number F–2002–CRTP–FFFFF. All electronic comments must be submitted as an ASCII (text) file avoiding the use of special characters and any form of encryption. If possible, EPA's Office of Solid Waste (OSW) would also like to receive an additional copy of the comments on disk in WordPerfect 6.1 file format. Commenters should not submit electronically any confidential business information (CBI). An original and two copies of CBI must be submitted under separate cover to: RCRA CBI Document Control Officer, Office of Solid Waste (5305W), U.S. EPA, 1200 Pennsylvania Avenue NW, Washington, DC 20460. If possible, please provide two non-CBI summaries of any CBI information. Some of the supporting documents in the docket also are available in electronic format on the Internet at URL: *http://www.epa.gov/epaoswer/hazwaste/recycle/electron/crt.htm.*

EPA will keep the official record for this action in paper form. Accordingly, we will transfer all comments received electronically into paper form and place them in the official record, which also will include all comments submitted directly in writing. The official administrative file is the paper file maintained at the RCRA Docket, the address of which is in **ADDRESSES** at the beginning of this document.

EPA's responses to public comments, whether the comments are received in written or electronic format, will be published in the **Federal Register** or in a response to comments document placed in the public docket. We will not reply immediately to commenters electronically other than to seek clarification of electronic comments that may be garbled in transmission or during conversion to paper form, as discussed above.

You may view public comments and the supporting materials for the issues and memoranda discussed below in the RCRA Information Center (RIC) located at Crystal Gateway 1, First Floor, 1235 Jefferson Davis Highway, Arlington, VA. The RIC is open from 9 a.m. to 4 p.m., Monday through Friday, excluding federal holidays. To review file materials, we recommend that you make an appointment by calling (703) 603–9230. You may copy a maximum of 100 pages from any file maintained at the RCRA Docket at no charge. Additional copies cost $0.15 per page.

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I. Legal Authority

These regulations are proposed under the authority of sections 2002(a), 3001, 3002, 3004, and 3006 of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), and as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), 42 U.S.C. 6912(a), 6921, 6922, 6924, and 6926.

II. List of Abbreviations and Acronyms

CES Computers and Electronics Subcommittee
CFR Code of Federal Regulations
CRT Cathode Ray Tube
CSI Common Sense Initiative
DOT Department of Transportation
FPD Flat Panel Display
HDTV High Definition Television
LCD Liquid Crystal Display
LDR
LQHUW Large Quantity Handler of Universal Waste
OECD Organization for Economic Cooperation and Development
OSHA Occupational Safety and Health Administration
RCRA Resource Conservation and Recovery Act
SQHUW Small Quantity Handler of Universal Waste
TC Toxicity Characteristic
TCLP Toxicity Characteristic Leaching Procedure
TSDF Treatment, Storage and Disposal Facility
TV Television
USWAG Utility Solid Waste Activities Group
UWR Universal Waste Rule
WTE Waste-to-Energy

III. Cathode Ray Tubes

A. What Is The Purpose of EPA's Proposal?

Technological advances in information management and communication have improved the quality of people's lives in countless ways. However, our growing use of electronic products at home and in the workplace has given us a new environmental challenge: Electronics waste. Today's proposed rule is an important step towards meeting the challenge of managing electronics waste in a way that is environmentally sound while at the same time encouraging the reuse and recycling of these materials.

EPA estimates that about 57 million televisions and computers are sold annually to households and businesses in the United States. These purchasers often do not discard older models when buying newer versions of the same products. Consumers (both business and household) frequently store their retired products. Experts agree that the average household may have between two and three units in storage. The numbers of units (mainly computers) stored by businesses are of course much greater. In total, approximately 20 to 24 million computers and televisions are added to storage each year. Over the next decade, storage is expected to increase at a faster rate because of advances in digital technology for televisions. Just as advances in computer speed and software have made older computers uneconomical to repair, newer digital broadcast standards are likely to reduce the repair and resale value of older televisions.

Recycling glass from computers and televisions is still largely a new industry. However, the number of units available for reuse or recycling is growing rapidly, and state and industry initiatives to promote recycling are increasing. EPA is eager to see this industry grow, in part because reusing and recycling these materials saves valuable natural resources and avoids their disposal in landfills and incinerators. The Agency must, of course, assure that materials under RCRA jurisdiction are managed in a way that protects human health and the environment.

Today, the Agency seeks comment on streamlining management requirements for used CRTs and processed CRT glass by proposing a conditional exclusion from the definition of solid waste for these materials when they are recycled (see proposed 40 CFR 261.4(a)(23) and 261.4(b)(39)). The purpose of these proposed simplified requirements is to encourage greater reuse, recycling, and better management of this growing wastestream, while maintaining necessary environmental protection. We are also soliciting comment on certain conditions intended to ensure that the materials are handled as commodities rather than wastes.

B. What Are Cathode Ray Tubes?

Cathode ray tubes (CRTs) are vacuum tubes, made primarily of glass, which constitute the video display components of televisions and computer monitors. CRT sizes are typically measured from one corner; the diagonal of a CRT display generally ranges from 1 to 38 inches. Other types of CRTs include medical, automotive, oscilloscope, and appliance CRTs, which are typically 12 inches diagonal or smaller, while military and aircraft control tower CRTs may be much larger.

CRTs are built of a specialized glass that often contains lead. They consist of four major parts: A glass panel (faceplate); a shadow mask; a glass funnel; and a glass neck which houses the electron gun. The glass panel is the front of the CRT that the viewer sees when looking at a TV or computer screen. The shadow mask is a thin metal sheet with holes that is located immediately behind the glass panel. Attached to the back of the glass panel is the glass funnel. The panel and funnel are joined with the shadow mask and sealed together with a low-temperature glass frit, consisting of solder glass containing organic binders. The back end of the CRT is the glass neck that holds the electron gun. This gun produces the electrons that strike the glass panel, resulting in viewable images on the display surface. A CRT is assembled into a monitor, a unit that includes several other parts, including a plastic cabinet, electromagnetic shields, circuit boards, connectors, and cabling.

C. Why Are Cathode Ray Tubes an Environmental Concern?

Under Subtitle C of RCRA, a solid waste is a hazardous waste if it exhibits one or more of the characteristics of ignitability, corrosivity, reactivity, or toxicity in 40 CFR part 261, subpart C, or if it is a listed hazardous waste in part 261, subpart D. The RCRA regulations set forth requirements for hazardous waste generators, transporters, and owners and operators of treatment, storage, and disposal facilities (TSDFs). EPA regulations also contain exclusions for certain wastes from the definition of solid waste or hazardous waste (40 CFR 261.4)(a) and (b)). In addition, EPA has developed streamlined rules for particular wastes, including recyclable wastes (40 CFR part 266) and universal wastes such as batteries, pesticides, thermostats, and lamps that are widely generated by different industries (40 CFR part 273).

Manufacturers generally use significant quantities of lead to make color cathode ray tubes. Televisions and color computer monitors contain an average of four pounds of lead (the exact amount depends on size and make). Lead is present in the panel glass, funnel, neck, and glass frit of color CRTs, with the highest concentrations usually found in the frit and funnel glass. The amount of lead used in some manufacturing processes of CRTs appears to be decreasing. However, according to a study of CRTs published by the University of Florida, the average concentration of lead in leachate from

colored CRT glass generated through EPA's toxicity characteristic leaching procedure (TCLP) was 22.2 milligrams per liter (mg/l). This level is considerably above the toxicity characteristic regulatory level of 5 milligrams per liter that is used to classify lead-containing wastes as hazardous (40 CFR 261.24(b)). For monochrome CRTs, the average lead leachate concentration was 0.03 mg/l. These data appear to indicate that black and white monitors do not generally fail the TC. The faceplate also does not usually fail the TC.

Other hazardous constituents sometimes present in CRT glass are mercury, cadmium, and arsenic. However, these constituents are found in very low concentrations that are unlikely to exceed the TC concentration limits (*see Characterization of Lead Leachability from Cathode Ray Tubes Using the Toxicity Characteristic Leaching Procedure,* T.G. Townsend *et al.,* University of Florida, 1999). Flat panel displays (FPDs) have emerged on the electronics market as a replacement for CRTs in certain applications, primarily because FPDs are lighter, smaller, and more portable, and they consume less energy during operation. FPDs generally contain no lead, but may contain encapsulated mercury in small amounts.

D. How Are Used Cathode Ray Tubes Currently Managed?

1. Reuse

Many used computers are resold or donated so that they can be used again, either as is or after minor repairs. Although the Agency has no legal jurisdiction over reused computers, we encourage this option as a responsible way to manage these materials, because preventing or delaying the generation of waste often conserves resources. This option extends the lives of valuable products and keeps them out of the waste management system for a longer time. Reuse also allows schools, non-profit organizations, and individual families to use equipment that they otherwise could not afford. Many markets for reuse of computers are located abroad, particularly in countries where few may be able to purchase state-of-the-art new equipment.

Organizations which handle used computers vary from area to area. In some cases, nonprofit organizations such as charities and school districts take donations of used computer equipment. These organizations may test the equipment, and, if necessary, rewire it and replace various parts, including the electron gun, before sending them for reuse. In other cases, the entities that collect the CRTs send them to another organization with more expertise for evaluation and possible repair and reuse. CRTs that cannot be used after such minor repairs may be sent to recycling or disposal. CRTs from televisions are more likely to be repaired by appliance dealers or small repair shops before reuse.

2. Recycling

a. Collection of used CRTs. If reuse or repair is not a practical option, CRTs can be sent for recycling, which typically consists of disassembly for the purpose of recovering valuable materials from the CRTs, especially glass. A growing number of municipalities are offering to collect computers and electronics for recycling. In addition, public and private organizations have emerged that accept CRTs for the same purpose. Examples of such organizations include county recycling drop-off centers, television repair shops, charities, electronics recycling companies, and electronics manufacturers and retailers.

An increasing number of electronics manufacturers are offering to take back computer CRTs for recycling. In some cases, these services are provided free. In other cases, a fee is charged, usually for shipping and handling. Take-back programs have been available for some time to major corporations and large purchasers of electronic equipment. Now, electronics manufacturers are beginning to offer similar services for computer CRTs to small businesses and households.

b. Recycling of unused CRTs and unused CRT glass. Makers of glass for CRTs recycle some of the glass they produce because it does not meet product specifications. EPA estimates that about one or two percent of glass production results in unused, off-specification products. This glass is generally recycled into new CRT glass. The glass may be recycled on-site at a CRT glass manufacturing facility, or it may be sent to a glass processor. Computers and television manufacturers also find that a small percentage of assembled monitors are ''off-specification''. They may send these unused devices to a glass processor.

c. Glass processing and other materials recovery. CRT glass processors that accept used CRTs generally receive them from three sources: the glass manufacturers described above (who supply most of the glass), manufacturers of monitor units who decide not to sell off-specification monitors, and businesses who provide used computers or televisions, which at present are a much smaller source.

The used CRTs are typically stored in a warehouse. When the processing begins, the CRT display unit is dismantled, and the bare CRT is separated from all other parts (usually glass, plastic, or metal). Next, the vacuum is released by drilling through the anode, a small metal button in the funnel. The different glass portions of the CRT (faceplate, funnel, and neck) are then separated and classified according to chemical composition, especially by the amount of lead contained. The same sorting takes place for broken glass received from CRT glass manufacturers, which is separated into leaded and non-leaded glass. All glass is then cleaned and the coatings removed. The sorted and cleaned cullet (*i.e.,* processed glass) is then typically stored in enclosed areas before it is shipped off-site to a CRT glass manufacturer (or sometimes to a smelter or to manufacturers of other kinds of glass). When a CRT glass manufacturing facility receives a shipment of processed CRT glass, it removes the anode button and further crushes the glass, which then enters a furnace to be heated and made into new CRT glass.

Sometimes the processed glass is sent to a lead smelter where it is recycled to reclaim the lead and to provide silica, which acts as a fluxing agent in the smelter. These uses often occur if the glass does not meet the specifications for CRT glass. The cleaning process described above also generates glass fines that are collected and sold to lead smelters to be used as a fluxing agent. In addition, processed CRT glass may be sent to copper smelters, also for use as a flux. Sometimes other types of production facilities use processed CRT glass to make objects such as radiation shielding, acoustical barriers, optical glass beads, or decorative glass and tile products. The market for these recycled glass items is currently limited, but may grow in the future.

3. Disposal

Many consumers do not wish to discard monitors and TVs if they can be recycled. Many or most CRTs therefore remain in storage. Of the CRTs that are disposed of by households, most go to municipal landfills, and others to municipal waste-to-energy (WTE) facilities. Only a small percentage are recycled (*see Life Cycle Assessment of the Disposal of Household Electronics,* D. McKenna *et al.,* August 1996, which indicated that only one percent of CRTs from households were recycled). Some CRTs from non-household sources are also placed in municipal landfills. Some

states (such as Massachusetts and California) have banned CRTs from all sources from landfills.

E. How Do EPA's Current Regulations Apply to CRTs and Other Electronic Materials?

As described above, CRT glass often exhibits the toxicity characteristic (TC) for lead because this constituent is used to make most CRT glass. Whether a person or facility is currently subject to the RCRA hazardous waste regulations depends on several factors, including whether the CRT will be recycled or disposed and the type of user. Following is a brief description of how different entities are currently regulated.

1. Who Is Regulated And Who Is Not?

a. Households. Households that dispose of CRTs are exempt from hazardous waste management requirements under 40 CFR 261.4(b)(1). They may therefore send their used computer and television monitors to any facility or collector for recycling or disposal without being subject to regulation. Other facilities managing household hazardous waste (such as collectors, recyclers, or disposers) continue to be exempt from hazardous waste requirements unless the household waste is mixed with other regulated hazardous waste.

b. Non-residential generators. Non-residential generators of less than 100 kilograms (about 220 lbs) of hazardous waste (including CRTs) in a calendar month are known as conditionally exempt small quantity generators (CESQGs) and are not subject to most RCRA Subtitle C hazardous waste management standards. The Agency notes that about 7 or 8 CRTs would be sufficient to weigh 220 lbs (assuming that each monitor weighed 30 lbs). These CESQGs may choose to send their wastes to a municipal solid waste landfill or other facility approved by the state for the management of industrial or municipal non-hazardous wastes, including recycling facilities (40 CFR 261.5). Generators of more than 100 kilograms (about 220 lbs) and less than 1,000 kilograms (about 2,200 lbs) of hazardous waste (including CRTs) in a calendar month are subject to the RCRA hazardous waste management standards, but are allowed to comply with certain reduced regulatory requirements (40 CFR 262.34). Generators of more than 1,000 kilograms (about 2,200 lbs) of hazardous waste in a calendar month are considered large quantity generators and are subject to all the applicable hazardous waste regulations for generators (40 CFR 262.34). CRTs that are not considered wastes should not be counted in determining whether a generator is a CESQG, SQG, or LQG.

2. When Do CRTs Become Wastes?

To determine whether a non-residential facility with used CRTs must comply with the RCRA hazardous waste regulations, the user must first determine if its used CRTs are solid wastes. Following is a brief description of how solid waste determinations for CRTs are made under federal law.

a. Reuse and repair of used CRTs. EPA has consistently taken the view that materials used and taken out of service by one person are not wastes if a second person puts them to the same type of use without first ''reclaiming'' them (*see* 50 FR 624, January 5, 1985). Many CRTs are taken out of service by both businesses and households not because they can no longer be used, but because users are upgrading their systems to take advantage of the rapid advances that have resulted in better and faster electronics. Businesses and organizations upgrading their computers often replace the entire computer system, including the monitors. A working CRT-containing unit considered obsolete by one user is therefore likely to be capable of reuse as a computer monitor or a television monitor by another user.

Many businesses and organizations that take CRTs out of service do not have the specialized knowledge needed to determine whether the unit can be reused as a computer or television display unit. Moreover, those entities often do not decide whether a particular CRT will, in fact, be reused. Many businesses and other organizations send used computers and televisions to resellers. Resellers often test CRTs or otherwise decide if the CRTs can be reused directly, if they can be reused after minor repairs, or if they must be sent for further processing or disposal. Because the typical original user usually lacks the specialized knowledge needed to decide the future of a CRT, EPA is today clarifying that we do not consider a user sending a CRT to a reseller for potential reuse to be a RCRA generator.

Furthermore, EPA today clarifies that used CRTs undergoing repairs before resale or distribution are not being ''reclaimed,'' and are considered to be products ''in use'' rather than solid wastes. Resellers of used CRTs generally test and identify equipment that can be resold or is economically repairable. Sometimes the equipment is collected and redistributed for reuse with no repairs. If repairs are necessary, they typically consist of rewiring, replacing defective parts, or replacing the electron gun. Under these circumstances, the CRT would still be considered a commercial product rather than a solid waste. EPA believes that these repairs and replacement activities do not constitute waste management.

b. Unused CRTs sent for recycling. Sometimes manufacturers of computers and televisions send unused CRTs (usually off-specification CRTs) directly to glass processors who break the CRTs and separate out the glass components. Generally, the processor then sends the processed glass to a glass-to-glass recycler or to another recycling facility, such as a lead smelter. Although EPA could consider these activities to constitute reclamation, the Agency does not regulate the reclamation of either listed or characteristic unused commercial chemical products (*see* 50 FR 14219, April 11, 1985). EPA considers unused CRTs to be unused commercial chemical products. Therefore, these materials are not solid wastes when sent for reclamation.

c. Used CRTs sent for recycling. Under the current RCRA regulations, used CRTs sent directly to glass processors or other recyclers could under some circumstances be considered spent materials undergoing reclamation, and could therefore be solid wastes. However, as explained elsewhere in this notice, EPA believes that under some circumstances used CRTs sent for recycling do not resemble spent materials. Therefore, users and resellers sending used CRTs to recyclers should check with their authorized States to see which Subtitle C requirements, if any, are applicable to their activities. EPA encourages States to take approaches consistent with today's proposal. The Agency is today proposing an exclusion from the definition of solid waste for used CRTs being recycled if they are managed under certain conditions. This proposal is discussed later in this notice.

d. Disposal. If a non-household entity decides to send used or unused CRTs directly to a landfill or an incinerator for disposal, that entity would be considered the generator of a solid waste. The person making the decision must determine if the CRTs exhibit a hazardous waste characteristic under 40 CFR part 261, subpart C. He may either test the CRTs or use process knowledge to make this determination. As stated above, many or most CRTs from color computer or television monitors exhibit the toxicity characteristic for lead. Although EPA's data indicate that most CRTs from black and white monitors do not fail the TC, those that do are subject to all applicable hazardous waste management requirements. When a

decision is made to dispose of hazardous waste CRTs, the non-residential user, reseller, or manufacturer must comply with all applicable hazardous waste generator requirements of 40 CFR part 262, including packaging and labeling, 90-day accumulation requirements, use of the hazardous waste manifest, and recordkeeping and reporting (unless the generator is a CESQG).

Some companies ship their waste CRTs to hazardous waste landfills for disposal. Used CRTs generated by a non-residential facility that fail the TC for lead must meet applicable land disposal restrictions (LDRs) before being placed in a land-based unit, such as a landfill. These restrictions do not apply to CRTs generated by households or CESQGs. To meet LDRs, the CRT glass must be treated so that the TCLP lead concentration does not exceed 0.75 mg per liter. This concentration level is generally achieved by crushing and stabilizing the glass through the addition of chemicals which reduce the solubility of lead when contacted by leachate.

3. When Do Non-CRT Electronic Materials Become Wastes?

In 1992, the Agency issued a memorandum to its EPA Regional Waste Management Directors stating that used whole circuit boards are considered to be scrap metal when sent for reclamation, and therefore exempt from regulation under RCRA. The Agency has also addressed printed circuit boards in the Land Disposal Restrictions Phase IV rulemaking (*see* 62 FR 25998, May 12, 1997). In that rulemaking, the Agency provided an exclusion from the definition of solid waste at 40 CFR 261.4(a)(14) for shredded circuit boards being reclaimed, provided they are stored in containers sufficient to prevent a release to the environment prior to recovery and provided they are free of mercury switches, mercury relays, nickel-cadmium batteries and lithium batteries. Subsequently, on May 26, 1998 (63 FR 28556), the Agency clarified that the scrap metal exemption applies to whole used circuit boards that contain minor battery or mercury switch components and that are sent for continued use, reuse, or recovery. In that notice, EPA stated that it was not the Agency's intent to regulate under RCRA circuit boards containing minimal quantities of mercury and batteries that are protectively packaged to minimize dispersion of metal constituents. Once these materials are removed from the boards, they become a newly generated waste subject to a hazardous waste determination. If they meet the criteria to be classified as a hazardous waste, they must be handled as hazardous waste; otherwise they must be managed as a solid waste.

The Agency is studying certain non-CRT electronic materials to determine whether they consistently exhibit a characteristic of hazardous waste. However, we are not currently aware of any non-CRT computer components or electronic products that would generally be hazardous wastes. With respect to these materials, the Agency would use the same line of reasoning that is outlined above for CRTs to determine if the materials are solid wastes. That is, if an original user sends electronic materials to a reseller because he lacks the specialized knowledge needed to determine whether the units can be reused as products, the original user is not a RCRA generator. The materials would not be considered solid wastes until a decision was made to recycle them in other ways or dispose of them.

F. What Are The Common Sense Initiative (CSI) Recommendations?

From 1994 through 1998, EPA's Common Sense Initiative (CSI) explored the environmental regulation of six industry sectors and looked for ways to make environmental regulation ''cleaner, cheaper, and smarter.'' EPA established CSI as an advisory committee (the ''CSI Council'') under the Federal Advisory Committee Act. The CSI Council included representatives from each industry sector, from non-governmental environmental and community organizations, from state governments, and from colleges and universities. EPA also established subcommittees of the Council for each industry sector. The subcommittees included representatives of the various stakeholders represented in the CSI Council. One of the industry sectors selected for this initiative was the computer and electronics industry. The CSI Computers and Electronics Subcommittee (CES) then formed a workgroup to examine regulatory barriers to pollution prevention and recycling. The workgroup (known as the ''Overcoming Barriers Workgroup'') explored the problems of managing mounting volumes of outdated computer and electronics equipment.

One of the concerns investigated by the Overcoming Barriers Workgroup and the CES was the barrier to CRT recycling created by some existing hazardous waste management regulations. The CES urged that removing such barriers was essential to fostering CRT recycling, especially glass-to-glass recycling. The Subcommittee believed that CRT recycling would provide the following benefits: (1) Less lead sent to landfills and combustors; (2) added resource value of specialty glass and lead; (3) lower waste management costs; (4) less regulatory uncertainty about CRT recovery and recycling; (5) less use of raw lead in CRT glass manufacturing; (6) better melting characteristics, improved heat transfer, and lower energy consumption in CRT glass manufacturing furnaces; (7) improved CRT glass quality; and (8) lower emissions of lead from CRT glass manufacturing. The CES Subcommittee indicated that some recycling methods or end products (other than those associated with glass-to-glass recycling) may pose risks to human health and the environment and would require further investigation.

As a result of the finding of the CES Subcommittee, the CSI Council issued a document titled *Recommendation on Cathode Ray Tube (CRT) Glass-to-Glass Recycling.* In this document, the Council recommended streamlined regulatory requirements for CRTs that would encourage recycling and better management. The recommendations included streamlined requirements for packaging, labeling, transportation; general performance standards for glass processors; and export provisions. The CSI Council also recommended an exclusion from the definition of solid waste for processed glass that is used to make new CRT glass. In today's document, EPA proposes an exclusion from the definition of solid waste which would streamline management requirements for used CRTs. Although the requirements proposed today are more streamlined that those recommended by the CSI Council, we believe that they will be just as effective in fostering the goals of the Council. The Agency is also soliciting comment on several alternative management requirements.

G. Proposed Requirements for Used CRTs Undergoing Recycling

1. What Will Not Be Affected by Today's Proposed Rule?

All materials discussed above that are not currently regulated under RCRA will remain unaffected by today's proposal. Used CRTs from households and CESQGs will retain their current regulatory exemptions. Used CRTs from any source that are sent for reuse as is or after minor repairs are not wastes. Proposed § 261.4(a)(23) will provide better notice of this interpretation of our current regulations. Unused CRTs sent for recycling will still be classified as commercial chemical products which are not solid wastes even if they are

reclaimed or speculatively accumulated. Finally, both used and unused CRTs sent for disposal will also remain regulated as before.

2. What Is Covered by Today's Proposed Rule and What Are the Proposed Management Requirements?

Today's proposal principally addresses used CRTs destined for recycling and processed glass from CRTs. The regulations we are proposing distinguish between intact CRTs and CRTs that are broken. An intact CRT is a CRT remaining within the monitor whose vacuum has not been released. A broken CRT means glass removed from the monitor after the vacuum has been released. EPA notes that these proposed definitions would also cover non-consumer CRTs such as medical, automotive, oscilloscope, and appliance CRTs.

a. Used, Intact CRTs Destined for Recycling. Today's proposal would exclude intact CRTs from the definition of solid waste unless they are disposed. Consequently, these units would not be subject to Subtitle C regulation, including the speculative accumulation limits of 40 CFR 261.2(c)(4). They could therefore be held indefinitely without becoming solid wastes.

Intact CRTs are highly unlikely to release lead to the environment because the lead is contained in the plastic housing and the glass matrix. Because of this low likelihood of release, EPA is today proposing reduced requirements for broken CRTs which are based on findings that these materials merit exclusion from the definition of solid waste. For the sake of regulatory simplicity, the Agency is proposing to codify all of the reduced requirements for CRTs in one section of the Code of Federal Regulations, under the list of exclusions from the definition of solid waste.

As noted above, unused CRTs are currently considered commercial chemical products which are excluded from the definition of solid waste when recycled, even if they are reclaimed or speculatively accumulated. We believe that it would be very difficult to distinguish between used and unused intact CRTs destined for recycling. Moreover, there appears to be no environmental basis for such a distinction. Therefore, EPA is proposing to grant relief from Subtitle C requirements for all intact CRTs unless they are disposed, whether used or unused.

b. Used, Broken CRTs Destined for Recycling. Some users and collectors of CRTs separate the CRT from the monitor and release the vacuum, after which they send the resulting broken glass to a recycler (often a glass processor). This practice saves shipping costs and enables the glass processor to pay more for the broken CRTs received. At other times, the CRTs are first broken by the processor or other recycler. CRTs whose glass has been broken by releasing the vacuum are non-reusable and non-repairable; they are therefore solid wastes at the time such breakage occurs.

EPA is proposing today to amend 40 CFR part 261 to add a new § 261.39(a), which will provide that used, broken CRTs are excluded from the definition of solid waste if they meet specified conditions. Under today's proposal, used, broken CRTs sent for recycling would not be solid wastes if they are stored in a building with a roof, floor, and walls. If they are not stored in a building, they must be stored in a container (*i.e.,* a package or a vehicle) that is constructed, filled, and closed to minimize identifiable releases of CRT glass (including fine solid materials) to the environment. The packages must also be labeled or marked clearly. When transported, the broken CRTs must also be in a container meeting the conditions described above. Used, broken CRTs destined for recycling would also not be allowed to be speculatively accumulated as defined in 40 CFR 261.1.

The Agency believes that if these materials are properly containerized and labeled when stored or shipped prior to recycling, they resemble articles in commerce or commodities more than wastes. Breakage is a first step toward recycling the leaded glass components of the CRT. Also, materials held in conditions that safeguard against loss are more likely to be regarded as valuable commodities destined for legitimate recycling. In addition, the proposed packaging requirements would ensure that the possibility of releases to the environment from the broken CRTs is very low. For these reasons, an exclusion from the definition of solid waste is appropriate if the broken CRTs are handled under the conditions proposed today.

Today's proposal would require used, broken CRTs that are imported for recycling to comply with the packaging and labeling requirements specified above when they enter the borders of the United States in order to be eligible for the exclusion. Similarly, they could not be speculatively accumulated after arriving in the country. However, they would not be subject to any of the hazardous waste import requirements of 40 CFR part 262, subparts F and H.

Used, broken CRTs that are exported would not be solid wastes if they were packaged and labeled as described above, and if they were not speculatively accumulated. Exports of broken CRTs meeting these conditions would therefore not be subject to the hazardous waste export requirements of 40 CFR part 262, subparts E and H, including the hazardous waste notification requirements.

c. Used, broken CRTs Undergoing Glass Processing. The Agency also proposes today an exclusion from the definition of solid waste for used CRTs undergoing glass processing, as long as the processing meets certain conditions. CRT glass processing is defined in proposed 40 CFR 260.10 as receiving intact or broken used CRTs, intentionally breaking them, sorting or otherwise managing glass removed from CRT monitors, and cleaning coatings from the glass. As noted above, CRT users and collectors sometimes break CRTs before sending them to a processor. Therefore, breaking used CRTs would not by itself subject a facility to the CRT glass processing conditions. In order to be classified as a used CRT glass processor, the facility must perform all of the activities listed above.

The provisions of today's proposed 40 CFR 261.39(b) state that used, broken CRTs undergoing glass processing would not be considered solid wastes if they are stored in a building with a roof, floor, and walls. If they are not stored inside a building, they must be packaged and labeled under conditions identical to those proposed above for used, broken CRTs prior to processing. In addition, all glass processing activities must take place within a building with a roof, floor, and walls, and no activities may be performed that use temperatures high enough to volatilize lead from used, broken CRTs. In order to be eligible for the exclusion proposed today, the used, broken CRTs could not be speculatively accumulated as defined in 40 CFR 261.1. As discussed above, EPA is today proposing an unconditional exclusion for used, intact CRTs if they are sent for recycling (including glass processing). Under today's proposal, no other conditions would apply to intact CRTs.

EPA believes that the packaging and storage conditions proposed today indicate that the materials in question are more commodity-like than waste-like. Used, broken CRTs that are not stored or packaged in accordance with these requirements would not be valuable, product-like materials. The opportunity for loss or releases of the materials would indicate that they are wastes. As specifically recommended by the CSI Council, we are also proposing

that processors be required to conduct their activities without using temperatures high enough to volatilize lead from broken CRTs. Besides increasing the risk of releases to the environment, such practices could be a sign of waste treatment rather than production.

d. Processed Glass From Used CRTs Sent for Recycling to Glass Manufacturers and Lead Smelters. In today's document, the Agency is proposing in 40 CFR 261.39(d) to exclude processed glass from used CRTs from the definition of solid waste if it is sent for recycling to a CRT glass manufacturer or to a lead smelter, as long as the processed glass is not speculatively accumulated, and as long as it is not used in a manner constituting disposal.

EPA believes that processed glass from used CRTs destined for CRT glass manufacturing or sent to a lead smelter meets the regulatory criteria in 40 CFR 260.31(c) for a variance from the definition of solid waste. This variance applies to materials that have been reclaimed but must be reclaimed further before recovery is completed, if, after initial reclamation, the resulting material is commodity-like. The following paragraphs discuss the characteristics of processed CRT glass and how they meet the criteria.

i. The degree of processing a material has undergone and the degree of further processing that is required (40 CFR 260.31(c)(1)). Processed CRT glass needs minimal further processing by CRT glass manufacturers or lead smelters. CRT glass cullet is shipped to these facilities already cleaned and sorted. CRT manufacturers and smelters perform processing steps consisting only of magnetic separation of anode buttons and studs and, if necessary, further crushing of the glass. Following these steps, the partially reclaimed CRT glass enters the furnace or smelter, similar to other feedstocks used in glass manufacturing and smelting.

ii. The economic value of the material that has been initially reclaimed (40 CFR 260.31(c)(2)). The initial processing of CRT glass satisfies this criterion. CRT glass is usually purchased by CRT glass manufacturers from processors for at least $170 per ton (approximately three-fourths of the price of virgin glass). In contrast, lead smelters are usually paid at least $150 per ton by processors for CRT glass used as fluxing material and lead feedstock. However, lead smelters only pay an average of about six dollars per ton for industrial sand used as a fluxing material. Broken glass from CRTs resembles industrial sand in composition and can therefore serve as a substitute for this sand in the fluxing process. The sand, however, is not expensive.

CRT glass manufacturers and lead smelters currently obtain processed CRT glass from processors and are working with the processors to increase the supply and quality of processed CRT glass, which may further increase value. The value of processed CRT glass depends on whether manufacturers' specifications are met, and some glass chemistries require exacting specifications that make the processed glass more valuable if it meets those specifications. CRT glass manufacturers have stricter quality standards than lead smelters about the type of material that they can accept (e.g., cleaned, sized, free of coating and debris).

Further evidence of the economic value of reclaimed CRT glass is demonstrated by the cost savings realized by CRT glass manufacturers and lead smelters when using processed CRT glass. The use of processed CRT glass cullet benefits the manufacturer in several ways, such as improving heat transfer and melting characteristics in the furnaces, lowering energy consumption, and maintaining or improving the quality of the final product.

iii. The degree to which the reclaimed material is like an analogous raw material (40 CFR 260.31(c)(3)). Under this criterion, the partially reclaimed material must be similar to an analogous raw material or feedstock for which the material may be substituted in a production or reclamation process. Processed CRT glass is similar to off-specification glass and cullet that manufacturers currently use as feedstock. Glass-making furnaces require between approximately 30 and 70 percent cullet. With respect to lead smelters, processed CRT glass is similar to industrial sand that would otherwise be used as feedstock or flux in the smelter.

iv. An end market for the partially reclaimed material is guaranteed (40 CFR 260.31(c)(4)). The Agency believes that there is a strong end market for processed CRT glass. CRT glass manufacturers and lead smelters have developed relationships with CRT glass processors to increase the amount and quality of reclaimed CRT glass cullet available for glass-to-glass recycling and lead reclamation. In addition, CRT glass manufacturers have developed programs in which off-specification CRTs may be delivered directly to CRT processors for initial processing. The processed CRT glass is delivered to CRT glass manufacturers for use as feedstock in glass-to-glass manufacturing, or to lead smelters for recycling.

v. The extent to which the partially reclaimed material is handled to minimize loss (40 CFR 260.31(c)(5)). The Agency believes that current CRT glass industry practices are effective in minimizing losses and preventing releases. Processed CRT glass generally is stored indoors on a cement or asphalt pad. In most cases, the material is shipped in large capacity trucks that are covered with a tarp to minimize loss during transport. When the CRT glass manufacturers or lead smelters receive shipments, the glass is unloaded into a temporary holding area, inspected, and either loaded onto a conveyor belt for further processing or stored under cover. Following these steps, the reclaimed CRT glass enters the furnace feedstock stream or the smelter.

e. Processed glass from Used CRTs Sent For Other Types of Recycling. Under today's proposal, processed glass from used CRTs sent for recycling at a facility other than a glass manufacturer or a lead smelter would be excluded from the definition of solid waste only if additional conditions were met. The processed glass would have to be packaged and labeled in accordance with the requirements of proposed 40 CFR 261.39(a). Also, speculative accumulation limits would apply.

As stated previously, processed glass is sometimes sent to copper smelters for recycling. It also may be sent for recycling into objects such as radiation shielding, acoustical barriers, optical glass beads, or decorative glass and tile products. The Agency believes that processed glass sent for such uses resembles a commodity more than a waste if it is packaged and labeled under these conditions. In addition, such packaging ensures that the possibility of releases to the environment is minimal.

f. Processed Glass From Used CRTs Used in a Manner Constituting Disposal. If processed glass is sent for any kind of recycling that involves land placement, it would be subject to the requirements of 40 CFR part 266, subpart C, for recyclable materials used in a manner constituting disposal. The Agency is currently unaware of processed glass being recycled in this manner.

g. Imports and Exports. Import requirements were discussed above for used, broken CRTs prior to recycling. Similar import requirements would apply to used, broken CRTs sent to the United States and held at glass processing facilities, as well as already processed glass from used, broken CRTs sent to the United States. In all cases, the material would be subject to the

conditions proposed today, rather than the import requirements of 40 CFR part 262. Similarly, as long as used CRTs (or processed glass from used CRTs) met the conditions proposed today, the export requirements of 40 CFR part 262 would not apply.

H. Solicitation of Comment on EPA's Proposed Management Requirements for Used CRTs and Processed CRT Glass

EPA believes that today's proposed exclusion from the definition of solid waste is the regulatory scheme which will best promote the CSI Council goals of improved management and increased recycling of the CRT wastestream. The requirements proposed in today's notice are more streamlined than those recommended by the CSI Council. However, we believe that these requirements, if finalized, will lead to better management and more recycling while affording full protection to human health and the environment.

The Agency is also soliciting comment today on several other recommendations of the CSI Council, on certain other regulatory alternatives for CRTs that are not proposed today, and on a proposed change to the universal waste rule. These solicitations are discussed below.

1. Universal Waste Alternative

The CSI Council envisioned that CRTs would be added to the universal waste rule, which distinguishes between small quantity handlers of universal waste (SQHUWs) and large quantity handlers of universal waste (LQHUWs). The accumulation limit for LQHUWs recommended by the CSI Council was 36,287 kilograms (for CRTs stored on-site for longer than seven consecutive days). Other universal waste requirements applicable to both SQHUWs and LQHUWs that are not proposed today for regulated entities include employee training requirements. The Agency also is not proposing to require that regulated entities notify the appropriate EPA Region of their CRT waste management activities, and track shipments of CRTs sent and received, which would have been required of LQHUWs under the CSI recommendations. The Agency solicits comment on whether these requirements would be appropriate or burdensome for any entities engaged in breaking or processing CRT glass, or for collectors who send used CRTs or CRT glass to glass processors.

2. Definition of ''Broken CRT''

EPA is today proposing streamlined requirements for broken CRTs sent for recycling. ''Broken CRT'' is defined as ''glass removed from the monitor after the vacuum has been released''. Data available to the Agency indicate that after the vacuum has been released and the glass removed, the CRT is generally no longer reusable as a product. However, EPA solicits comment on whether it might be possible to repair and reuse a CRT after the vacuum has been released and the glass removed from the monitor, as well as suggested alternative definitions for ''broken CRT'.

3. Alternative Approaches to Speculative Accumulation and Use Constituting Disposal (Land Placement)

EPA notes that under today's proposal, broken CRTs (but not intact CRTs) that are sent for recycling in accordance with the packaging and labeling requirements of proposed 40 CFR 261.39 would be subject to the speculative accumulation provisions of 40 CFR 261.1(c)(8). The Agency solicits comment on whether a longer accumulation time period (such as two or more years) should be provided for CRTs, in order to allow recycling markets to develop more fully for this relatively new wastestream and because there appear to be few environmental concerns with storage as long as these materials are packaged and labeled properly. EPA also solicits comment on whether intact CRTs sent for recycling should be subject to the speculative accumulation provisions, or whether they resemble commercial chemical products being reclaimed. In addition, the Agency requests comment on whether to add a condition prohibiting use constituting disposal or land placement of broken CRTs (as is proposed today for processed CRT glass). The Agency is not aware of any current uses for broken CRTs or processed CRT glass that involve use constituting disposal, and we solicit comment on the existence of any such uses and their implications.

4. Alternative Standards for Processing Used CRTs

EPA also solicits comment on the appropriateness of requiring additional performance standards for glass processors. The CSI Council recommended that glass processors install and maintain systems sufficient to minimize releases of glass and glass particulates via wind dispersal, runoff, and direct releases to soil. It also recommended that processing be performed at temperatures low enough to avoid volatilization of lead from the glass. Today's proposal contains the requirement for processing temperatures, but took a different approach than proposing the general performance standard recommended by the CSI Council. Today's proposed conditions for excluding glass being processed from the definition of solid waste are very similar to management standards cited by the CSI Council as examples of conformance to its recommended performance standards. For example, the Council stated that storing broken CRTs and CRT glass in buildings or closed containers were examples of ways to control wind dispersal, runoff, and direct releases to soil. EPA therefore believes that today's proposed requirements, in addition to being indications that the materials in question resemble commodities rather than wastes, are adequate to fulfill the concerns of the CSI Council. However, the Agency solicits comment on whether to require the general performance standards recommended by the Council.

EPA also solicits comment on whether to retain today's proposed requirement that glass processing be conducted at temperatures that are not sufficiently high to volatilize lead. We note that worker health and safety would be covered under the provisions of 29 CFR part 1910 of the Occupational Safety and Health Administration (OSHA). The Agency seeks comment on whether today's proposed temperature requirement is necessary to prevent volatilization of lead, and also on whether glass processing conducted at high temperatures is an indication of waste management.

EPA would also like to solicit comment on the CSI Council recommendation that glass processors implement a procedure for advising local communities of the nature of their activities, including the potential for resident and worker exposure to lead or chemical coatings. In general, EPA has not required public participation for hazardous waste recycling facilities, unless they obtain RCRA permits for storage of hazardous waste prior to recycling. Usually, local notice and public meetings are governed by preexisting state or local requirements concerning siting, zoning, or licensing. The Agency believes that matters of local notice and public participation are generally best decided at the state, county, or municipal level, but solicits comment on whether to require additional procedures under federal regulations in the case of CRT recycling, and the reasons why these procedures are needed.

5. Alternative Standards for Processed Glass From Used CRTs Sent for Recycling

In addition, EPA solicits comment on whether to exclude from the definition of solid waste under 40 CFR 261.4(b))(39) only processed glass recycled by being sent to CRT glassmaking, as recommended by the CSI Council. EPA notes that the recommendations of the CSI Council did not include an exclusion for processed glass sent to lead smelters, and that the Council expressed concerns about possible environmental risks associated with this practice. However, after evaluation of this question, the Agency has decided, as explained previously in this preamble, that processed glass sent to lead smelters is more like a commodity than a waste. EPA believes that such an exclusion would be desirable because recycling CRTs at lead smelters appears to be just as legitimate as glass-to-glass recycling. The proposed exclusion may also turn out to be useful if the increased use of flat screens decreases the potential for glass-to-glass recycling.

EPA is also soliciting comment today on whether to exclude from the definition of solid waste CRT glass sent to copper smelters or other glass uses without packaging and labelling requirements. The Agency is aware that processed CRT glass has been shipped for recycling to copper smelters, but we lack much information about this practice. We request comment on whether this glass is as commodity-like as that sent to glass-to-glass recycling or lead smelters. We also solicit comment on whether the exclusion should be allowed for other glass uses. These glass uses are currently being developed and include optical beads, decorative objects, radiation shielding materials, and acoustic barriers for use in the aerospace industry and in equipment manufacturing where sound control is essential. EPA believes that CRT glass being recycled into some of these products would likely be a commodity-like material which would meet the variance criteria described above. We therefore solicit additional information about these uses, or other uses of which commenters may be aware, and on whether CRT glass used for these purposes is commodity-like.

6. Exports of Used CRTs

With respect to exports, the Agency notes that the CSI Council also developed recommendations for exporting CRT glass. The recommendations include exporting provisions for CRTs, coated (*i.e,* unprocessed) CRT glass, and uncoated (processed) CRT glass. For each category, the CSI Council recommended administrative requirements, depending on whether or not the shipment is destined for an Organization for Economic Cooperation and Development (OECD) country.

Under the CSI recommendations, entities exporting CRTs and coated CRT glass would be subject to the same exporting provisions as generators of hazardous waste in Subparts E or H of Part 262 (export notice and consent procedures for non-OECD and OECD countries); such provisions would be revised to specifically identify the recipient as a collector or processor. For shipments of uncoated CRT glass to those OECD countries specified in 40 CFR 262.58(a)(1), the exporter would be required to provide an annual report to EPA summarizing the number of shipments and volume sent to each recipient (by country), and identifying the recipient CRT glass collector and processor. For shipments of uncoated CRT glass to non-OECD countries, the exporter would be required to send annual notification to EPA 90 days prior to the first shipment to each recipient, identifying the country, the recipient CRT glass collector or processor, and the expected number and volume of shipments to be sent that year.

EPA notes that today's proposal would exclude from the definition of solid waste used intact CRTs sent for recycling, along with used, broken CRTs sent for recycling if they are packaged and labeled in accordance with the conditions proposed in 40 CFR 261.39. Similarly, processed glass would be exempt from the definition of solid waste if sent to CRT glassmaking or a lead smelter. Since these materials would no longer be considered solid or hazardous wastes, the Agency would not have the legal authority to require notification under 40 CFR part 262, subparts E and H, or the authority to require additional notifications. The Agency notes that if used CRTs were added to the universal waste program, EPA would have authority to require notification at least for exported broken CRTs. EPA solicits comment on whether the need for the export notification requirements recommended by the CSI would warrant adding used CRTs to the universal waste program, and whether these requirements would be unduly burdensome.

7. Disposal of CRTs

Finally, the Agency requests comment on whether to allow CRTs sent for disposal in hazardous waste facilities (*i.e.,* landfills or incinerators) to comply with streamlined packaging and labeling requirements similar to those proposed today for broken CRTs sent for recycling, rather than comply with full Subtitle C requirements. EPA also seeks comment on whether adding used CRTs to the universal waste program, which would provide packaging and labeling requirements (as well as tracking requirements for larger quantities of CRTs) would provide better management of these wastes through improved compliance, and whether such requirements would adequately protect human health and the environment.

IV. Mercury-Containing Equipment

A. What Is ''Mercury-Containing Equipment?'

In response to the 1993 universal waste proposal (58 FR 9346, February 11, 1993), some commenters suggested adding used mercury-containing equipment (such as switches, relays, and gauges) to the universal waste rule at 40 CFR part 273. In the 1995 final rule, however, the Agency did not include these materials in the universal waste program, stating in the preamble that we lacked sufficient information to justify such a decision (60 FR 25942, 25508, May 11, 1995). In particular, EPA did not have data about which kinds of wastes should be included in the suggested category, the amount of mercury in the wastes, and which management controls would be effective. We stated that we would welcome a petition which would provide enough information to add some forms of mercury-containing equipment to the universal waste program.

On October 11, 1996, the Utility Solid Waste Activities Group (USWAG), the Edison Electric Institute, the American Public Power Association, and the National Rural Electric Cooperative Association submitted a petition to add mercury-containing equipment to the universal waste program. This petition identified many types of mercury-containing equipment, including several kinds of instruments that are used throughout the electric utility and other industries, municipalities, and households. These devices include manometers, barometers, hagenmeters, relay switches, mercury wetted switches, mercury regulators, meters, temperature gauges, pressure relief gauges, water treatment pressure gauges, sprinkler system contacts, power plant water treatment gauges, and variable force counterweight wheels used in coal conveyor systems.

B. Why Is EPA Proposing To Add Mercury-Containing Equipment To The List of Universal Wastes?

The USWAG petition contained useful information describing how such equipment would meet the regulatory criteria for adding wastes to the universal waste program set forth at 40 CFR 273.81. After examining the information contained in the petition, we have decided to propose adding spent mercury-containing equipment to the universal waste rule. Following is a description of the regulatory criteria for adding wastes to the universal waste rule, and why the Agency believes that used mercury-containing equipment meets these criteria. In particular, EPA believes that adding these wastes to the universal waste rule will facilitate collection of mercury-containing equipment, thereby reducing the amount of mercury reaching municipal landfills and incinerators. USWAG has estimated that approximately 3,000 pounds of such equipment is generated annually by electric and gas utilities and by other businesses.

1. The Waste, as Generated by a Wide Variety of Generators, Should Be a Listed or Characteristic Hazardous Waste (40 CFR 273.81(a))

The category of mercury-containing equipment consists of such devices as thermometers, manometers, barometers, relay switches, mercury regulators, meters, pressure relief gauges, water treatment pressure gauges, and sprinkler system contacts. Most mercury-containing equipment has a few grams of mercury, although devices such as large manometers may contain much more. Many of these devices would fail the TCLP toxicity level for mercury of 0.2 mg per liter, and would be classified as D009 characteristic hazardous waste. They would therefore meet the first regulatory criterion.

2. The Waste, or Category of Waste, Should Not Be Exclusive To a Particular Industry or Group of Industries, but Generated by a Wide Variety of Establishments (40 CFR 273.81(b))

Used mercury-containing equipment meets this criterion because it is discarded by many different kinds of generators. Although electric and gas utilities generate the largest number of such devices, many other businesses use instruments designed to measure or regulate pressure or temperature, such as thermometers, barometers and manometers. In addition, regulators, switches, and relays often contain mercury for use as an electric conductor. These devices are used widely in manufacturing industries, retail and commercial establishments (including the dairy industry), office complexes, hospitals, municipalities, and (in the case of certain wastes such as thermometers and mercury switches) domestic households. Sources of this wastestream are many and varied.

3. The Waste Should Be Generated by a Large Number of Generators and Generated Frequently, but in Relatively Small Quantities (40 CFR 273.81(c))

Spent mercury-containing equipment would meet this criterion even if electric utilities alone were counted. Some large electric utilities have several hundred individual generation points throughout their distribution network, including generating stations, service centers, substations, and transformer vaults. In addition, utilities perform servicing operations on meters, regulators, and other mercury-containing equipment at many customer locations; a large utility may have more than 1,000 customer sites. Most facilities, whether utilities or not, tend to generate mercury-containing wastes sporadically and in relatively small quantities because equipment failures are relatively numerous (due to the large number of generation points) and unpredictable, while not producing large quantities of waste equipment. The Utility Solid Waste Activities Group estimates that a single mid-sized electric utility generates from 2,000 to 4,000 pieces of mercury-containing equipment annually.

4. Systems To Be Used for Collecting the Waste (Including Packaging, Marking, and Labeling Practices) Should Ensure Close Stewardship of the Waste (40 CFR 273.81(d))

EPA believes that the universal waste program is a very effective way to ensure such stewardship. The Agency is today proposing to require small and large-quantity universal waste handlers of spent mercury-containing equipment to label or mark such equipment clearly, similar to the requirements for other handlers of universal wastes in 40 CFR 273.14 and 273.34.

To further encourage responsible stewardship, EPA is also proposing to require universal waste handlers of mercury-containing equipment to manage it in accordance with the universal waste management standards currently in place for used thermostats, because both kinds of devices contain mercury in ampules which are sometimes removed. Today's proposal would require handlers who remove ampules from spent mercury-containing equipment to comply with the provisions of 40 CFR 273.13 (described later in this notice).

5. The Risks Posed by the Waste During Accumulation and Transport Should Be Relatively low Compared to the Risks Posed by Other Hazardous Waste, and Specific Management Standards Would Be Protective of Human Health and the Environment During Accumulation and Transport (40 CFR 273.81(e))

The Agency believes that spent mercury-containing equipment poses risks that are relatively low compared to other hazardous wastes because they tend to be generated in relatively small amounts at any one time by each generator. In addition, the elemental mercury contained in such devices is generally fully enclosed within the equipment. The danger of spills and leaks during accumulation and transport is therefore low when the equipment is packaged correctly. In addition, USWAG has suggested, and the Agency is today proposing, that spent mercury-containing equipment be managed in accordance with the requirements of the universal waste rule at 40 CFR 273. These requirements will ensure that the devices are handled safely during accumulation and transport. Besides the provisions discussed above that are specific to accumulation, packaging, and transport of mercury-containing universal wastes, the universal waste program requires handlers to train employees in proper handling and emergency procedures and to contain all releases of universal wastes immediately. Handlers may accumulate universal wastes for no longer than one year.

The universal waste rule also contains several provisions which ensure safe transport. For example, handlers may send universal waste only to another universal waste handler, a destination facility, or a foreign destination. If the handler sends a universal waste off-site which meets the definition of hazardous materials under the Department of Transportation (DOT) regulations (49 CFR parts 171 through 180), the handler must package and label the shipment in accordance with those regulations and prepare the proper DOT shipping papers. If a handler of universal waste sends a shipment which is rejected, the handler must either take the waste back or agree with the rejecting facility to send the waste to a destination facility. If a handler receives a shipment containing hazardous waste that is not universal waste, the handler must immediately notify the appropriate EPA regional office. Finally, large quantity handlers of universal waste must keep records of each shipment of universal

waste received or sent off-site. These requirements ensure that spent mercury-containing devices will be transported safely.

6. Regulation of the Waste Under 40 CFR Part 273 Will Increase the Likelihood That the Waste Will Be Diverted From Non-Hazardous Waste Management Systems (*e.g.,* the Municipal Waste Stream, Non-Hazardous Industrial or Commercial Waste Stream, Municipal Sewer or Stormwater Systems) to Recycling, Treatment, or Disposal in Compliance With Subtitle C of RCRA (40 CFR 273.81(f))

If spent mercury-containing equipment was added to the universal waste program, thousands of sites that generate such devices would be considered handlers of universal wastes, rather than individual hazardous waste generators. Because the hazardous waste manifest would no longer be required, it would be easier to transport these wastes to central consolidation points. Collecting the wastes at such central points makes it easier to send them for recycling or for proper disposal, which makes it less likely that the wastes will be improperly disposed of in municipal landfills or incinerators. In addition, waste handlers that wish to consolidate large volumes of waste from conditionally exempt small quantity generators (CESQGs) must now obtain a RCRA permit if they accumulate more than 1000 kg of such waste on-site, pursuant to 40 CFR 261.5(g)(2). This requirement severely discourages the central collection of large amounts of CESQG waste. If spent mercury-containing equipment is included in the universal waste system, collectors of these wastes would be encouraged to gather these wastes (along with non-CESQG waste and household waste) for recycling or proper disposal. More of these materials would be kept out of the municipal wastestream if they were available for removal of elemental mercury and recycling of scrap metal.

In addition, if spent mercury-containing equipment is included in the universal waste program, handlers will be less likely to try to separate the hazardous and non-hazardous portions of this waste. Because the requirements of the universal waste rule are relatively streamlined, and because sampling of mercury-containing devices can sometimes be difficult, handlers will find it easier to manage the entire wastestream as universal waste. Therefore, waste that would otherwise go to municipal landfills or combustors would be sent for recycling or proper disposal. For these reasons, EPA believes that adding mercury-containing equipment to the universal waste program will help fulfill the criterion in 40 CFR 273.81(f).

7. Regulation of the Waste Under 40 CFR part 273 Will Improve the Implementation and Compliance With the Hazardous Waste Regulatory Program (40 CFR 273.81(g))

EPA believes that the requirements of the universal waste rule are particularly suited to the circumstances of handlers of spent mercury-containing equipment, and that their participation in the universal waste program will improve compliance with hazardous waste regulations. As stated earlier, spent mercury-containing equipment is generated sporadically and in small quantities by many geographically dispersed operations. The existence of so many distribution points, along with the small quantities of waste, makes compliance with full Subtitle C requirements very difficult. Compliance with full hazardous waste generator requirements is particularly difficult for electric or gas utility operations which are located on customers' properties. The requirements of the universal waste rule are clear and should be easily understood by the diverse community affected by this proposal, who will not need to spend an excessive amount of time and effort interpreting the regulations. In addition, because the rule does not require handlers to count universal wastes toward their monthly quantity determination, many handlers will find it easier to determine their hazardous waste generation rates. The Agency believes that the streamlined requirements of this proposal will make compliance more achievable, and that human health and the environment will benefit as a result.

C. What Are EPA's Proposed Management Requirements for Used Mercury-Containing Equipment?

1. Summary of Proposed Requirements

The universal waste rule classifies regulated persons managing universal waste into four categories: small quantity handlers of universal waste (SQHUWs), large quantity handlers of universal waste (LQHUWs), transporters, and destination facilities. The term ''universal waste handler'' is defined in 40 CFR 273.9 as a generator of universal waste; or the owner or operator of a facility that receives universal waste from other universal waste handlers, accumulates universal waste and sends it to another universal waste handler, a processor, a destination facility, or a foreign destination. The definition of ''universal waste handler'' does not include: (1) a person who treats (except under the provision of § 273.13(a) or (c), or § 273.33(a) or (c)), disposes of, or recycles universal waste; or (2) a person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

Whether a universal waste handler is a SQHUW or LQHUW depends on the amount of universal waste being accumulated at any time. A SQHUW is defined under 40 CFR 273.9 as a universal waste handler who accumulates less than 5,000 kilograms of universal waste, calculated collectively at any time. The 5,000 kilogram accumulation limit applies to the total quantity of all universal waste handled on-site, regardless of the category of universal waste. If at any time a SQHUW accumulates 5,000 kilograms or more of universal waste, then the universal waste handler becomes a LQHUW for the calendar year in which 5,000 kilograms or more of universal waste was accumulated. A handler may re-evaluate his status as a LQHUW in the following calendar year. LQHUWs are subject to certain additional regulatory requirements.

The management requirements proposed today for mercury-containing equipment are generally the same as the existing requirements for mercury-containing thermostats. Under these proposed requirements, management standards for these universal wastes would not significantly differ from the current requirements of 40 CFR part 273. Our proposed definition of mercury-containing equipment was adapted from the regulatory definitions used by States which have added these materials to their universal waste programs.

Following is a more detailed description of today's proposed requirements for mercury-containing equipment.

2. Proposed Requirements for Small and Large Quantity Handlers

Under today's proposal, most of the existing universal waste requirements currently applicable to SQHUWs and LQHUWs would also apply to handlers of mercury-containing equipment. For both SQHUWs and LQHUWs, these requirements include waste management standards, labeling and marking, accumulation time limits, employee training, response to releases, requirements related to off-site shipments, and export requirements. LQHUWs are subject to additional notification and tracking requirements.

The Agency is proposing today to require SQHUWs and LQHUWs to manage mercury-containing equipment in accordance with the universal waste management standards currently in place for used thermostats, because both kinds of devices contain mercury in ampules which are sometimes removed. Today's proposal would require handlers who remove ampules from spent mercury-containing equipment to remove them in accordance with the provisions of 40 CFR 273.13. These provisions state that the ampules must be removed in a manner designed to prevent breakage, and that they must be removed only over or in a containment device. A mercury clean-up system would have to be readily available to immediately transfer any mercury from leaks or spills from broken ampules to a container. Handlers would be required to ventilate and monitor the area in which ampules are removed to ensure compliance with applicable standards of the Occupational Safety and Health Administration (OSHA) for exposure to mercury.

Employees of SQHUWs and LQHUWs would need to be thoroughly familiar with proper waste mercury handling and emergency procedures. They would be required to store removed ampules in closed, non-leaking containers, and pack removed ampules in containers with packing materials adequate to prevent breakage. Handlers who remove mercury-containing ampules would have to determine whether residues from spills or leaks exhibit a characteristic of hazardous waste. They would also be required to make this determination for any other solid waste generated during removal of the ampules. If the residues or other solid waste exhibits a characteristic of hazardous waste, it would have to be managed in accordance with all applicable requirements of 40 CFR parts 260 through 279, rather than as a universal waste.

The notification requirement proposed today for large quantity handlers of universal waste mercury-containing equipment is consistent with the existing notification requirement for LQHUWs of all other universal wastes (40 CFR 273.32). Under today's proposed rule, a large-quantity handler of mercury-containing equipment would be required to notify the Regional Administrator and receive an identification number before meeting or exceeding the accumulation limit. In addition, these handlers would be required to keep records of universal waste shipments received or sent off-site. These records may take the form of a log, invoice, manifest, bill of lading, or other shipping document.

3. Proposed Requirements for Transporters

Under 40 CFR 273.9, the definition of a universal waste transporter is ''a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.'' Persons meeting the definition of universal waste transporter include those persons who transport universal waste from one universal waste handler to another, to a processor, to a destination facility, or to a foreign destination. These persons are subject to the universal waste transporter requirements of subpart D of part 273. The existing provisions apply to transporters of all types of universal waste, and, therefore, they would also apply to transporters of mercury-containing equipment. EPA notes that today's proposed rule would not affect the applicability of shipping requirements under the hazardous materials regulations of the Department of Transportation (DOT). Transporters would continue to be subject to these requirements if applicable (*see* 49 CFR 173.164 (Metallic Mercury and Articles Containing Mercury)).

4. Proposed Requirements for Destination Facilities

Today's notice does not propose to change any existing requirements applicable to destination facilities (subpart E of part 273).

5. Effect of Today's Proposed Rule on Household Wastes and Conditionally-Exempt Small Quantity Generators

Adding mercury-containing equipment to the definition of universal wastes would not substantially change the way households and conditionally-exempt small quantity generators (CESQGs) manage these devices. Household waste continues to be exempt from RCRA Subtitle C regulations under 40 CFR 261.4(b)(1). However, under the universal waste rule, households and CESQGs may voluntarily choose to manage their mercury-containing equipment in accordance with either the CESQG regulations under 40 CFR 261.5 or as universal waste under part 273 (40 CFR 273.8(a)(2)). If CESQG waste or household wastes are mixed with universal waste subject to the requirements of 40 CFR part 273, the comingled waste must be handled as universal waste in accordance with part 273. Under today's rule, such comingled waste would be subject to the 5000 kilogram threshold limit for large quantity handlers.

Hazardous waste mercury-containing equipment that is managed as universal waste under 40 CFR part 273 would not have to be included in a facility's determination of hazardous waste generator status (40 CFR 261.5(c)(6)). Therefore, if a generator were to manage such devices under the universal waste rule and did not generate any other hazardous waste, that generator would not be subject to other Subtitle C hazardous waste management regulations, such as the hazardous waste generator regulations in part 262. A generator that generates more than 100 kilograms of hazardous waste in addition to universal waste mercury-containing equipment would be regulated as a hazardous waste generator and would be required to manage all hazardous wastes not included within the scope of the universal waste rule in accordance with all applicable Subtitle C hazardous waste management standards.

6. Land Disposal Restriction Requirements (LDRs)

Under existing regulations (40 CFR 268.1(f)), universal waste handlers and transporters are exempt from the LDR notification requirements in 40 CFR 268.7 and the storage prohibition in § 268.50. Today's proposal would not change the regulatory status of destination facilities; they would remain subject to the full LDR requirements.

D. Solicitation of Comment on Universal Waste Notification Requirements

EPA is soliciting comment on a proposed change to the notification requirements of the universal waste rule. The current rule (40 CFR 273.32(b)(5)) requires large quantity handlers of universal waste (LQHUWs) to include in the notification sent to the Regional Administrator a statement indicating that the handler is accumulating more than 5,000 kg of universal waste at one time and the types of universal waste (*i.e.,* batteries, pesticides, thermostats, lamps, and mercury-containing equipment) the handler is accumulating above this quantity. The Agency believes that requiring LQHUWs to specify which types of universal waste exceed the 5,000 limit is unnecessary because the regulations already require LQHUWs to provide a list of all the types of universal waste managed by the handler (*see* 40 CFR 273.32(b)(4)). In addition, the requirement appears irrelevant because the 5,000 limit for determining whether a handler is a LQHUW applies to all universal waste accumulated by the handler, not to any particular universal waste. The Agency is therefore

proposing today to delete from 40 CFR 273.32(b)(5) the requirement to notify the Regional Administrator of which particular universal wastes exceed the 5,000 kg. accumulation limit. EPA solicits comment on whether this requirement serves a valid purpose for regulatory authorities, and on whether it is unduly burdensome for LQHUWs.

V. State Authority

A. Applicability of Rules in Authorized States

Under section 3006 of RCRA, EPA may authorize qualified states to administer and enforce the RCRA hazardous waste program within the state. Following authorization, EPA retains enforcement authority under sections 3008, 3013, and 7003 of RCRA, although authorized states have primary enforcement responsibility. The standards and requirements for state authorization are found at 40 CFR part 271.

Prior to enactment of the Hazardous and Solid Waste Amendments of 1984 (HSWA), a State with final RCRA authorization administered its hazardous waste program entirely in lieu of EPA administering the federal program in that state. The federal requirements no longer applied in the authorized state, and EPA could not issue permits for any facilities in that state, since only the state was authorized to issue RCRA permits. When new, more stringent federal requirements were promulgated, the state was obligated to enact equivalent authorities within specified time frames. However, the new federal requirements did not take effect in an authorized state until the state adopted the federal requirements as state law.

In contrast, under RCRA section 3006(g) (42 U.S.C. 6926(g)), which was added by HSWA, new requirements and prohibitions imposed under HSWA authority take effect in authorized states at the same time that they take effect in unauthorized states. EPA is directed by the statute to implement these requirements and prohibitions in authorized states, including the issuance of permits, until the state is granted authorization to do so. While states must still adopt HSWA related provisions as state law to retain final authorization, EPA implements the HSWA provisions in authorized states until the states do so.

Authorized states are required to modify their programs only when EPA enacts federal requirements that are more stringent or broader in scope than existing federal requirements. RCRA section 3009 allows the states to impose standards more stringent than those in the federal program (*see* also 40 CFR 271.1). Therefore, authorized states may, but are not required to, adopt federal regulations, both HSWA and non-HSWA, that are considered less stringent than previous federal regulations.

B. Effect on State Authorization

Today's proposed rule is less stringent than the current federal program. Because states are not required to adopt less stringent regulations, they do not have to adopt the streamlined regulations for CRTs or the universal waste regulations for mercury-containing devices, although EPA encourages them to do so. Some states may already be in the process of streamlining their regulations for these materials or adding them to their list of universal wastes. If a state's standards for used CRTs or mercury-containing equipment are less stringent than those in today's rule, the state will need to amend its regulations to make them equivalent to today's standards and pursue authorization.

C. Interstate Transport

Because some states may choose not to seek authorization for today's proposed rulemaking, there will probably be cases when used CRTs, processed CRT glass, or mercury-containing equipment will be transported through states with different regulations governing these wastes.

First, a waste which is subject to an exclusion from the definition of solid waste or to the universal waste regulations may be sent to a state, or through a state, where it is subject to the full hazardous waste regulations. In this scenario, for the portion of the trip through the originating state, and any other states where the waste is excluded or is a universal waste, neither a hazardous waste transporter with an EPA identification number per 40 CFR 263.11 nor a manifest would be required. However, for the portion of the trip through the receiving state, and any other states that do not consider the waste to be excluded or a universal waste, the transporter must have a manifest, and must move the waste in compliance with 40 CFR part 263. In order for the final transporter and the receiving facility to fulfill the requirements concerning the manifest (40 CFR 263.20, 263.21, 263.22; 264.71, 264.72, 264.76 or 265.71, 265.72, and 265.76), the initiating facility should complete a manifest and forward it to the first transporter to travel in a state where the waste is not excluded or is not a universal waste. The receiving facility must then sign the manifest and send a copy to the initiating facility. EPA recommends that the initiating facility note in block 15 of the manifest (Special Handling Instructions and Additional Information) that the wastes are covered by an exclusion or under the universal waste regulations in the initiating state but not in the receiving facility's state.

Second, a hazardous waste generated in a state which does not provide an exclusion for the waste or regulate it as a universal waste may be sent to a state where it is excluded or regulated as a universal waste. In this scenario, the waste must be moved by a hazardous waste transporter while the waste is in the generator's state or any other states where it is not excluded or not a universal waste. The initiating facility would complete a manifest and give copies to the transporter as required under 40 CFR 262.23(a). Transportation within the receiving state and any other states that exclude the waste or regulate it as a universal waste would not require a manifest and need not be transported by a hazardous waste transporter. However, it is the initiating facility's responsibility to ensure that the manifest is forwarded to the receiving facility by any non-hazardous waste transporter and sent back to the initiating facility by the receiving facility (*see* 40 CFR 262.23 and 262.42). EPA recommends that the generator note in block 15 of the manifest (Special Handling Instructions and Additional Information) that the waste is excluded or covered under the universal waste regulations in the receiving facility's state but not in the generator's state.

Third, a waste may be transported across a state in which it is subject to the full hazardous waste regulations although other portions of the trip may be from, through, and to states in which it is excluded or covered under universal waste regulations. Transport through the State must be conducted by a hazardous waste transporter and must be accompanied by a manifest. In order for the transporter to fulfill its requirements concerning the manifest (subpart B of Part 263), the initiating facility must complete a manifest as required under the manifest procedures and forward it to the first transporter to travel in a state where the waste is not excluded or is not a universal waste. The transporter must deliver the manifest to, and obtain the signature of, either the next transporter or the receiving facility.

As more states streamline their regulatory requirements for these wastes, the complexity of interstate transport will be reduced.

VI. Regulatory Requirements

A. Executive Order 12866

Under Executive Order 12866 (58 FR 51735), the Agency must determine whether this regulatory action is ''significant'' and therefore subject to formal review by the Office of Management and Budget (OMB) and to the requirements of the Executive Order, which include assessing the costs and benefits anticipated as a result of the proposed regulatory action. The Order defines ''significant regulatory action'' as one that is likely to result in a rule that may: (1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order. Pursuant to the terms of Executive Order 12866, the Agency has determined that today's proposed rule is a significant regulatory action because this proposed rule contains novel policy issues. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations are documented in the docket to today's proposal.

To estimate the cost savings, incremental costs, economic impacts and benefits from this rule to affected regulated entities, we completed an economic analyses for this rule. Copies of these analyses (entitled ''Economic Analysis of Cathode Ray Tube Management, Notice of Proposed Rulemaking'' and ''Economic Analysis of Including Mercury-Containing Devices In the Universal Waste System, Notice of Proposed Rulemaking'') have been placed in the RCRA docket for public review. The Agency solicits comment on the methodology and results from the analysis as well as any data that the public feels would be useful in a revised analysis.

1. Methodology

To estimate the cost savings, incremental costs, economic impacts and benefits of this rule, the Agency estimated both the affected volume of cathode ray tubes (CRTs) [1] and regulated entities. Because CRTs are often not managed as hazardous wastes but rather along with municipal refuse, the Agency has evaluated two baseline (pre-regulatory) scenarios: (1) A Subtitle C scenario which modeled a distribution of affected monitors as if all affected entities were in compliance with Subtitle C regulation, and (2) a Subtitle D scenario which models a high percentage of CRTs being discarded untreated in municipal solid waste landfills. There is a lower degree of compliance with Subtitle C regulation in the Subtitle D scenario. However, this scenario is being analyzed to evaluate the real-world effect of this rule on affected entities.

The Agency has then modeled two post-regulatory scenarios: (1) The regulation being proposed today (hereafter referred to as the ''primary alternative''), and (2) the Common Sense Initiative recommendation (hereafter referred to as the ''CSI alternative''). The chief differences between the primary alternative and CSI alternative is that the former applies to both glass-to-glass recycling and lead smelters whereas the latter only applies to glass-to-glass recycling. The CSI alternative also includes additional management requirements for CRT handlers. Finally, the CSI alternative envisions streamlined management requirements for monitors but keeping them within RCRA Subtitle C jurisdiction as hazardous waste. By contrast, the primary alternative of today's proposal excludes previously regulated volumes of CRTs from the federal definition of solid and hazardous waste.

In our economic analysis, we have calculated administrative, storage, transportation and disposal/recovery costs for both baseline and post-regulatory scenarios and estimated the net cost savings and economic impacts for each combination of baseline/post-regulatory pair (Subtitle C/primary alternative, Subtitle C/CSI alternative, Subtitle D/primary alternative, Subtitle D/CSI alternative). The Subtitle C/primary alternative pair is the scenario that we are using to meet our administrative requirements following this section. This is so because it is appropriate to use a baseline scenario that reflects compliance with existing federal law and a post-regulatory scenario that is the leading scenario being proposed.

For mercury-containing equipment, we used a similar methodology in our economic analysis to the one we are using for CRTs. Again, because mercury-containing equipment is often managed in municipal solid waste, we have modeled two baselines, one reflecting compliance with Subtitle C management under existing law and the other reflecting ongoing management of a portion of discarded mercury-containing equipment in the municipal solid wastestream.

The benefits from today's proposed rulemaking are presented qualitatively. EPA solicits comment on the need and means to evaluate quantitative benefits from today's rule.

2. Results

a. Volume. Estimated volumes of CRTs subject to RCRA regulation are 16,100 tons of monitors under the Subtitle C baseline. We have estimated the affected volume of CRTs (including both previously regulated and diverted volumes of monitors) under the primary alternative at 17,500 tons and 17,700 under the CSI alternative when paired with the Subtitle C baseline. We believe that between 1500 and 1700 tons of CRTs would be diverted from export or hazardous waste landfill to CRT glass manufacturing under both the primary alternative and the CSI alternative. Estimated volumes of mercury-containing equipment affected by today's rule are 550 tons.

b. Cost/Economic Impact. We estimate that the primary alternative would save CRT handlers $3.5 million per year relative to the Subtitle C baseline. This cost savings comes from reduced administrative, transportation and disposal/management cost. We estimate that CSI alternative would save CRT handlers $1.15 million relative to the Subtitle C baseline, again primarily due to reduced administrative and disposal costs. However, unlike the primary alternative, transportation costs could actually be higher for the CSI alternative because this option does not include lead smelters. Thus, longer transportation distances to glass processors would be required.

To estimate the economic impact of the primary alternative and CSI alternative on CRT handlers, the Agency evaluated the cost savings or incremental costs as a percentage of firm sales. In virtually all cases economic impacts are cost savings at less than one

[1] **Note:** Many CRTs that exhibit the toxicity characteristic for lead are nonetheless not solid wastes that are also hazardous wastes for a number of different reasons. Some are considered household hazardous wastes which are excluded from the federal definition of hazardous wastes. *See* 40 CFR 261.4(b)(1). Other CRTs which are post-manufacturing but not post-consumer are excluded as commercial chemical products being reclaimed. *See* 40 CFR 261.2(c)(3). Thus, the fact that a CRT exhibits the toxicity characteristic for lead is not sufficient in and of itself to know that the monitor is a hazardous waste and affected by this rule.

percent of firm sales. The average savings for a previously regulated small quantity generator is $755 per year and $1740 per year for a previously regulated large quantity generator under the primary alternative. The average cost savings for previously regulated small and large quantity generators under the CSI alternative are estimated at $703 and $7819 respectively.

For mercury-containing equipment, we estimate cost savings resulting from today's proposal would be approximately $273,000 per year. Of this, about $200,000 in savings is attributed to generators of mercury-containing equipment, an average of $106 per generator per year. The remaining $73,000 is attributable to retorters and waste brokers. As with CRTs, the economic impact of these savings relative to firm sales is very small, *i.e.,* less than 0.1 percent of firm sales.

c. Benefits. EPA has evaluated the qualitative benefits and to a lesser extent, the quantitative benefits of the proposed rule for CRTs and mercury-containing equipment. Some of the benefits resulting from today's rule include conservation of landfill capacity, increase in resource efficiency, growth of a recycling infrastructure for CRTs and possible reduction of lead emissions to the environment from CRT recycling. EPA estimates that approximately 2600 tons or 456,000 cubic feet of CRTs per year would be redirected away from landfills towards recycling under the Agency's proposal today. In addition, as mentioned above, the use of processed CRT glass benefits the manufacturer in several ways, such as improving heat transfer and melting characteristics in the furnaces, lowering energy consumption, and maintaining or improving the quality of the final product. This rule will facilitate the growth and development of the CRT glass processing industry in the United States by reducing regulatory barriers to new glass processing firms becoming established. Finally, this rule will reduce lead emissions to the environment by diverting CRTs from municipal landfills and waste-to-energy facilities.

B. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 et seq.

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business that has fewer than 1000 or 100 employees per firm depending upon the SIC code the firm primarily is classified; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

The small entity analysis conducted for today's proposal indicates that streamlining requirements for CRTs and mercury-containing equipment would generally result in savings to affected entities compared to baseline requirements. Under the full compliance scenario, the rule is not expected to result in a net cost to any affected entity. Thus, adverse impacts are not anticipated. Costs could increase for entities that are not complying with current requirements, but even these costs, which are not properly attributable to the current rulemaking, would not be expected to result in significant impacts on a substantial number of small entities.

After considering the economic impacts of today's proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities.

C. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* Information Collection Request (ICR) documents have been prepared (ICR No. 1189.10) for the proposed CRT requirements, and ICR No. 1597.05 for the proposed requirements for mercury-containing equipment. Copies may be obtained from Susan Auby by mail at U.S. Environmental Protection Agency, Collection Strategies Division (Mail Code 2822), 1200 Pennsylvania Ave. NW., Washington, DC 20460–0001, by email at *auby.susan@epa.gov,* or by calling (202) 260–4901. A copy may also be downloaded off the Internet at *http://www.epa.gov/icr.*

The information requirements established for this action, and identified in the Information Collection Request (ICR) supporting today's proposed rule, are largely self-implementing. This process will ensure that: (i) Regulated entities managing CRTs or mercury-containing equipment are held accountable to the applicable requirements; and (ii) state inspectors can verify compliance when needed. For example, the universal waste standards require LQHUWs and SQHUWs to demonstrate the length of time that mercury-containing equipment has been accumulated from the date they were received or became a waste. The standards also require LQHUWs and destination sites to keep records of all shipments received and sent. Further, the standards require waste handlers and processors to notify EPA under certain circumstances (e.g, when large amounts are accumulated or when illegal shipments are received).

EPA will use the collected information to ensure that mercury-containing equipment is being managed in a protective manner. These data aid the Agency in tracking waste shipments and identifying improper management practices. In addition, information kept in facility records helps handlers, processors, and destination sites to ensure that they and other facilities are managing these wastes properly. Section 3007(b) of RCRA and 40 CFR part 2, subpart B, which define EPA's general policy on the public disclosure of information, contain provisions for confidentiality. However, no questions of a sensitive nature are included in any of the information collection requirements associated with today's action.

EPA has carefully considered the burden imposed upon the regulated community by the regulations. EPA is confident that those activities required of respondents are necessary and, to the extent possible, has attempted to minimize the burden imposed. EPA believes strongly that if the minimum requirements specified under the regulations are not met, neither the facilities nor EPA can ensure that used CRTs and mercury-containing equipment are being managed in a manner protective of human health and the environment.

For the proposed requirements applicable to CRTs, the aggregate annual burden to respondents over the three-year period covered by this ICR is estimated at 10,426 hours, with a cost of approximately $687,000. Average annual burden hours per respondent are estimated to be 7 hours; there are an estimated 2400 respondents. This represents a reduction in burden to respondents of approximately 18,616. There are no capital or start-up costs,

operation or maintenance costs, and no costs for purchases of services. Nor is there any burden to the Agency. For the proposed requirements affecting mercury-containing equipment, the aggregate annual burden to respondents over the three-year period covered by this ICR is estimated at 114,770 hours, with a cost of approximately $825,158. Average annual burden hours per respondent are estimated to be 4.5 hours for small quantity handlers, 15 hours for large quantity handlers, 10 hours for treatment, storage, and disposal facilities, and 16 hours for transporters; there are an estimated 2495 respondents. This represents a reduction in burden of approximately 18,493 hours. The aggregate burden to the Agency is estimated at 377 hours, with a cost of $10,816.00. Total capital costs are estimated to be $1430 annually for all respondents, and operation and maintenance costs are estimated to be $113 annually for all respondents.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, disclose, or provide information to or for a federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

Comments are requested on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques. Send comments on the ICR to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (Mail Code 2823), 1200 Pennsylvania Avenue, NW., Washington, DC 20460–0001; and to the Office of Regulatory Affairs, Office of Management and Budget, 725 17th St., NW, Washington, DC 20503, marked ''Attention: Desk Officer for EPA''. Include the ICR number in any correspondence. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after June 12, 2002, a comment to OMB is best assured of having its full effect if OMB receives it by July 12, 2002. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

D. Unfunded Mandates

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for federal agencies to assess the effects of their regulatory actions on state, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for the proposed and final rules with ''federal mandates'' that may result in expenditures by state, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year.

Before promulgating a rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted.

Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enable officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The Agency's analysis of compliance with the Unfunded Mandates Reform Act (UMRA) of 1995 found that today's proposed rule imposes no enforceable duty on any state, local or tribal government or the private sector. This proposed rule contains no federal mandates (under the regulatory provisions of Title II of the UMRA) for state, local, or tribal governments or the private sector. In addition, EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments. The Act generally excludes from the definition of ''federal intergovernmental mandate'' (in sections 202, 203, and 205) duties that arise from participation in a voluntary federal program. Today's proposed rule is voluntary, and because it is less stringent than the current regulations, state governments are not required to adopt the proposed changes. The UMRA generally excludes from the definition of ''Federal intergovernmental mandate'' duties that arise from participation in a voluntary federal program. The UMRA also excludes from the definition of ''Federal private sector mandate'' duties that arise from participation in a voluntary federal program. Therefore we have determined that today's proposal is not subject to the requirements of sections 202 and 205 of UMRA.

E. Executive Order 13132

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications. ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.'' This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132.

F. Executive Order 13175

Executive Order 13175, entitled ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' ''Policies that have tribal implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on one or more Indian tribes, on the relationship between the federal

government and the Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes. This proposed rule does not have tribal implications. It will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175.

G. Executive Order 13045

''Protection of Children From Environmental Health Risks and Safety Risks'' (62 FR 19885, April 23, 1997) applies to any rule that EPA determines (1) ''economically significant'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potential effective and reasonably feasible alternatives considered by the Agency. This proposed rule is not subject to Executive Order 13045 because it is not an economically significant rule as defined by Executive Order 12866.

H. Executive Order 13211

This rule is not a ''significant energy action'' as defined in Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Today's proposed rule streamlines hazardous waste management requirements for used cathode ray tubes and mercury-containing equipment. By encouraging reuse and recycling, the rule may save energy costs associated with manufacturing new materials. It will not cause reductions in supply or production of oil, fuel, coal, or electricity. Nor will it result in increased energy prices, increased cost of energy distribution, or an increased dependence on foreign supplies of energy.

I. National Technology Transfer and Advancement Act of 1995

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, though OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards. This rule does not establish technical standards. Therefore, EPA did not consider the use of any voluntary consensus standards.

J. Environmental Justice

Executive Order 12898, ''Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations'' (February 11, 1994) is designed to address the environmental and human health conditions of minority and low-income populations. EPA is committed to addressing environmental justice concerns and has assumed a leadership role in environmental justice initiatives to enhance environmental quality for all citizens of the United States. The Agency's goals are to ensure that no segment of the population, regardless of race, color, national origin, income, or net worth bears disproportionately high and adverse human health and environmental impacts as a result of EPA's policies, programs, and activities. In response to Executive Order 12898, EPA's Office of Solid Waste and Emergency Response (OSWER) formed an Environmental Justice Task Force to analyze the array of environmental justice issues specific to waste programs and to develop an overall strategy to identify and address these issues (OSWER Directive No. 9200.3–17). To address this goal, EPA conducted a qualitative analysis of the environmental justice issues under this proposed rule. Potential environmental justice impacts are identified consistent with the EPA's Environmental Justice Strategy and the OSWER Environmental Justice Action Agenda.

Today's proposed rule would streamline hazardous waste management requirements for used cathode ray tubes sent for recycling. It would also streamline such requirements for mercury-containing equipment by adding this equipment to the federal universal waste rule. Facilities that would be affected by today's rule include any facility generating hazardous waste computers and televisions sent for recycling, and any facility generating hazardous waste mercury-containing equipment sent for recycling or disposal. Also affected would be facilities which recycle these materials. Disposal facilities themselves would not be affected by today's proposed rule.

The wide distribution of affected facilities throughout the United States does not suggest any distributional pattern around communities of concern. Any building in any area could be affected by today's proposal. Specific impacts on low income or minority communities, therefore, are undetermined. The Agency believes that emissions during transportation would not be a major contributor to communities of concern through which used CRTs and mercury-containing equipment may be transported. Any such material broken during transport would be contained in the required packaging. Overall, no disproportional impacts to minority or low income communities are expected.

List of Subjects

40 CFR Part 260

Environmental protection, Administrative practice and procedure, Confidential business information, Hazardous waste, Waste treatment and disposal.

40 CFR Part 261

Environmental protection, Hazardous waste, Recycling, Reporting and recordkeeping requirements.

40 CFR Part 264

Environmental protection, Hazardous materials, Packaging and containers, Reporting and recordkeeping requirements, Security measures, Surety bonds.

40 CFR Part 265

Environmental protection, Hazardous materials, Packaging and containers, Security measures, Surety bonds.

40 CFR Part 268

Environmental protection, Hazardous waste, Reporting and recordkeeping requirements.

40 CFR Part 270

Environmental protection, Hazardous materials transportation, Reporting and recordkeeping requirements.

40 CFR Part 273

Environmental protection, Hazardous materials transportation, Hazardous waste.

Dated: May 17, 2002.

Christine T. Whitman,

Administrator.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations, parts 260, 261, 264, 265, 268, 270 and 273, are amended as follows:

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

1. The authority citation for part 260 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921–6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974.

Subpart B—Definitions

2. Section 260.10 is amended by adding in alphabetical order the definitions of ''Cathode ray tube,'' ''CRT glass manufacturing facility,'' ''CRT glass processor,'' and ''Mercury-containing equipment'' and by republishing the introductory text of and adding paragraph (5) to the the definition of ''Universal Waste'' to read as follows:

§ 260.10 Definitions.

* * * * *

Cathode ray tube or CRT means a vacuum tube, composed primarily of glass, which is the video display component of a television or computer monitor. An intact CRT means a CRT remaining within the monitor whose vacuum has not been released. A broken CRT means glass removed from the monitor after the vacuum has been released.

* * * * *

CRT glass manufacturing facility means a facility or part of a facility that uses a furnace to manufacture CRT glass.

* * * * *

CRT processing means conducting all of the following activities:

(1) Receiving broken or intact CRTs;

(2) Intentionally breaking intact CRTs or further breaking or separating broken CRTs;

(3) Sorting or otherwise managing glass removed from CRT monitors; and

(4) Cleaning coatings off the glass removed from CRTs.

* * * * *

Mercury-containing equipment means a device or part of a device (excluding batteries, thermostats, and lamps) that contains elemental mercury necessary for its operation.

* * * * *

Universal Waste means any of the following hazardous wastes that are managed under the universal waste requirements of part 273 of this chapter:

* * * * *

(5) Mercury-containing equipment as described in § 273.6 of this chapter.

* * * * *

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

3. The authority citation for part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, 6922, 6924(y), and 6938.

Subpart A—General

4. Section 261.4 is amended by adding a new paragraph (a)(23) to read as follows:

§ 261.4 Exclusions.

(a) * * *

(23) Used cathode ray tubes (CRTs)

(i) Used intact CRTs as defined in § 260.10 are not solid wastes unless disposed. No restrictions on speculative accumulation as defined in § 261.1 apply.

(ii) Used, broken CRTs as defined in § 260.10 are not solid wastes provided that they meet the requirements of § 261.39.

* * * * *

5. Section 261.9 is amended by adding a new paragraph (e) to read as follows:

§ 261.9 Requirements for universal waste.

* * * * *

(e) Mercury-conteaining equipment as described in § 273.6 of this chapter.

6. Section 261.38 of subpart D is transferred to Subpart E which is added to read as follows:

Subpart E—Exclusions/Exemptions

Sec.
261.38 Comparable/Syngas Fuel Exclusion.
261.39 Conditional Exclusion for Broken, Used Cathode Ray Tubes (CRTs) Undergoing Recycling.

Subpart E—Exclusions/Exemptions

§ 261.38 Comparable/Syngas Fuel Exclusion.

* * * * *

§ 261.39 Conditional Exclusion for Broken, Used Cathode Ray Tubes (CRTs) Undergoing Recycling.

Broken, used CRTs are not solid wastes if they meet the following conditions:

(a) *Prior to processing:* These materials are not solid wastes if they are destined for recycling and if they meet the following requirements:

(1) *Storage.* The broken CRTs must be either:

(i) Stored in a building with a roof, floor, and walls, or

(ii) Placed in a container (*i.e.,* a package or a vehicle) that is constructed, filled, and closed to minimize identifiable releases to the environment of CRT glass (including fine solid materials).

(2) *Labeling.* Each container in which the used, broken CRT is contained must be labeled or marked clearly with one of the following phrases: ''Waste cathode ray tube(s)—contains leaded glass,'' or ''Used cathode ray tube(s)—contains leaded glass.'' It must also be labeled: ''Do not mix with other glass materials.''

(3) *Transportation.* These CRTs must be transported in a container meeting the requirements of paragraphs(a)(1)(ii) and (2) of this section.

(4) *Speculative accumulation.* These CRTs are subject to the limitations on speculative accumulation as defined in § 261.1.

(b) *Requirements for used CRT processing:* Used, broken CRTs undergoing CRT processing as defined in § 260.10 are not solid wastes if they meet the following requirements:

(1) *Storage.* Broken CRTs undergoing processing are subject to the requirements of paragraphs (a)(1), (2), and (4) of this section.

(2) *Processing.*

(i) All CRTs must be processedwithin a building with a roof, floor, and walls; and

(ii) No activities may be performed that use temperatures high enough to volatilize lead from CRTs.

(c) *Processed CRT glass sent to CRT glass making or lead smelting:* Glass removed from used CRTs that is destined for recycling at a CRT glass manufacturing facility or a lead smelter after processing is not a solid waste unless it is speculatively accumulated as defined in § 261.1. Imported, processed glass from used CRTs is subject to these requirements as soon as it enters the United States.

(d) *Processed CRT glass sent to other types of recycling, except for use constituting disposal:* Glass removed from used CRTs that is destined for other types of recycling after processing (except use constituting disposal) is not a solid waste if it meets the requirements of paragraphs (a)(1)–(4) of this section. Imported, processed glass removed from used CRTs is subject to these requirements as soon as it enters the United States.

(e) *Use constituting disposal:* Processed glass removed from CRT monitors that is used in a manner constituting disposal must comply with the requirements of paragraphs (a)(1)–(4) of this section and the applicable

requirements of part 266, subpart C of this chapter. Imported, processed glass from used CRTs is subject to these requirements as soon as it enters the United States.

PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT STORAGE AND DISPOSAL FACILITIES

7. The authority citation for part 264 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6924, and 6925.

Subpart A—General

8. Section 264.1 is amended by adding a new paragraph (g)(11)(v) to read as follows:

§ 264.1 Purpose, scope, and applicability.

* * * * *

(g) * * *

(11) * * *

(v) Mercury-containing equipment as described in § 273.6 of this chapter.

* * * * *

PART 265—INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES

9. The authority citation for part 265 continues to read as follows:

Authority: 42 U.S.C. 6905, 6906, 6912, 6922, 6923, 6924, 6925, 6935, 6936, and 6937.

Subpart A—General

10. Section 265.1 is amended by adding a new paragraph (c)(14)(v) to read as follows:

§ 265.1 Purpose, scope and applicability.

* * * * *

(c) * * *

(14) * * *

(v) Mercury-containing equipment as described in § 273.6 of this chapter.

* * * * *

PART 268—LAND DISPOSAL RESTRICTIONS

11. The authority citation for part 268 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, and 6924.

Subpart A—General

12. Section 268.1 is amended by adding a new paragraph (f)(5) to read as follows:

* * * * *

(5) Mercury-containing equipment as described in § 273.6 of this chapter.

* * * * *

PART 270—EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

13. The authority citation for part 270 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912, 6924, 6925, 6927, 6939, and 6974.

Subpart A—General Information

14. Section 270.1 is amended by adding a new paragraph (c)(2)(viii)(E) to read as follows:

§ 270.1 Purpose and scope of these regulations.

* * * * *

(c) * * *

(2) * * *

(viii) * * *

(E) Mercury-containing equipment as described in § 273.6 of this chapter.

* * * * *

PART 273—STANDARDS FOR UNIVERSAL WASTE MANAGEMENT

15. The authority citation for part 273 continues to read as follows:

Authority: 42 U.S.C. 6922, 6923, 6924, 6925, 6930, and 6937.

Subpart A—General

* * * * *

16. Section 273.1 is amended by adding a new paragraph (a)(5) to read as follows:

§ 273.1 Scope.

(a) * * *

(5) Mercury-containing equipment as described in § 273.6.

* * * * *

17. A new § 273.6 is added to read as follows:

§ 273.6 Applicability—Mercury-containing equipment.

(a) *Mercury-containing equipment covered under this part 273.* The requirements of this part apply to persons managing mercury-containing equipment as described in § 273.9, except those listed in paragraph (b) of this section.

(b) *Mercury-containing equipment not covered under this part 273.* The requirements of this part do not apply to persons managing the following mercury-containing equipment:

(1) Mercury-containing equipment that is not yet a waste under part 261 of this chapter. Paragraph (c) of this section describes when mercury-containing equipment becomes a waste.

(2) Mercury-containing equipment that is not a hazardous waste. Mercury-containing equipment is a hazardous waste if it exhibits one or more of the characteristics identified in part 261, subpart C of this chapter.

(c) *Generation of waste mercury-containing equipment.* (1) Used mercury-containing equipment becomes a waste on the day it is discarded.

(2) Unused mercury-containing equipment becomes a waste on the day the handler decides to discard it.

18. Section 273.9 is amended by adding in alphabetical order the definition of ''Mercury-containing equipment'' and revising the definitions of ''Large quantity handler of universal waste,'' ''Small quantity handler of universal waste,'' and republishing the introductory text of and adding paragraph (5) to the definition of ''Universal waste'' to read as follows:

§ 273.9 Definitions.

* * * * *

Large Quantity Handler of Universal Waste means a universal waste handler (as defined in this section) who accumulates 5,000 kilograms or more total of universal waste (batteries, pesticides, thermostats, lamps, or mercury-containing equipment, calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which the 5,000 kilogram limit is met or exceeded.

* * * * *

Mercury-containing equipment means a device or part of a device (excluding batteries, thermostats, and lamps) that contains elemental mercury necessary for its operation.

* * * * *

Small Quantity Handler of Universal Waste means a universal waste handler (as defined in this section) who does not accumulate 5,000 kilograms or more of universal waste (batteries, pesticides, thermostats, lamps, or mercury-containing equipment, calculated collectively) at any time.

* * * * *

Universal Waste means any of the following hazardous wastes that are subject to the universal waste requirements of this part 273:

* * * * *

(e) Mercury-containing equipment as described in § 273.6.

* * * * *

Subpart B—Standards for Small Quantity Handlers of Universal Waste

19. Section 273.13 is amended by revising paragraph (c) to read as follows:

§ 273.13 Waste management.

* * * * *

(c) *Universal waste thermostats and mercury-containing equipment.* A small quantity handler of universal waste must manage universal waste thermostats and mercury-containing equipment in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A small quantity handler of universal waste must place in a container any universal waste thermostat or mercury-containing equipment that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The container must be closed, structurally sound, compatible with the contents of the thermostat or device, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(2) A small quantity handler of universal waste may remove mercury-containing ampules from universal waste thermostats or mercury-containing equipment provided the handler:

(i) Removes the ampules in a manner designed to prevent breakage of the ampules;

(ii) Removes ampules only over or in a containment device (tray or pan sufficient to collect and contain any mercury released from an ampule in case of breakage);

(iii) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from that containment device to a container that meets the requirements of 40 CFR 262.34;

(iv) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of 40 CFR 262.34;

(v) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury;

(vi) Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;

(vii) Stores removed ampules in closed, non-leaking containers that are in good condition;

(viii) Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation, and

(3)(i) A small quantity handler of universal waste who removes mercury-containing ampules from thermostats or mercury-containing equipment must determine whether the following exhibit a characteristic of hazardous waste identified in 40 CFR part 261, subpart C:

(A) Mercury or clean-up residues resulting from spills or leaks, and/or

(B) Other solid waste generated as a result of the removal of mercury-containing ampules (*e.g.,* remaining thermostat units or mercury-containing equipment).

(ii) If the mercury, residues, and/or other solid waste exhibit a characteristic of hazardous waste, it must be managed in compliance with all applicable requirements of 40 CFR parts 260 through 272. The handler is considered the generator of the mercury, residues, and/or other waste and must manage it in compliance with 40 CFR part 262.

(iii) If the mercury, residues, and/or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state, or local solid waste regulations.

20. Section 273.14 is amended by adding a new paragraph (f) to read as follows:

§ 273.14 Labeling/marking.

* * * * *

(f) Mercury-containing equipment, or a container in which the equipment is contained, must be labeled or marked clearly with any of the following phrases: ''Universal Waste—Mercury-Containing Equipment,'' or ''Waste Mercury-Containing Equipment,'' or ''Used Mercury-Containing Equipment.''

Subpart C—Standards for Large Quantity Handlers of Universal Waste

21. Section 273.32 is amended by revising paragraphs (b)(4) and (b)(5) to read as follows:

§ 273.32 Notification.

* * * * *

(b) * * *

(4) A list of all the types of universal waste managed by the handler (*e.g.,* batteries, pesticides, thermostats, lamps, and mercury-containing equipment);

(5) A statement indicating that the handler is accumulating more than 5,000 kg of universal waste at one time and the types of universal waste (*i.e.,* batteries, pesticides, thermostats, lamps, and mercury-containing equipment) the handler is accumulating above this quantity.

22. Section 273.33 is amended by revising paragraph (c) to read as follows:

§ 273.33 Waste management.

* * * * *

(c) *Universal waste thermostats and mercury-containing equipment.* A large quantity handler of universal waste must manage universal waste thermostats and mercury-containing equipment in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A large quantity handler of universal waste must contain any universal waste thermostat or mercury-containing equipment that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container must be closed, structurally sound, compatible with the contents of the thermostat and/or equipment, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(2) A large quantity handler of universal waste may remove mercury-containing ampules from universal waste thermostats or mercury-containing equipment provided the handler:

(i) Removes the ampules in a manner designed to prevent breakage of the ampules;

(ii) Removes ampules only over or in a containment device (tray or pan sufficient to collect and contain any mercury released from an ampule in case of breakage);

(iii) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from that containment device to a container that meets the requirements of 40 CFR 262.34;

(iv) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of 40 CFR 262.34;

(v) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury;

(vi) Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;

(vii) Stores removed ampules in closed, non-leaking containers that are in good condition;

(viii) Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation, and

(3)(i) A large quantity handler of universal waste who removes mercury-containing ampules from thermostats or mercury-containing equipment must determine whether the following exhibit a characteristic of hazardous waste identified in 40 CFR part 261, subpart C:

(A) Mercury or clean-up residues resulting from spills or leaks, and/or

(B) Other solid waste generated as a result of the removal of mercury-containing ampules (*e.g.,* remaining thermostat units or mercury-containing equipment).

(ii) If the mercury, residues, and/or other solid waste exhibit a characteristic of hazardous waste, it must be managed in compliance with all applicable requirements of 40 CFR parts 260 through 272. The handler is considered the generator of the mercury, residues, and/or other waste and must manage it in compliance with 40 CFR part 262.

(iii) If the mercury, residues, and/or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state, or local solid waste regulations.

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23. Section 273.34 is amended by adding a new paragraph (f) to read as follows:

§ 273.34 Labeling/marking.

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(f) Mercury-containing equipment, or a container in which the equipment is contained, must be labeled or marked clearly with any of the following phrases: ''Universal Waste—Mercury-Containing Equipment,'' or ''Waste Mercury-Containing Equipment,'' or ''Used Mercury-Containing Equipment.''

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