VII E

California Department of Toxic Substances Control

Electronic Hazardous Waste (E-Waste)

Notify DTSC of e-waste handling and recycling by using our online notification system. Here you can file a notice of intent to handle or recycle, an annual report, or an export notification. **Annual reports are due Feb. 1 of each year for all facilities, including collection events.**

Online Notification System

E-Waste News:

- **E-waste workshop for state agencies**

The Department of Toxic Substances Control (DTSC), the California Integrated Waste Management Board (CIWMB), and the Department of General Services (DGS) are hosting a training workshop for state agencies on May 20, 2009, on how to properly manage the disposal of electronic waste. The workshop will be held from 9 a.m. to 11 a.m. in the Sierra Hearing Room at the California EPA Headquarters Building, 1001 I St., in downtown Sacramento. It is aimed at inventory and surplus property managers, business services personnel, recycling coordinators, building service managers, and others who make decisions about the disposition of electronic equipment for state agencies. For those unable to attend in person, the workshop will also be accessible via live Webcast, and archived video will be available after the event. Sign up here.

- **E-waste workshop for universal waste handlers**

Universal waste handlers can attend a training workshop on the **new regulations** as early as April 20, 2009. See our listing of upcoming training workshops.

View the DTSC workshop presentations:

-- Mini-Workshop for Universal Waste Handlers -- New Regulations

-- Preparing for a DTSC Inspection of Your E-waste Facility

Printed copies of the presentations will also be available at the workshops.

- **See our new universal waste regulations** that were adopted Feb. 4, 2009. Significant changes are in boldface.

-- See our summary table detailing substantive amendments to the universal waste regulations.

-- View the documents in the rule-making package.

What is e-waste?

Many types of electronic products used in the workplace and homes contain hazardous substances like lead and mercury. When these products reach the end of their useful lives or become obsolete, some are considered hazardous waste. In general, hazardous waste may not be discarded in the regular trash. Instead, it must be sent to a facility that has a permit for treatment (including recycling), storage or disposal.

Abandonment of e-waste constitutes illegal disposal of hazardous waste and will be prosecuted.

Electronic hazardous wastes (e-wastes) are different from industrially generated hazardous wastes in that almost every individual, institution and business generates them. Proper management and recycling of e-waste poses lower risks than managing many industrial hazardous wastes.

This presentation from the 2009 CUPA conference provides a summary of what electronic wastes are, the kinds of activities that e-waste recyclers perform, classification of treatment residuals and a projected summary of the new universal waste regulations.

How do I know if my e-waste is hazardous?

State regulations require the generator of a waste to determine if it is a hazardous waste (this requirement is found in section 66262.11 of title 22 of the California Code of Regulations). Wastes are hazardous waste when they exhibit one or more of the following characteristics: toxicity, ignitability, corrosivity or reactivity. Many electronic wastes exhibit the toxicity characteristic due to the lead content as well as other heavy metals.

In addition to the four hazardous waste characteristics, DTSC has listed, in regulation, specific wastes that are presumed to be hazardous and must be managed as hazardous waste. The law does allow individuals to test specific devices to determine whether or not they are hazardous. However, in the absence of testing, all wastes listed by DTSC are presumed to be hazardous. Several categories of e-waste are included in the list; these are listed below under the heading "How do I know if my e-waste is covered by the Electronic Waste Recycling Act?"

Law, tests, fact sheets and reports on e-wastes

How do I know if my e-waste is covered by the Electronic Waste Recycling Act (and therefore needs to be handled differently?)

As part of its implementation of the Electronic Waste Recycling Act, DTSC has tested certain types of electronic devices to determine which would be hazardous waste when discarded; only video display devices that DTSC determines "are presumed to be, when discarded, a hazardous waste" are potentially covered by the act. Currently these devices include:

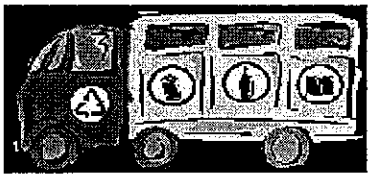
- cathode ray tube (CRT) devices (including televisions and computer monitors;
- LCD desktop monitors;
- laptop computers with LCD displays;
- LCD televisions;
- plasma televisions;
- portable DVD players with LCD screens (added December 31, 2006)

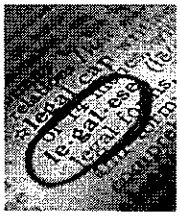
Note: Many electronic wastes not covered by the Electronic Waste Recycling Act are still considered hazardous wastes and may not be discarded in the regular trash.

If a consumer purchases a "covered electronic device," the retailer may require the consumer to pay the recycling fee on the device. When the consumer discards a "covered electronic device," it becomes a hazardous waste, called a "covered electronic waste." Qualified e-waste collectors and recyclers may receive cost reimbursement from the fund established from the recycling fees for their management of covered electronic wastes.

For more information regarding EWRA, including a listing of the devices that are covered under the law, and the regulations adopted by DTSC and the California Integrated Waste Management Board (CIWMB) to implement the law, click here.

How should I properly manage e-waste?





California has adopted universal waste regulations for handling and transporting certain low-risk hazardous wastes. Universal wastes include televisions, computer monitors, computers and other e-wastes. The universal waste regulations also apply to other common wastes, such as fluorescent lamps, mercury-containing switches, and batteries.

The management requirements specified in the universal waste regulations are easy to understand and comply with. DTSC has prepared several documents that summarize the regulations for managing universal wastes:

Summary of Universal Waste (UW) Handler Requirements - September 2003

- **Universal waste regulations: current (unofficial) version of chapter 23** of the California Code of Regulations, title 22

Restrictions on the Use of Certain Hazardous Substances (RoHS)

Information on California's RoHS law

Workshop: RoHS slide show

Documents for e-waste handlers and recycles

- Q & A: Export Requirements for Covered Electronic Devices

- Q & A: How to Manage Hazardous Waste Residuals Generated from UWEDs
- Guidance Letter: How to Avoid a Violation for Unauthorized Glass Breakage
- Guidance Letter: How to Designate Items You Wish to Retain Rather than Recycle
- Guidance Document: Notifying for and Hosting an E-Waste Collection Event **NEW!**
- Guidance Document: How to Prevent or Correct Significant Violations Observed at E-Waste Recycles
- Guidance Document: Preparing for a DT Inspection of Your E-Waste Facility
- Guidance Document: Best Management Practices (BMP's) for CRTs (prepared by the County of San Diego)

Contact the Consumer Products section at (916) 324-3159 or electronicwaste@dtsc.ca.gov for any questions.

Documents for local agencies

- Informational Letter: CPA vs. DT Inspection Authority

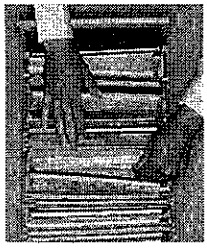
News: CBS "60 Minutes" segment on "The Electronic Wasteland," November 18, 2008

Additional useful Information and suggestions for managing e-waste (not prepared by DT):

Electronic Product Management
CIWMB Web Page

www.eRecycle.org
Basic consumer information on the Electronic Waste Recycling Act

Notification and reporting for handlers of CRTs and UWEDs



Anyone who plans to handle CRT materials or UWEDs received from an off-site source must notify DTSC at least 30 days in advance.

Handlers that exceed any of the following limits in a calendar year are required to submit an annual report to DTSC:

- Accept from off site more than 100 kilograms (220 pounds) of UWEDs
- Accept from off site more than five CRTs (i.e., picture tubes); more than five CRT devices (i.e., televisions or computer monitors); or more than 100 kilograms (220 pounds) of CRT glass; or
- Generate more than 5,000 kilograms of CRT materials (about 200 CRTs).

DTSC has created a quick reference guide for electronic waste handlers and CUPAs regarding notification and reporting requirements.

Training Workshop - January 12, 2007 - Online Notification and Annual Reporting
Training slides
Training handouts
DTSC Form 1388 (To file a notification or annual report, click on the link above the picture. Use the form only if the online system is not working)

Certain activities and treatment methods for recycling UWEDs and CRTs require financial assurance. The following fact sheet explains this concept in detail.

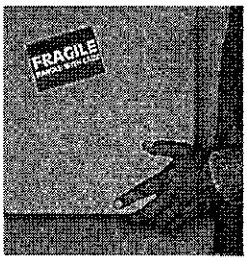
Financial assurance fact sheet

Inspections

Handlers who treat or recycle CRT materials or universal waste electronic devices are subject to inspection to verify their compliance with DTSC regulations. To facilitate efficient, thorough and consistent inspections, DTSC has developed the following checklist. We are providing it as guidance for handlers who treat or recycle e-waste, but it does not replace or supersede relevant statues and regulations. You should refer to the regulations themselves to determine the requirements that apply to you and to keep appraised of changes.

» Inspection Checklist for Universal Waste Handlers of Electronic Devices, CRTs and CRT Glass

Where can I send or take CRT materials?



One way to find a place to send or take unwanted televisions or CRT computer monitors is to check DTSC's list of CRT handlers who have submitted notifications. Anyone who accepts more than five CRT devices from off site in a calendar year is required to notify DTSC.

CRT and UWED material recyclers/collectors by county

When referring to this list, you should be aware that not every handler that notifies DTSC will accept CRT materials from other businesses or the public.

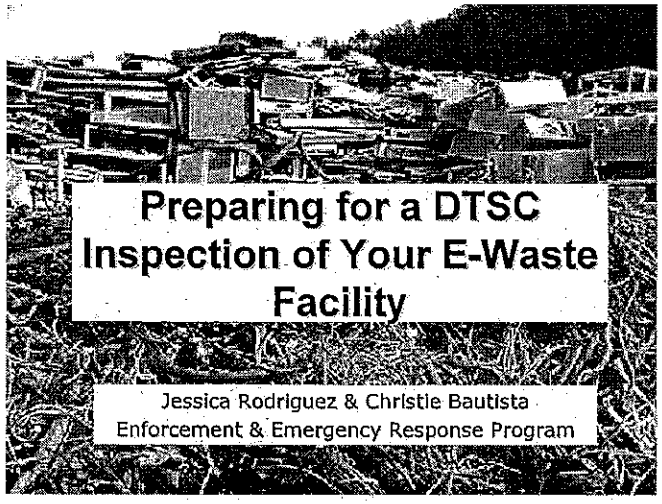
Another useful resources is CIWMB's database of the companies that collect, reuse and recycle electronic wastes.

Where can I send or take other types of e-waste?

Other types of electronic waste may also be classified as universal waste, and many of the businesses that collect or accept CRT materials also accept other types of e-waste. At present, DTSC does not maintain a list of e-waste recyclers similar to its CRT material handler list.

In addition to CRT materials, CIWMB's database lists handlers who reuse and recycle other types of electronic wastes.

Under the Cell Phone Recycling Act of 2004, retailers who sell cellular telephones are required to take them back from consumers. DTSC has prepared a fact sheet that explains the provisions of this law.



Preparing for a DTSC Inspection of Your E-Waste Facility

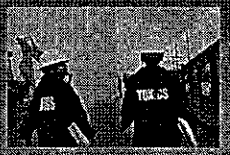
Jessica Rodriguez & Christie Bautista
Enforcement & Emergency Response Program

Who Will Inspect?

- Department of Toxic Substances Control (DTSC) conducts UW inspections
- California Integrated Waste Management Board (CIWMB) issues payment claims
- CIWMB cannot approve your payment claim until it verifies DTSC inspected your facility

What to Expect When DTSC Arrives …

- Inspectors Identification
- Ask for Consent
- Facility Walkthrough
- Record Review



When Can You Expect an Inspection?

ANY TIME … ANY DAY!

- Unannounced inspection
  - Designate backup person

Handlers … What Documents Should Have Ready?

- Notification as Handler
- ID Number
- Annual Report
- Logs/Documents Tracking Accumulation Times
- Training Records
- Logs of Incoming/ Outgoing Shipments

Notification as Handler

66273.32(a) and (b)

Notify DTSC of handling activities 30 days prior to commencing off-site collection and/or recycling activities by submitting:

- Online notification
- Hard copy notification

ID Numbers

66273.32(a) and (b)

- EPA ID→ before accumulating 5,000 kg UW (RCRA UW, which includes CRTs)
- State→ if UW handler was not required to notify U.S. EPA because its UW is non-RCRA hazardous waste, and accumulates less than 5,000 kg

Annual Reports for Handlers

66273.32(d)

UW handler that:

- Accepts > 100 kg (220 lbs) EDs, CRTs, and CRT glass from any off-site sources
- Generates 5,000 kg (11,000 lbs) EDs, CRTs, and CRT glass

Annual Reports for Handlers (cont.)

1. Submit annual report to DTSC by **February 1** of every year (electronically or submitting hard copy)
2. Please keep a copy for your own records!

Accumulation Time Limits

66273.35 - Demonstrate that your electronic waste has not been on-site for more than a year!

How Do I Demonstrate Accumulation Time?

- Marking/labeling container with the earliest date that any UW in the container became a waste or was received
- Marking/labeling dates on individual items
- Maintain an inventory system that identifies accumulation start date
- Placing UW in specific accumulation area and marking/labeling area with date

Labeling/Marking

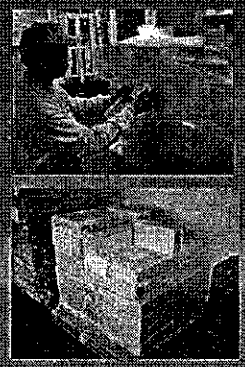
66273.34

- A universal waste handler shall label or mark universal waste to identify the type of universal waste
- Marking/labeling clearly with the following phrases:
  - "Universal Waste-Electronic Devices"
  - "Universal Waste-CRTs"
  - "Universal Waste-CRT glass" … etc.

How Do I Label My UW?

Universal waste handler may clearly label:

- Individual pieces
- Containers (gaylord boxes, bins, etc.)
- Pallets
- Designated area demarcated by boundaries



Personnel Training

66273.36

"A universal waste handler shall ensure all personnel who manage universal wastes from off-site sources are familiar with universal waste management and emergency procedures..."

Personnel Training (cont.)

Make sure you have:

- Initial training
- Annual refresher

*Remember to DOCUMENT training, and keep records for your file!

Logs of Incoming/Outgoing Shipments

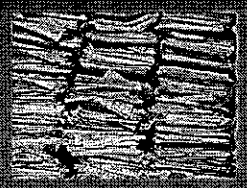
66273.39

- Log
- Invoice
- Manifest
- Bill of lading
- Or other shipping document

Logs/Records Shall Include What Information?

1. Names and addresses of handlers that you receive/ship UW
2. Quantity of ***each*** type of UW received/sent
3. Date of receipt/departure of shipment of UW

Handlers who universal waste ... what additional documents should you have?



What Documents Should a Handler Have Ready?

Who

- Notification as Handler
- ID Number
- Annual Report
- Tracking Accumulation Times
- Training Records
- Logs of Incoming/ Outgoing Shipments

Have Ready?

- Air District Permit
- Zoning
- Export Notices
- Proper Classification of Treatment Residuals
- Closure Plan
- Closure Cost Estimate
- Financial Responsibility
- Financial Assurance

Air District Permit

66273.74 (c)(1)(A) and 66273.75 (a)(6)

- Almost all handlers who treat are required to have a permit
- All new handlers who treat must contact local air pollution district to determine if permit is needed
- Local Air District Directory
  - http://www.arb.ca.gov/capcoa/roster.htm

Zoning

66273.75(e)

- Verify with local city building and planning departments that your facility is in conformance with zoning ordinances
- Make sure your facility is zoned to conduct RECYCLING activities — not just to handle

Log of Both Incoming and Outgoing Shipments

66273.39

Incoming

- Logs should have the following information from handlers
  - Generator information
  - Quantity
  - Date of receipt
  - Type (must include EDs, not just CRTs!)

Log of Both Incoming and Outgoing Shipments (cont.)

Outgoing

- Logs should have the following information from handlers
  - Generator information
  - Quantity
  - Date of departure
  - Type (must include EDs, not just CRTs!)
- Retain records for at least 3 years

Proper Classification of Treatment Residuals

66273.75(c)

- Treatment residuals include but are not limited to:
  - PCB oil
  - Batteries
  - Plastics
  - Circuit boards

Proper Classification of Treatment Residuals (cont.)

- Label circuit board residuals:
  - "Residual Printed Circuit Boards"
    or
  - "Residual Printed Circuit Board Materials"
- Demonstrate to inspector that treatment residuals are non-hazardous.
  - Analytical test results
  - Handler knowledge

Closure Plan

66273.76

- Only required for 66279.73(a)(2) and (b) activities (second category of shredders and CRT/CRT glass treatment)
- "Closure Plan"
  - Written plan identifying activities and schedules for closing one or more UW treatment units at any point during active life
- UW handler who treats shall prepare and submit closure plan

Closure Plan

- Submit prior to conducting treatment activities
- Must address active life of facility at most expensive closure scenario
- Equipment, structures, soils, HW and UW inventories, and residuals
- Sampling and testing areas to confirm decontamination
- Must modify plan: change in activity, 10% increase in capacity, submit 30 days prior to expected change/after unexpected change
- Keep copy of closure plan at facility

Closure Cost Estimate

66273.76(b)

- Submit to DTSC, after any changes to closure plan
- Include costs of inventory disposition, equipment decontamination or removal, lab testing, and cost to close UW treatment units and all other items designated in the closure plan
- Based on estimated maximum inventory of wastes and residuals, RPCB or residuals thereof

Closure Cost Estimate

66273.76(b)

- Based in hiring third party to close facility (e.g., DTSC or other)
- Annually adjust for inflation within prior to anniversary date of establishment of financial mechanisms (per 66265.143)
- Keep copies of CCE at facility

Financial Responsibility/ Financial Assurance

66273.76 (c) and (d)

- A universal waste handler who treats shall prepare and submit documentation demonstrating:
  - Financial responsibility for liability
  - Financial assurance for closure to fund the cost estimate for closure

Let's Do Our Part ...

Questions?

- Information www.dtsc.ca.gov
- Questions Uwaste@dtsc.ca.gov

Mini-Workshop for Universal Waste Handlers

Ellen L. Haertle
Office of Policy
ehaertle@dtsc.ca.gov

April 20, 23, May 7 and June 9, 2009

An introduction of who we are and why we are here today ...

What are Our Objectives Today?

Some common terminology changes ...

Say goodbye to: UWED, processors, A-D processors, CRT materials, employee training

Say hello to: treatment, electronic devices, closure plan, universal waste treatment unit, scrap metal, residual printed circuit board

Summary of changes — summary table, "significant" changes

Resource documents

Basic Tool Kit

Tools you'll need for knowing all you need to know about these regulations:

Regulation Text (various forms)

Initial Statement of Reasons (ISOR)

Final Statement of Reasons (FSOR)

Response to Comments (RTC)

Primary: Inspection checklists, DTSC guidance/FSs,

Ancillary: RCRA online, federal UW regulations, Federal Registers

New and improved ...

The Final E-Waste Regulations

Final (yes, final) UW Regulations

- Permanent regulations took effect on February 4, 2009
- They consolidate several emergency regulations adopted over the past 4 or 5 years:
  - The list of covered devices ("Appendix X")
  - The treatment and recycling rules for e-waste
  - Restrictions on heavy metals in covered devices sold in California (a.k.a., "RoHS")

Say goodbye to...

- UWEDs = Universal Waste Electronic Devices
  - Now they're just Electronic Devices
- CRT Materials
  - CRTs and CRT Glass are separate categories of Universal Waste
- CRT Device
  - CRT Devices are now included in the definition of "Electronic Device"

Say goodbye to ...

- Small and Large Quantity UW Handlers and CRT Material Handlers
  - Now they're just Universal Waste Handlers
- A-D Processors
  - Now they are UW Handlers Who Treat
- Employee Training
  - Now it's Personnel Training

What else is new?

Changes to UW Categories

- Single category "mercury-containing equipment" – consistent with term used in federal UW rule (66273.4)
- Electronic Devices clarifies "major appliance" subset (66273.9)
- CRTs and CRT glass are separate UW categories (66273.6 and 66273.7)

Basic Restructuring of Chapter 23

- Consolidate and adopt "UW handler standards"
- Article 3: UW Handler Standards
- Article 7: Authorization Requirements for UW Handlers Who Treat UW

Notification

66273.32(a) and (b)

Notification of UW management activities

U.S. EPA — before accumulating 5,000 kg UW (all that are RCRA UW, which include CRTs) notify USEPA of UW activities

DTSC — any UW handler who might accept and accumulate, but not treat, any ED, CRT and/or CRT glass from an off-site source; notifications for each location; include facility owner's name if different from UW handler

ID Numbers

66273.32(a) and (b)

What type of an ID number?

U.S. EPA – before accumulating 5,000 kg UW (that are RCRA UW, which include CRTs); part of U.S. EPA notification process

State – if the UW handler was not required to notify U.S. EPA because its accumulated 5,000 kg of UWs are all non-RCRA hazardous waste

What's Changed?

- All e-waste handlers who accumulate more than 5,000 kg of all UW at any one time will need to obtain a generator ID number
- Previously, CRTs and UWEDs were not counted toward the 5,000 kg that triggered the requirement to get an ID number

Who has to notify DTSC?

66273.32(b)

- Any location where electronic waste is generated or accepted from someone else – even if it's only for a day or a weekend – is a Universal Waste Handler
- The new regulations clarify this
- The regulations require handlers that accept electronic devices from off-site to notify DTSC 30 days in advance and to submit annual reports

Annual Reports for Handlers

66273.32(d)

Only for ED, CRT and CRT glass UW handlers

1. Accepts >100 kg (220 lb) EDs, CRTs, and CRT glass from any off-site sources
2. Generates 5,000 kg or more EDs, CRTs, and CRT glass

Some Electronic Device Management Changes

66273.3 – CRT devices now part of Electronic devices, and includes requirements for claims when an ED is not a waste (e.g., museum pieces)

66273.33.5(b) – CRT packaging requirements

66273.33.5/.72/.75 – Immediate cleanup language

66273.34 – Changes to labeling requirements for containers and areas

Other Changes for Handlers

- "Shrink wrap" is replaced with the more precise term "stretch film"
- The definition of "hazardous waste" is amended to clarify that the term includes universal waste
- Clarifies that universal waste does not have to be included in an SB 14 report

Management Requirements for Electronic Devices, CRTs, CRT glass

66273.33.5

- Restructured from existing 66273.33
- No longer contains recycling (treatment) activities
- Containerization and Packaging
- Manage in a manner to prevent breakage
- Management requirements for batteries, lamps, mercury-containing equipment still in 66273.33

Accumulation Time

66273.35

- Removes extension for recycling purposes
- Longer accumulation for recycling purposes is deleted => one year is it ...

Personnel Training

66273.36

- Single training standard for all UW handlers (includes who will be trained, content of training, frequency, and documentation)
- Applies to "personnel" and not "employee," and makes the distinction between training requirements for personnel who handle UW from off-site sources and those who handle UW generated from on-site sources

Tracking of Household and CESQUW Drop-Offs — OPTIONAL

66273.39

- Instead of recording the names and addresses of drop-offs, a handler may list "household generator" or "CESQUWG"
- Aggregating quantities from these types of generators is OK, too

Note: Detailed source documentation requirements may apply when handling *covered electronic waste (CEW)* destined for entry into California's CEW recovery and recycling payment system. Please refer to 14 CCR 18660.5 et seq. for more details.

Export Requirements

66273.40

Consolidate and adopt export requirements that are consistent with new federal rule on exports of CRT, CRT device, and CRT glass

- The federal CRT rule makes a distinction between CRTs that are exported for reclamation, those that are exported for reuse, and those that are exported for disposal

Export Requirements

66273.40

This section integrates as much as possible, the requirements of PRC §42476.5.

These were the demonstrations for proving that CEDs would be:

- Exported for the purposes of recycling or disposal
- Not imported into a country that prohibits that import
- Accompanied by the required U.S. EPA Acknowledgement of Consent (AOC)
- Exported in accordance with applicable U.S. or international law

Export Requirements

66273.40

Exports of any UW *except* EDs, CRTs, and CRT glass are subject to the export requirements of Title 22, Chapter 12 (HW export requirements)

- Time frames: require sixty (60) days notice for all notifications

Destination Facilities

66273.60

- Conduct some UW activities under chapter 23
- Allow certain destination facilities to store/accumulate certain UWs under chapter 23 requirements and only for storage/accumulation prior to certain wastes/treatment activities
- Destination facilities = permitted facilities; conditions placed on operations in the facility permit and can reference chapter 23 requirements

If you are a handler who recycles electronic waste ...

Handlers Who Treat ... New Article 7

66273.70. Applicability — sets the stage

66273.71. Removal Activities — user-removable parts

66273.72. Disassembly/Draining — using tools

66273.73. Treatment — shredders, grinders, ashing

66273.74. Notification, reporting and record keeping

66273.75. Treatment (management) standards, for those who treat under 66273.73

66273.76. Closure plans and closure cost estimates

66273.77. Closure and release of financial mechanism(s)

Classification of Treatment Residuals

Treatment of EDs may result in the generation of one or more residuals:

- Universal Waste
  - *Example:* fluorescent lamps removed from a fax machine
- Scrap Metal
  - *Example:* printed circuit boards
- Non-Hazardous waste
  - *Example:* plastic frames of devices
- Fully regulated hazardous waste
  - *Example:* baghouse dust that exhibits toxicity characteristic

If a handler treats ...

66273.72(a)(1) and 66273.73(c)

Prohibits the use or application of chemicals or certain external heat

Prohibits the treatment of EDs containing:

- PCBs
- Medical wastes
- Radioactive materials
- Reactive materials
- Ignitable materials

If a handler treats ...

66273.73(c)(1)(D)

Allows thermal assay of sampling, burning and ball-milling of samples of EDs and/or (certain) shredded circuit boards, given specific sample size or amount over a 24-hour period.

66273.75(a)

Requires that some HW be removed prior to treatment:

- Mercury-containing lamps
- PCBs capacitors
- Other components containing liquids or gases

Residual Printed Circuit Boards

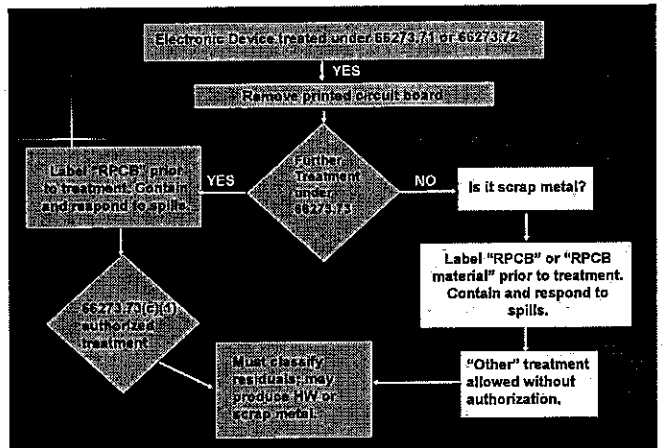
NEW, new, new to 66273.71, 66273.72 and 66273.75

- Will require that recycler (UW handler) becomes the "generator" of treatment residual and shall classify once removed (HW and/or "scrap metal")
- Label and containerize as RPCB
- Prevent releases and respond to spills
- Will allow certain treatment if RPCB determined to be "scrap metal" (meets definition and exclusion criteria)

Residual Printed Circuit Boards

66273.73(d)

- Handlers may conduct further treatment of boards that meet the definition and exemption criteria for "scrap metal" without a permit.
- This supports further recycling in California, and was developed in response to comments from treatment facilities, some of which already have HW facility permits.
- This DOES NOT LET these treatment facilities by-pass requirements for article 7 authorization or any other UW handler requirements.



EXAMPLE for SIMPLIFIED Residual Printed Circuit Board Scheme

Annual Reports for Those Who Treat

66273.74

- Required for handlers that treat ED and/or CRTs (and CRT glass)
- Requires inclusion of information regarding scrap metal (including RPCBs) and other wastes (yokes, CRT glass, and other UW) shipped off-site
- Requires keeping records of notification and most recent annual report at the handler's facility
- Notification/annual reports dated, signed and certified per 66270.11
- Can submit via Web site

Closure Plans for Treatment Facilities

66273.76(a)

- Only required for 66273.73(a)(2) and (b) activities (second category of shredders and CRT/CRT glass treatment)
- Submit 30 days prior to conducting treatment activities
- Written plan to include closure activities and schedules
- Must address active life of facility at most expensive closure scenario
- Equipment, structures, soils, HW and UW inventories, and residuals
- Sampling and testing areas to confirm decontamination
- Must modify plan: change in activity, 10% increase in capacity, submit 30 days prior to expected change/after unexpected change
- Keep copy of closure plan at facility

Closure Cost Estimates

66273.76(b)

- Submit to DTSC with closure plan, 30 days prior to initiating treatment activities
- Submit 30 days after changes to the closure plan
- Include costs of inventory disposition, equipment decontamination or removal, lab testing, and cost to close UW treatment units and all other items designated in the closure plan
- Based on estimated maximum inventory of wastes and residuals, except RPCB, or treatment residuals thereof, that are classified as "scrap metal" under article 7

Closure Cost Estimates

66273.76(b)

- Based in hiring third party to close facility (e.g., DTSC or other)
- Annually adjust for inflation within 60 days prior to anniversary date of establishment of financial mechanisms (per 66265.143)
- Keep copies of CCE at facility
- Financial responsibility for liability, per 66265.147
- Financial assurance, per 66265.143; this provides establishment of financial mechanism timeline/CCE submittal

Closure Activities

66273.77

- A procedure for closing the facility and for obtaining DTSC's release of its financial mechanism.
- Sample data, submitted by the UW handler, confirming that all units, surfaces, and areas have been decontaminated.
- The submittal shall include a facility plot plan that identifies where the samples were taken.
- A letter from the universal waste handler self-certifying closure.
- Mechanism for DTSC response to adequacy of closure and timeline for response.

How to makes these regulations work for you …

Structure of regulatory text can provide clues to where to find information on interpretation: authority and reference citations

Authority: Statutes that allow development of reg

66273.40 Exports

NOTE: Authority cited: Sections 25141, 25150, 25150.2, 25150.6, 25201, 25214.9, 25219.1 and 58012, Health and Safety Code; and Section 42475, Public Resources Code. Reference: Sections 25141, 25150, 25150.2, 25159.5, 25219, 25219.1 and 25219.2, Health and Safety Code; Section 42476.5, Public Resources Code; and 40 CFR Sections 261.39, 261.40, 261.41, and 273.40.

Reference: Statutes/fed regs that state regs provide specificity/implementation

Significant Comments Received

Scrap metal designations and printed circuit boards treatment options

Immediate cleanup interpretation

Classification of electronic devices as waste

Notification/annual reports for each handler location

Packaging materials for CRTs in containers

Others comments that were outside the scope of these regulations (changes not proposed)

A few words about collection events …

Who Has to Notify DTSC for Collection Events?

- Any location where electronic waste (electronic devices, CRTs and CRT glass) is generated or accepted from someone else — even if it's only for a day or a weekend — is a Universal Waste Handler
- The regulations require handlers that accept and may accumulate electronic devices from off-site sources to notify DTSC 30 days in advance, and to submit annual reports if they accept >100 kg electronic waste
- Notification can be from the host of a collection event, the sponsor, or a contractor who runs it
- Joint notifications (e.g., XYZ Recycler/TV-O-Rama Consumer Electronics) are OK

Eight Significant Violations Observed at E-Waste Recyclers

1. Breaking CRT glass without authorization
2. Failure to prevent or contain spills of broken glass or other residuals
3. Failure to provide and document personnel training on handling of CRTs

Eight Significant Violations Observed at E-Waste Recyclers

4. Failure to provide proper personal protective equipment and to ensure that employees wear it, as specified in their training plan
5. Being unable to demonstrate that designated items are excluded from being universal wastes

Eight Significant Violations Observed at E-Waste Recyclers

6. Failure to properly classify treatment residuals and failure to meet the conditions for excluded recyclable materials
7. Failure to submit required export notifications
8. Failure to submit annual reports

Take-Home ...

- Taking a little time to review and understand the new regulations will save you time, hassle, and money in the future
- Check our Web site. Updates – including updated guidance documents and fact sheets – are coming soon
- We're here to answer your questions ...

What's next?

- **Updated Web site information**
- **Questions to Uwaste@dtsc.ca.gov or electronicwaste@dtsc.ca.gov**

U.S. Department
of Transportation

1200 New Jersey Avenue, SE
Washington, D.C. 20590

**Pipeline and Hazardous
Materials Safety Administration**

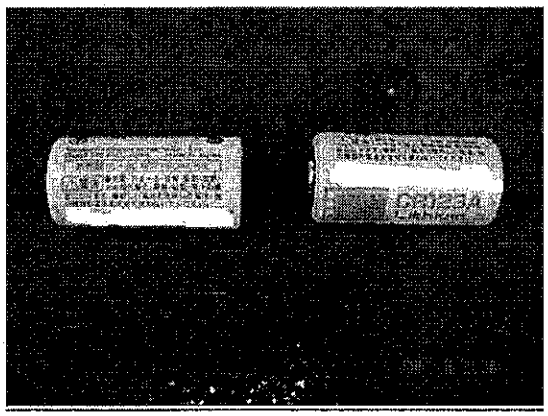
April 3, 2009

To: All battery recyclers and battery collection points and related associations.

Based on recent investigations conducted by the U.S. Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA), and based on recent incidents, this letter is generated to convey our findings and our ongoing effort to improve compliance and transportation safety. PHMSA has noted an ongoing trend of serious safety problems and non-compliance regarding the classification, packaging, marking, labeling, documentation, and transportation of spent batteries in commerce. PHMSA has great concern over the lack of compliance with and understanding of the transportation requirements for batteries. PHMSA recognizes the breadth and scope of the battery recycling and disposal industries. However, due to several incidents resulting in serious consequences, PHMSA pledges its efforts to reduce this risk by enforcing the safety standards and increasing awareness. In order to magnify its safety and compliance efforts, PHMSA feels this letter will help increase the awareness and provide a means of contact for the prescribed safety requirements to the appropriate battery recycling and disposal transportation streams.

PHMSA is concerned that many persons who ship batteries for recycling or disposal do not appreciate the hazards posed by batteries during transportation. PHMSA has documented numerous shipments that were not in compliance with requirements in the Hazardous Materials Regulations (HMR, 49 CFR Parts 171-180).

Common violations and safety problems noted during these investigations include:



(Primary lithium batteries with unprotected terminals)

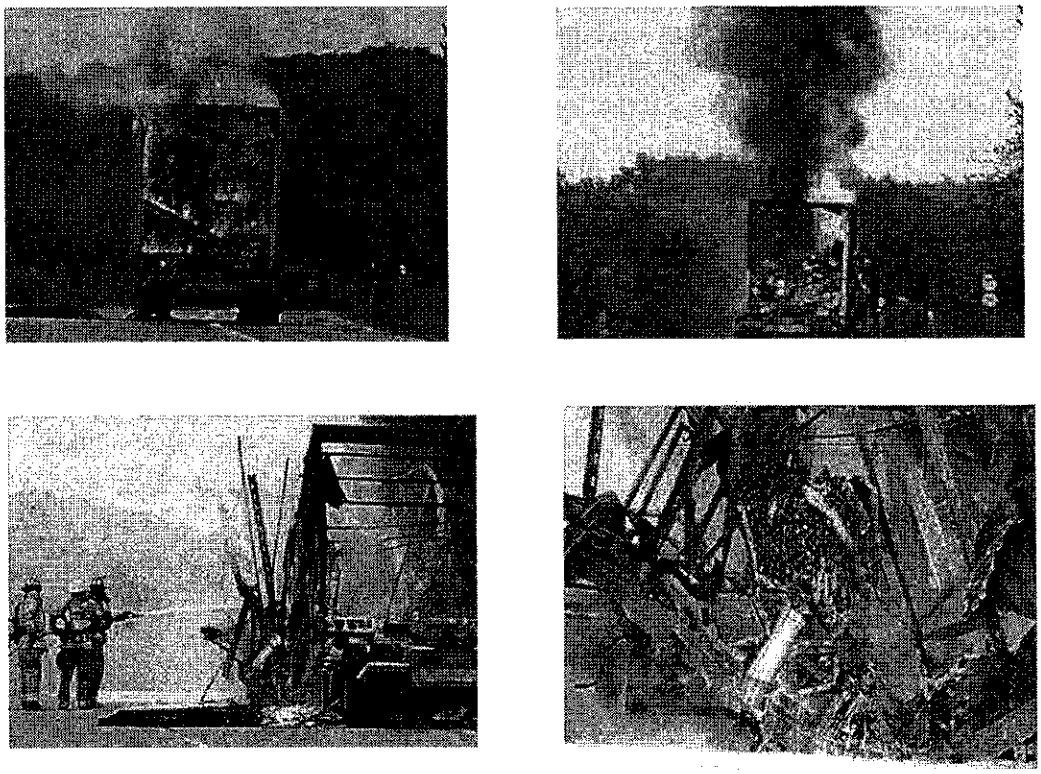
1. Large numbers of used batteries, of many different types, are collected in large containers that do not adequately prevent damage to the batteries or prevent their release during transportation.

2. Outer packages are not marked and labeled as required to indicate that they contain batteries; the shipments are not described as required on accompanying shipping documents.

3. No action is being taken to prevent a short circuit, such as ***separating the batteries by placing each one in a separate plastic "baggie" or taping the terminals of the battery.***

These types of violations appear to have directly led to a November 2006 incident in which a shipment of used, rechargeable lead acid batteries caused a fire that completely destroyed the vehicle transporting the batteries.

PHMSA has also investigated two additional parcel carrier delivery truck fires. These incidents occurred in April and of July 2008. Both of these incidents involved batteries destined for recycling.



(July 2008 truck fire in Jackson, MI)

The following is a brief summary of the requirements that apply to ground shipments of batteries for recycling or disposal. These requirements also apply to shipments of batteries from battery manufacturers, equipment manufacturers, distributors and retail sales outlets. While additional requirements apply to air shipment of batteries PHMSA is not aware of used batteries being shipped by air.

All batteries are subject to requirements in the HMR because they have two types of hazards: (1) the chemicals or other materials contained in the battery, and (2) the electrical potential of the battery.

All batteries must be packaged for transportation in a manner that prevents short circuiting and damage to the battery or its terminals. This may be achieved by packing each battery in fully enclosed inner packagings made of non conductive material or separating the batteries from each other and other conductive material in the same package and pack to prevent damage and shifting while in transport.

(Individually packaged batteries to prevent short circuits)

Lithium batteries (including lithium-ion batteries) are "Class 9" miscellaneous hazardous materials, and are subject to requirements in § 173.185. Note that "small" and "medium" sized lithium batteries may be shipped by ground under the requirements in § 172.102 Special Provisions 188 and 189.

Batteries, wet including batteries containing electrolyte acid or alkaline battery fluid are "Class 8" corrosive hazardous materials, and are subject to requirements in § 173.159. This section allows for reduced requirements when the batteries are shipped by ground by themselves (*i.e.*, no other hazardous materials on the same vehicle).

Batteries containing sodium are "Division 4.3" dangerous when wet hazardous materials, and are subject to the requirements in § 173.189.

Batteries, dry, containing potassium hydroxide solid are class 8 corrosive hazardous materials, and are subject to requirements in 49 C.F.R. § 173.213.

Batteries, dry, include the common household type alkaline batteries. Additionally, these include nickel cadmium (NiCad), nickel metal hydride (NiMH) and silver-zinc batteries. These "dry" batteries unless specifically covered by another entry in the Hazardous Material Table (HMT) are not subject to the HMR provided they are in conformance with § 172.102 Special Provision (SP) 130. SP 130 prescribes they are to be securely packaged to prevent the dangerous evolution of heat and protect against short circuits. Insulating the exposed terminal ends and securely packaging the batteries is an effective means for complying with SP 130.

On January 14, 2009, PHMSA published a Final Rule in the Federal Register under Dockets HM-215J and HM-224D titled "Revision to Requirements for the Transportation of Batteries and Battery-Powered Devices; and Harmonization with the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Organization's Technical Instructions".

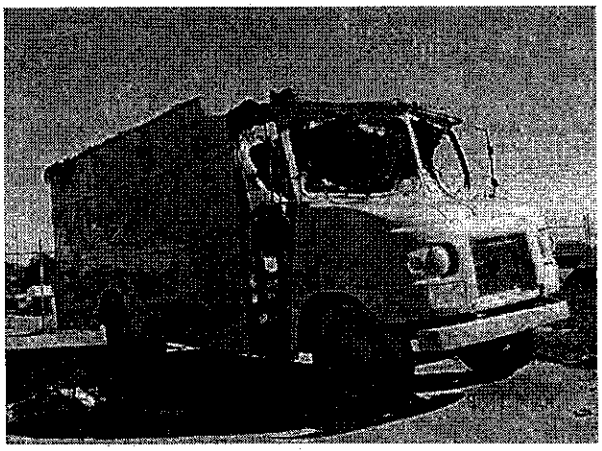
Except as specified in §§ 171.14, 171.25, 172.102,172.448, and 178.703 as amended, compliance with the amendments adopted in this final rule will be required beginning January 1, 2010, with a voluntary compliance date of January 1, 2009.

This final rule:

- Requires reporting of incidents involving batteries and battery-powered devices that result in a fire, violent rupture, explosion, or dangerous evolution of heat. Immediate notice is limited to air transport of batteries and battery-powered devices.

- Clarifies the requirement that batteries and battery-powered devices and vehicles be offered for transportation and transported in a manner that prevents short-circuiting, the potential of a dangerous evolution of heat, damage to terminals, and, in the case of transportation by aircraft, unintentional activation.

- Includes several examples of packaging methods that meet the requirement to be packed in a manner that prevents short circuits.



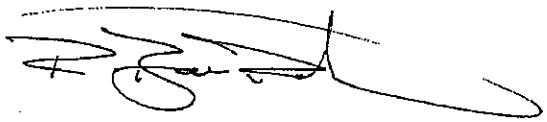
(November 2006 truck fire in Galesburg, IL)

DOT encourages and supports the safe recycling and disposal of used batteries. However, we take an aggressive approach to swiftly investigate and enforce the safety requirements in the HMR for complaints and transportation incidents such as the parcel carrier delivery truck battery incident in November 2006.

Persons who violate the HMR may be subject to significant civil penalties and criminal fines and imprisonment. The maximum penalties depend on several factors, including the nature and circumstances, extent and gravity, and severity of the consequences of the violation, but can range up to $100,000 for a civil penalty and $500,000 and ten years in jail for a criminal penalty. In a recent enforcement case, PHMSA assessed a total civil penalty of $360,000 for multiple violations of the HMR relating to the improper shipment of used batteries for recycling or disposal.

More detailed information on the requirements in the HMR governing the shipment of batteries and additional guidance are available on DOT's Hazmat Safety web site: http://www.phmsa.dot.gov/hazmat. The HMR are also accessible through our website, and you can obtain answers to specific questions from the Hazardous Materials Information Center at 1-800-467-4922 (in Washington, DC, call 202-366-4488).

Sincerely,



R. Ryan Posten
Director, Office of Hazardous Materials Enforcement

Mary Pitto

From: hhwie@yahoogroups.com on behalf of Andre Algazi [AAlgazi@dtsc.ca.gov]
Sent: Monday, April 27, 2009 11:17 AM
To: hhwie@yahoogroups.com
Subject: [hhwie] To tape or not to tape (batteries)...

The recent changes to the U.S. Department of Transportation (DOT) rules for transportation of batteries, and their potential impacts on the collection and accumulation of batteries by HHW collection programs, have stimulated a lot of discussion here. DTSC would like to clarify that the packaging requirements for batteries that are collected, stored, and accumulated at a collection prior to shipping to a recycler, have not changed.

- The Health and Safety Code requires that batteries be stored and transferred "in a manner which minimizes the possibility of fire, explosion, or any release of hazardous substances or hazardous waste constituents." (Health & Saf. Code section 25216.1(a)(2))

- DTSC's Universal Waste Regulations require a handler of "any battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container shall be closed, structurally sound, compatible with the battery and its contents, and shall lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions." (Tit. 22 Cal. Code Regs., ch. 23, section 66273.33(a)(1))

When the time comes to transport universal waste batteries off site, DTSC's regulations require a universal waste transporter to "comply with all applicable U.S Department of Transportation (DOT) regulations in 49 CFR parts 171 through 180 for transport of universal waste that meets the definition of a hazardous material in 49 CFR 171.8." (Cal. Code Regs., tit. 22, ch. 23, section 66273.52(a))

A recent DOT guidance letter to recyclers states that "[all] batteries are subject to requirements in the [DOT Hazardous Materials Regulations (HMR)] because they have two types of hazards: (1) the chemicals or other materials contained in the battery, and (2) the electrical potential of the battery."

DOT's regulations require that dry cell batteries, including household type alkaline batteries, nickel cadmium, nickel metal hydride and silver zinc batteries, be securely packaged to prevent the dangerous evolution of heat and protect against short circuits (Title 49 CFR Part 172.102 Special Provision 130). Households are exempt from these packaging requirements, so they first come into play when batteries are transported from an HHW facility. Special Provision 130 includes a list of packaging methods, one of which is "Ensuring exposed terminals or connectors are protected with nonconductive caps, non-conductive tape, or by other appropriate means." It does not prescribe taping each battery's terminals individually as the only packaging option.

Please refer to the Federal Register notice for DOT's January 14, 2009 regulations for more information: http://edocket.access.gpo.gov/2009/pdf/E8-31383.pdf. You may also find DOT's April 3rd of 2009 Guidance Letter to battery recyclers and collection points to be helpful (see David Wyatt's 4/17/2009 11:23 a.m. post).

Kinsbursky Brothers provides a battery packaging guide on its Web page, which includes additional packaging recommendations for various types of batteries (http://www.kinsbursky.com/Battery Guide.pdf). (Note: references to non-DTSC Web pages or guidance documents are not an endorsement of any business or as a guarantee that the information contained on the Web page or guidance is correct.)

We encourage HHWs to use this listserv to share ideas and information on creative ways to meet these new requirements.

Andre

Andre Algazi, Supervisor
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Department of Toxic Substances Control

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