



Packaging and Transporting Electronics

This document serves as your electronics collection site operations plan. As a member of the Take It Back Network, your business has committed to collect electronics and recycle them in a safe and responsible manner. This brochure provides you with tips and guidelines for proper handling of electronic products for recycling at your store or place of business. By following these guidelines, you will meet current requirements of the Snohomish Health District for the handling of electronic products.

CRT Packaging Procedures

Pallets

Pallets are commonly 40" x 48." Secure the load with shrink-wrap or stretch wrap. Work with your vendors to obtain pallets.

- Put monitors and televisions of similar size together for most stable stacking.
- Place intact monitors in layers, with 9 or 12 units per layer.
- To prevent shifting during handling, do not stack the monitors face down on the pallets.
- Starting from the bottom up, tightly shrink-wrap the CRTs onto the pallet, if possible. Put cardboard between each layer for stability (see photo)
- Depending on the size of the CRTs, you may be able to stack three or four layers of CRTs depending on the stability of the CRTs on the pallet.



Monitors stacked in layers and shrink-wrapped.

Gaylord Boxes

Gaylord boxes are reusable triple wall corrugated cardboard shipping and storage boxes, typically 48" x 48". They fold flat when empty for easy storage and shipping.

- Place gaylord boxes on pallets. Place television or computer units in the boxes as neatly as possible to condense the load and maximize the number of units in each box. (see photo)
- You may have units over the top, but for stability, don't go too high.
- To load them, it is easier to cut down one side. Seal the cut side with shrink wrap.



Gaylord box on pallet.

Shipping Containers or Trailer (Loosepack)

Shipping containers are up to 40 cubic yards in size. They are ideal for sites with enough space to accommodate the units and a large monthly collection volume. A 40-yard box is 9'x9'x27'. Discuss this option with your recycling vendor to see if it's a practical option for both parties.

- Place units in the container as carefully as possible. Pack them as tightly as possible to minimize breakage and shifting. Ship the container only when full.
- Keep the container closed and locked at all times except when adding units.

Storage and Labeling

It is important to store the units designated for recycling separately from other, repairable units. A best management practice would be to designate a shelving unit or two for spent units and label the shelving units "Units for Recycling."

Units stored outside should be stored in a way to prevent breakage. If units could potentially be reused or parted out, they must be kept dry. If stored on pallets, place the



Shipping container.



Units stored safely and separately while awaiting shipping.



Loading pallets using forklift.

# of containers	Description of Articles	Approx. weight	Approx. value	Quantity of units

Bill of lading.



Broken glass in 5-gallon, labeled bucket.

pallet on plastic to capture any accidental breakage. Dumpsters and containers should be closed and locked when not placing units inside. Units designated for recycling may not be stored on site longer than 180 days unless you notify the health district you require a longer storage time.

When preparing all units for shipment, ensure they are securely packed so that no units shift or fall out during loading, transport, and unloading. Label all shipping units (pallets, boxes, dumpsters) with a label that clearly lists the name of your shop, the address, a phone number in case there is a problem either in transport or receiving, and what you are shipping (TVs, computers, monitors and other CRTs, CPUs, big screen TVs, broken CRT glass).

Scheduling Pickups

- Check with your vendor to see how much notice is required for pickup.
- If units are not packaged for shipment on an ongoing basis, remove units from the shelves and package onto pallets or into boxes the day of the shipment. If necessary to provide easy access for your recycling vendor, place the boxes or pallets on your loading dock, or in one parking space for pick up.
- If so arranged with your vendor, they may package the materials for you when they come to collect the materials.

Shipping Day Procedures

Check with your hauler or recycling vendor on specific shipping day procedures.

- Check your labels to ensure they are securely fastened on the pallets or boxes.
- Sign the bill of lading that accurately states total number of units or total weight.
- Keep one copy of the bill of lading as proof of shipment.

Broken CRT Packaging

Electronics collection sites should attempt to minimize breakage, but when it occurs, it should be contained promptly to avoid contamination.

- Sweep the broken CRT glass into a five-gallon bucket marked with a universal waste label. (Do not use hose to wash broken materials into the gutter or drain.) If you need more labels or buckets, call the MRW facility (425-388-6052). The bucket of glass will go with the other CRTs for recycling. Mark the bucket with the date you first placed glass in it.
- See the Spill Cleanup Procedures under the Health & Safety Plan.

Reporting

Keep good records. It will make it easier to meet government reporting requirements and help iron out any invoicing issues with your recycling vendor. It will also assist you in measuring the financial success of your recycling venture as part of your overall business.

- Keep a tally of television and computer units as they are collected, then check them off as they are shipped for recycling. Waiting until shipping day to count the units invites the possibility of miscounts.
- The Snohomish Health District requires annual volume reporting. Send a one-page summary listing the number of televisions and computer units annually collected by your business for recycling to Deanna Seaman, Snohomish County Public Works-Solid Waste Management, 2930 Wetmore Avenue, Suite 101, Everett, WA 98201 by December 31 of each year. A sample summary form and monthly tally are included with this plan.
- Always check the recycler's invoice against the bill of lading and clarify any discrepancies.

Health and Safety Plan

Including Handling of Broken CRT Materials

Site Safety and Health Responsibility

The collection site shop has the primary responsibility for the safety and health of shop employees on site. The shop owner or supervisor has the responsibility to equip and train all employees dealing with discarded electronic products and to implement the proper Safety and Health Plan. In the event of an emergency, call 911.

Safe Work Practices

Televisions and computer units are heavy and awkward. All personnel must observe the following safe work practices:

- Inspect packaging materials for shipping integrity prior to moving the pallets or boxes.
- Repack or apply more shrink-wrap if necessary.
- Observe safe lifting procedures, which means using leg muscles, not the back.
- Inspect all units to ensure there is no broken glass.

All work activities will be carried out based on applicable Washington State Department of Transportation, U.S. Environmental Protection Agency and State of Washington regulations for packing and transportation of these materials.

Associated Health and Safety Risks

Based on the outlined work tasks, the types of personnel hazards that exist include heat stress and physical injury. Precautions must be taken to address these potential hazards which include: lifting injuries, potential exposure to lead oxide, and others. Material Safety Data Sheets (MSDSs) for lead oxide follow this plan.

Spill Cleanup and Secondary Containment

Spill clean up is always the first priority. It should be addressed promptly whenever necessary.

Proper equipment for spill clean up includes:

- Hand brooms*
 - Leather gloves
 - 2-strap particulate face mask
 - Scoop shovels and dust pans*
 - 5-gallon plastic buckets with universal waste labels
- * Use these only for spill cleanup activities.

Procedures for dealing with broken CRT glass include:

- Alert site supervisor.
- Assess the amount of material spilled.
- Use hand broom and dustpan to collect the spilled material.
- Place the collected original material into a 5-gallon bucket and seal.
- Place the 5-gallon bucket with other CRTs for recycling.
- Record material on Bill of Lading.



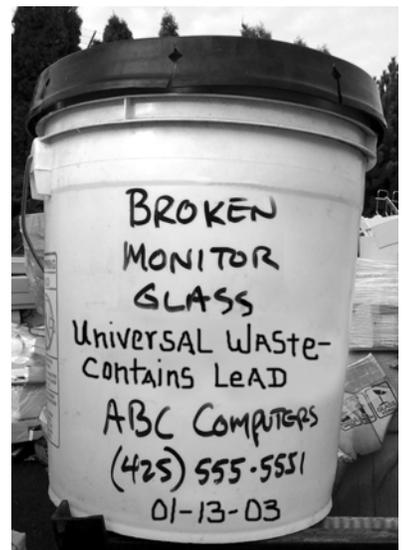
Monitors packaged and labeled for shipping.



Proper packaging of monitors.



Moving monitors on-site.



Properly labeled bucket for broken glass.



Copper parts for recycling.



Wood components.



Photo by: Basel Action Network (www.ban.org)

The Take It Back members are very concerned about the export of whole units to countries whose environmental and worker safety laws are lax.

Due Dilligence of Recycling Vendors

While the Take it Back Network has made significant efforts to locate companies who are legitimate electronics recyclers, by no means have we verified every company engaged in this work. A company may come to you with a price proposal and it is YOUR responsibility to ensure they are managing your material in an environmentally compliant fashion. Be sure to ask the company what they do with every component that can come from a television, monitor, and CPU. The table below lists some examples of commodity streams. Ask your recycler how these materials are managed.

Commodity Management Program

Material/ Commodity	Typical Recycling or Management Process	Typical Who and Where
CRT Glass contains and coated with Lead Oxide	About 25% goes back into monitors, the rest is managed by primary lead smelters in the US and Canada	New Monitor Glass: Techneglass, Envirocycle Smelters: The Doe Run Company, Noranda
Copper and Precious Metals	Sent to primary and secondary smelters for reclamation	The Doe Run Company, Noranda, others
Ferrous Metals	Sent for recycling in the secondary steel market	Rebar, etc
Non-ferrous Metals	Secondary smelters and scrap consumers	Typically US
HIPS, ABS Plastics	Plastics are re-ground or baled and sold for use in new products	US and overseas markets
Wood Components	Cross linked laminated cabinets and particle wood cabinets	Solid waste landfill
Other Hazardous Components	PCB Capacitors, Mercury Switches	Licensed hazardous waste management firms.

- Ask your vendor where these materials go and how they are handled.
- Don't accept vague answers like "secondary markets." You want to know that units are disassembled in the US and commodity may be shipped overseas, but you still need to know where.
- Be aware that individuals exporting CRTs outside the United States must have documentation that the receiving facility will legitimately recycle the electronic materials (see Page 4 of DOE's Interim Enforcement Policy).
- If you have determined a unit non-repairable, don't sell it or pay to get rid of it to someone who claims they can re-use it.