



State of Oregon
Department of
Environmental
Quality

Electronics Waste Collector and Dismantler Site Visits

Submitted to: Solid Waste Management Team
By: Amanda Romero (on behalf of the DEQ E-Waste Regulatory Team)

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Introduction

Electronics waste recycling is a growing sector in Oregon. DEQ initiated the E-cycles program in 2009 and the landfill ban on covered electronic devices in 2010. Since electronics contain hazardous materials such as lead, mercury and cadmium, storage and handling must meet solid and hazardous waste requirements to protect human and environmental health.

E-waste is still a fast growing part of our waste stream. More and more facilities are accepting e-waste and most of them are operating in a manner protective of Oregon's environment. In fact, many of the dismantlers are voluntarily undergoing third party certification such as R2 or E-Stewards which have stringent environmental requirements and downstream investigation. Technical assistance at these sites was generally well received and addressed many potential environmental risks.

DEQ hazardous waste and solid waste inspectors discovered several instances of mismanagement of e-waste through complaints in past years. In response, DEQ created the E-waste regulatory team (consisting of managers and staff from regional and headquarters, hazardous waste program and solid waste programs and E-cycles programs) to draft an internal management directive to set-up a systematic, consistent approach to solid waste permitting using existing hazardous and solid waste rules. The internal management directive, signed in April 2009, was accompanied by an implementation plan for a multi-year roll out of the new permitting and inspection guidance.

Over the past two years, DEQ has accomplished the following items listed in the implementation plan:

- Amended solid waste permits and/or operations plans of currently permitted facilities
- Issued solid waste permits issued to the highest environmental risk e-waste dismantlers (cathode ray tube crushing, or grinding operations)
- Conducted a written survey of e-waste dismantlers
- Carried out site visits and evaluation of need for solid waste permits for high priority dismantlers (including all E-cycles processors in Oregon)
- In 2011, carried out site visits to 20 percent of E-cycles collectors in each region
- DEQ web site updated with current e-waste collectors and dismantlers statewide

Sites Visited

In 2011, DEQ carried out site visits at 20% of the E-cycles collectors and all of the E-cycles processors according to the compliance verification plan in Attachment 1. Conducting the site visits required prioritizing the dismantlers, reviewing survey submittals, planning efficient routes, scheduling visits with facility operators, traveling to and from the sites, writing site visit reports and following up with the facilities.

Collector and Dismantler Visit Counts

ER	13
WR	18
NWR	30
TOTAL	61

Findings

Below are representative photos of what was observed at the visits. Bulleted items are generalizations, most site visits exhibited these characteristics. Technical assistance staff did not find sufficient environmental risk, per the guidelines in the internal management directive to issue solid waste permits to any of the processors or collectors visited. Some facilities requested and were provided additional technical assistance.

E-Cycles Collectors

Storage

- Indoors
- On pallets or in Gaylord totes
- Separated from other wastes

Handling

- Minimal, some testing for reuse



NWR Typical Goodwill collections trailer. Portland



NWR Typical area for receiving and shipping E-waste. Standard TV and Appliance, Portland



ER Area for receiving and shipping E-waste. Madras Sanitary Service, Madras



ER Area for receiving E-waste. Good Sheppard HealthCare. Items stored for short period (less than 1 day) outside before being stored in the building. Hermiston



ER Area for storing E-waste. Opportunity Connections Thrift Store, The Dalles



ER Area for storing E-waste. Madras Sanitary Service, Madras



ER Typical storage area. Madras Sanitary Service, Madras



ER Signage Opportunity Connections Thrift Store, The Dalles



NWR Signage Goodwill Outlet, Portland

High Priority Dismantlers including all E-cycles Processors in Oregon Storage

- Indoors (except metal in closed drop boxes outdoors)
- On pallets or in Gaylord totes
- Separated from other wastes

Handling

- Dismantled carefully using hand tools
- Cathode ray tubes removed from devices but not broken or crushed –or- kept whole inside devices
- Valuable pieces removed carefully for resale
- Hard drives systematically wiped or destroyed (punched, or shredded)



NWR A typical storage area. City Recycle , Portland



NWR TV dismantling (CRT kept whole) Total Reclaim, Portland



NWR Laptop dismantling, testing. Technology Conservation Group, Portland



NWR Computers awaiting dismantling. Free Geek, Portland



NWR Wire, keyboards sorted and stored. Free Geek, Portland



NWR Computer dismantling. Computer Drive Connection, Cornelius



WR – Computer Tune up and Repair. A very small repair shop/ home, Corvallis



WR – Garten Services, Eugene

Other findings, not related to e-waste:

While conducting the site visits, technical assistance staff identified other operations on site that needed attention. DEQ provided recommendations for appropriately managing other materials on site. The most common recommendation was better labeling and packaging of universal waste lamps. Technical Assistance staff spent the most time following up on concerns about household hazardous waste found at thrift stores.



NWR Paint and oil bulking at Goodwill Outlet, Portland



NWR Bins for separating “HazMat” at Goodwill Outlet, Hillsboro



NWR Universal Waste Lamps, Total Reclaim, Portland



WR - Goodwill typical storage of HHW

Recommendations

Technical assistance staff had several recommendations for handling e-waste site visits in the future and for how to better use staff resources to ascertain compliance with e-cycles environmental management practices. They are as follows:

- 1) **Coordinate E-cycles collector visits with regularly scheduled inspections.** With the short timeline afforded to conduct these visits, some staff traveled several hours only to conduct a 20 minute inspection of a Goodwill drop-off site. Spreading this effort over the year and integrating it into the established inspection schedule for permitted facilities would gain efficiencies.
- 2) **Visit fewer E-cycles collectors.** This year DEQ staff went to 20 percent of the sites and identified no environmental concerns regarding how e-waste is being stored or managed. Staff recommend that in the future, inspecting 10 percent of the collectors annually would provide sufficient verification that e-waste was being adequately managed. The majority of E-cycles collectors do very little handling or processing of e-waste and are storing materials in environmentally protective ways.
- 3) **Provide E-cycles collectors with more E-cycles information through the participating programs.** The E-cycles collectors were not all aware of the E-cycles environmental monitoring plans. They could use more communication from the state contractor and other plans regarding the environmental management plans. They could also be provided with additional signage about the landfill ban on covered electronic devices. Very few of the collectors had a good plan for containing a broken cathode ray tube. Most collectors said they have never had to deal with this rare occurrence, but it would still be good for them to have a plan in place.
- 4) **Provide household hazardous waste technical assistance to thrift store sector.** Thrift stores such as Goodwill and Salvation Army receive a significant amount of household hazardous waste such as paint, solvents, tanks under pressure (propane, oxygen) and unknown chemicals. It was clear that thrift store staff needed more information about how to safely manage and deter donations of this type of waste. NWR staff are continuing to work with these facilities to put into place better acceptance and management protocols.
- 5) **E-cycles specific reporting and requirements should be assessed by E-cycles staff or Plans.** Reviewing liability insurance documents, E-cycles covered vs. non covered entity material tracking, investigation into unregistered manufacturers selling into the marketplace, and checking for point of sale paperwork should be completed by E-cycles specific staff or plan representatives. This kind of investigation is outside of the expertise and normal job duties of the DEQ solid and hazardous waste technical assistance and compliance staff.

- 6) **Conduct inspections at high priority dismantlers once every three years or more frequently based on complaints.** As with the collectors, DEQ staff found very few environmental concerns with facilities that dismantle, disassemble or remanufacture electronic equipment. Staff recommend that these facilities be inspected every three years. If DEQ has reason to believe that these facilities are out of compliance with current hazardous or solid waste rules, DEQ staff should inspect them more frequently.

- 7) **Monitor e-waste markets.** The market for e-waste components changes frequently with the CRT market being the most unstable. Of all the items stored, televisions and computer monitors were by far the most prevalent. DEQ should keep a close eye on the available recycling markets for e-waste and adjust policies accordingly. E-cycles staff should help regional staff stay abreast of markets and resources to better determine times when speculative accumulation is likely or if markets disappear.

Conclusions

DEQ will continue to carry out the recommendations in the internal management directive and will conduct inspections at a specific number of the collectors and processors to be determined annually by the program management team. If environmental concerns are identified and facilities do not adequately address those concerns, then solid waste permits or enforcement are tools that DEQ can use in addition to ongoing education and outreach to address remaining environmental problems.

Appendix A

Revised: March 16, 2011

Overview - Oregon E-Cycles 2011 Compliance Plan

This overview describes DEQ’s plan for inspecting collectors¹ and in-state processors² of e-waste managed through Oregon E-Cycles. This plan is designed to be coordinated with the DEQ compliance strategy for all electronic wastes handlers in Oregon, which includes collectors and processors who do not participate in Oregon E-Cycles.

A. Selection and number of site visits for 2011

- a. 100% of processors operating in Oregon will be inspected, See Attachment B.
- b. 20% of collectors who are not permitted will be inspected. Sites are identified based on:
 - i. 20% of collectors from each approved E-Cycles Plan and the State Contractor program (SCP).
 - ii. Geographic distribution statewide using DEQ Regions to delineate.
 - iii. Distribution for 2011:

Plan/SCP*	Geographic/DEQ Region
MRM: 19 out of 183	ER= 13
MGP: 11 out of 129	NWR= 17
SCP: 10 out of 86	WR= 16
IPR: 6 out of 62	
*Many facilities in multiple plans	

The list of collection sites to be inspected is on the Solid Waste SharePoint, “RandomSelectionE-CyclesCollectorsStatewide”.

- c. Collection facilities with solid waste permits will be inspected according to the 2011 solid waste permit inspection schedule.

B. Inspection type

- a. 2011 site visits will be technical assistance visits for collectors and processors, progressing to compliance inspections in subsequent years.

¹ Collector defined as someone who takes e-waste in and prepares it for shipping out with minimal handling and may store it for some period of time.

² Processor defined as someone who does some or all of the following to e-waste received at their facility: disassembly, dismantling, dismantling and remanufacturing, shredding, grinding, or breaking.

- b. Checklist (Attachment A) will be used to document technical assistance site visits and compliance inspections in subsequent years. Checklist is designed to be used for all electronics handlers, with some check points specific to Oregon E-Cycles facilities.

C. Implementation schedule

- a. Processors – March through May 2011
- b. Unpermitted Collectors – March through May 2011
- c. Permitted collectors – according to 2011 inspection schedule

Permitted collector and processor facilities – in accordance with DEQ’s annual solid waste permit inspection schedule for calendar year 2011.

Attachment A: Processor Facility List

Attachment B: Compliance Checklist

Attachment A - Processors

Oregon E-cycles 2011 Compliance Plan

Processor Facility Inspection List:

1. Universal Recycling Technologies, Clackamas (NWR)
2. Waste Management Recycle America, LLC, Tigard (NWR)
3. Total Reclaim, Inc., Portland (NWR)
4. Free Geek, Portland (NWR)
5. TCG, Portland (NWR)

Attachment B – Compliance Checklist

Oregon DEQ Electronics Waste Facility Site Visit Checklist



Facility Name:

Physical Address:

Mailing Address:

Facility Contact Name:

Facility Contact Phone Number:

Visit Date: _____ **Start Time:** _____ **End Time:** _____

Facility Staff Present:

DEQ Staff Present:

Previous DEQ Site Visit Date:

Inspection Basis:

- Technical Assistance
- Citizen Complaint
- Field Siting
- Enforcement Follow-Up
- Other (specify)

E:Cycles Participation:

- Not Participating
- E-cycles Collector (add questions 18-21)
- E-cycles Recycler (add questions 18-21)

E-waste Facility Type:

- | | | |
|-----------------|------------------------------------------------------------------|----------------------------------------------|
| Collection Only | Dismantling, Disassembly,
Remanufacturing
Other (specify): | Shredding/Grinding
Smelting/ Transforming |
|-----------------|------------------------------------------------------------------|----------------------------------------------|

Site Visit Summary:

Weather conditions, Temperature, Wind, General site layout

Oregon DEQ Electronics Waste Facility Site Visit Checklist

GENERAL OPERATIONS

1. Operating Hours

Yes No Is there adequate signage informing the public of the operating hours of the facility?

Yes No Is facility staff present during operating hours?

Yes No Is there adequate signage informing the public of what is accepted at the facility?

Notes:

2. Access Control

Yes No Was public access to the facility being controlled in order to prevent unauthorized entry?

Yes No Did the facility have security fencing, gates and locks?

Yes No Did the facility have a procedure to manage visitors?

Yes No Did the facility have a signage or other methods to prevent unauthorized dumping?

Yes No Is there signage informing the public about the E-waste disposal ban?

Notes:

References: Some e-waste components are targeted by thieves-- valuable metals such as copper, potentially valuable data on hard drives. CRTs are often subject to vandalism if kept unsecured (smashing). These items should be kept secure to prevent unauthorized disposal and environmental and human health impacts of broken CRTs (lead dusts).

3. Facility Buildings

Fully enclosed building

3-Sided building

Roof structure (no walls) over concrete pad

Roof structure (no walls) over dirt or gravel

Concrete pad (no structure)

Dirt or gravel base (no structure)

Includes Off-site storage at another facility or storage area

Other

Notes:

References: According to the E-waste Facility Regulation Internal Management Directive (IMD), facilities which process materials outdoors, or store e-wastes exposed to the elements may be required to obtain a DEQ solid waste permit. Conditions would be placed in the permit to ensure operations do not impact the environment. E-wastes contain hazardous materials such as lead, mercury, cadmium. Collection, storage and processing should all occur inside an enclosed structure. This eliminates potential exposure to stormwater, and allows for adequate spill clean-up.

4. Facility Operations (Check all that apply.)

Collecting electronic waste

Transferring whole electronic waste devices for further processing

Cutting cords off of devices

Dismantling devices using hand tools to recycle devices or component parts

Taking apart devices in order to do repairs

Taking apart devices to recover parts to put into other devices or for sale

Shredding whole devices

Shredding component parts

Dismantling or breaking open CRT devices

Breaking or grinding CRT glass

Smelting, melting, burning, or transforming materials

Other

Other

Notes:

Oregon DEQ Electronics Waste Facility Site Visit Checklist

References: According to the IMD, higher risk facilities (those that shred, grind or break CRTs) require DEQ permits automatically, Other activities such as smelting, or significant dismantling may require a solid waste permit if DEQ determines that the environmental risk is sufficient and/or is not addressed by other types of DEQ permits.

WASTE ACCEPTANCE, HANDLING, SORTING & STORAGE

5. Accepted E-waste

Desktop computers	Keyboards, mice, speakers or other computer peripherals
Portable computers	
CRT monitors	Copy machines
CRT televisions	DVD players
LCD monitors	VCRs
LCD televisions	Plasma televisions
Cell phones	Other:
Printers	Other:
Fax machines	

Notes:

References: Facilities participating in Oregon E-cycles collect computers (desktop and portable), televisions, and monitors. If the facility accepts additional items, they must be handled and stored according to solid waste, hazardous waste, and universal waste rules.

6. Other Accepted Wastes

Batteries (lead-acid)	Source separated recyclables (ie: curbside collection)
Batteries (alkaline)	Solid Waste, other types of wastes
Batteries (other)	Lamp ballasts (PCB or Non-PCB)
Fluorescent lamps	Other
Household goods for resale (not electronics)	Other
	Other

Notes:

References: Batteries can be managed as universal waste or as hazardous waste. Universal waste requirements are explained here:

- <http://www.deq.state.or.us/lq/pubs/factsheets/hw/ManagementWasteBatteries.pdf>
- <http://www.deq.state.or.us/lq/pubs/factsheets/hw/LampsBallasts.pdf>

7. Waste Amounts

_____Tons/Year (estimate, or from records, 1 ton = 2,000 lbs)

Sample Average Weights:

CRT Monitor 40 lbs (0.02 T)	CRT TV < 19 Inches Diagonal 41 lbs (0.0205 T)
Flat Panel Monitor 24 lbs (0.012 T)	CRT TV > 19 Inches Diagonal 73 lbs (0.0365 T)
Desktop Computer 22 lbs (0.011 T)	Flat Panel TV 29 lbs (0.0145 T)
Portable Computer 7 lbs (0.0035 T)	

Notes:

References: According to the IMD, facilities that receive over 100 Tons of e-waste a year may be required to obtain a solid waste permit. Facilities with a higher volume throughput have a higher potential to impact the environment and/or leave costly messes if operators abandon the enterprise.

Oregon DEQ Electronics Waste Facility Site Visit Checklist

8. Waste Sources

Household

Conditionally Exempt Generators (generate < 220 lbs of HW a month)

Small Quantity Hazardous Waste Generators (generate > 220 lbs but < 2,200 lbs of HW a month)

Large Quantity Hazardous Waste Generators (generate > 2,200 lbs of HW a month)

Other:

Yes No If facility accepts from multiple sources, are materials kept separate?

Yes No Are records kept that distinguish waste sources?

Notes:

References: E-waste collected from HW Generators for a feasible means of recycling that is not speculatively accumulated (>180 days) is exempted from hazardous waste regulations. E-waste from households is not regulated as hazardous, unless the e-waste recycling facility processes the waste and the resulting material is destined for disposal (NOT recycling) and designates as hazardous waste. If facilities cannot prove that all of their incoming waste is from households, and it is being speculatively accumulated or disposed (not recycled), the facility must adhere to all hazardous waste rules. (This includes making a hazardous waste determination, keeping receipts for incoming waste, bills of lading, shipping receipts, disposal receipts, and HW manifests.) Source: E-waste Inspector Guidance

9. Collection, Processing Activities and Storage

<u>Materials of Concern</u>	<u>Storage Method/ Location</u>	<u>Processing Description</u>	<u>Storage Duration</u>
Desktop Computers			
CRT Monitors			
CRT Televisions			
Portable Computers			
LCD or Plasma Monitors or Televisions			
Peripherals			
Fluorescent Lamps			
Batteries			
Component Parts			
Shredded Materials			

Oregon DEQ Electronics Waste Facility Site Visit Checklist

Handling and Storage Recommendations:

(ALL Items should be stored out of the elements and in a manner such that a spill could be cleaned thoroughly without impact to the ground or nearby water. Monitors and televisions should not be stored where accidental breakage is likely.)

Desktop Computers: If transferring whole, stored on pallets or in Gaylord boxes, keep containers out of the elements. If dismantling, separating metal or plastic housings from component parts, (hard drive, fan, circuit boards etc.), will likely be stored in separate containers. If they are all together, then additional sorting is necessary before ultimate recycling.

CRT Monitors and Televisions: If transferring whole, store on pallets in a manner to prevent breakage, and shrink wrapped before loading onto a truck. To prevent accidental breakage, there should be an easy unloading option for the public in the case that the person cannot safely lift the unit into the box, or place it on a pallet. If disassembling, CRTs separated from plastic housings should be handled carefully and stored in containers that would protect against a spill should the CRT break or get crushed inside the container.

Portable Computers: Store in Gaylord boxes or other containers that protected from breakage.

LCD or Plasma Screens: Store on pallets or Gaylord boxes, in a manner to prevent breakage.

Peripherals: Store in Gaylord boxes, or in secured bales. Printers, fax machines, copiers (anything with ink or toner) should have the ink or toner removed prior to shipping to plastics recyclers. This material can designate as hazardous waste and if it is disposed, a hazardous waste determination needs to be made.

Flouorescent Lamps: Store unbroken in closed, labeled containers. Labels should say "Universal Waste" or "Waste Lamps" and must show an accumulation start date.

Batteries: Store in closed leakproof containers that are labeled "Universal Waste- Batteries." Batteries from households, CEG's or those that do not exhibit hazardous characteristics, such as alkaline batteries, are exempt from management as Universal Waste. Batteries can still hold a charge and should be stored to prevent terminals from contacting one another (individually packaged, or taped terminals).

Shredded E-waste materials containing lead: Store in closed, labeled, leakproof containers. If not recycled, this material requires a hazardous waste determination prior to disposal.

POTENTIAL ENVIRONMENTAL IMPACTS (ON-SITE)

10. Stormwater Pollution

Yes No Is there a surface water body close to the waste storage area? If so, name and distance to closest surface water:

Yes No Are wastes stored or processed in a manner that could be exposed to stormwater?

Yes No Are floor drains that flow to surface or ground water present in the operational areas?

Yes No Is process water discharged?

Notes:

References: Channelized discharges to surface water or wetlands; potential underground injection control points, stormwater sheet flow runoff, construction runoff and discharge to wastewater treatment systems could require DEQ Water Quality Staff or designated local government authority attention. Permits may be required. Check with regional DEQ WQ staff if concerns are noted. Source: E-waste Facility Inspector Guidance.

11. Air Pollution

Yes No Does the facility operate any shredding, crushing, grinding or smelting equipment?

Yes No Are dust, vapors, or odors present?

Yes No Does the facility conduct any burning, melting or heating of materials?

Notes:

Oregon DEQ Electronics Waste Facility Site Visit Checklist

References: No facility is allowed to have visible offsite dust after DEQ documents the first occurrence. OAR 340-208-0450 Any newly installed emission units should have been reviewed by DEQ's AQ program. Notice of Intent to Construct OAR 340-0210. Source: E-waste Facility Inspector Guidance No open burning of any e-waste materials is allowed. Melting, burning, gasifying etc. may be activities that require DEQ solid waste treatment or other applicable permits.

12. Illegal Disposal, Waste Treatment

- Yes No Does the facility store e-waste in a manner that could constitute disposal?
Yes No Has the facility made hazardous waste determinations on residual wastes going to a landfill?
Yes No Is there evidence that covered electronic devices are being sent to a landfill for disposal?
Yes No Does the facility keep records on amount of waste disposed at a landfill or incinerator?

Notes:

References: No facility or person can dispose of a covered electronic device at a landfill or incinerator. Covered electronic devices include whole computers and, televisions and monitors, with a viewable screen greater than 4 inches diagonally. ORS 459A.305(12)(b)(A) and (5)(a). Source- E-waste Facility Inspector Guidance.

13. Speculative Accumulation

- Yes No Does the facility store e-waste for longer than 180 days?
Yes No Can the facility provide a feasible means of recycling for collected e-waste?

Notes:

References:

Solid Waste- A facility can be regulated as a disposal site if wastes have been stored for more than six months, and there is not clear evidence that the wastes will be used productively or the waste constitutes a potential environmental problem. Source- Solid Waste Storage and Speculative Accumulation Directive (02/06/2008)

Hazardous Waste- In order for materials that would otherwise be considered hazardous to maintain exemption from management as hazardous waste, the material must be potentially recyclable, have a feasible means of being recycled, and during the calendar year at least 75% of the material needs to be recycled. Source: ORS 466.095(a) Pursuant to 40 CFR 261.2(c)(4) and 261.1(c)(8). There is EPA guidance on HW speculative accumulation regarding when you start counting storage on site – a company cannot be determined to have speculatively accumulated until over a calendar year has passed. If you suspect there is HW speculative accumulation, please review EPA's guidance and discuss with OCE prior to making this determination.

DOWNSTREAM IMPACTS

14. Waste Destinations

- | | |
|------------------------------|----------------------------|
| Check all that apply | Energy recovery facilities |
| Material recovery facilities | Landfill |
| Smelters, retort facilities | Recycling facilities |
| Manufacturers | Other: |
| Re-use markets or retailers | |
| Brokers | |

Whole devices are exported out of the U.S.

Components/materials are exported out of the U.S.

Whole devices, components or materials are sent only to facilities in the U.S. or North America.

Whole devices are sent to brokers, don't know next destination

Components are sent to brokers, don't know next destination

References: Facilities should be able to document disposition of their wastes.

Oregon DEQ Electronics Waste Facility Site Visit Checklist

15. Export Requirements

Yes No Has the US Environmental Protection Agency (EPA) been notified?

Yes No Does the facility have documentation from the receiving country's Competent Authority stating that the country legally accepts such imports or documentation from the importing country that demonstrates the legality of the import?

Notes:

References: DEQ has adopted EPA rules regarding export of CRTs. To export used CRTs for recycling, facilities must notify EPA 60 days prior to shipment. CRT's exported for reuse require a one-time notification to EPA. CRT glass that is processed does not require EPA notification. Contact Xiangyu Chu at EPA Region 10 for more information. (206) 553-2859. Source- 40 CFR 261.39(a)(5).

16. Export Records

Yes No Are records maintained for at least 2-3 years for all transfers of equipment, components and materials into and out of the facility?

Notes:

References: DEQ has adopted EPA rules regarding export of CRTs. To export used CRTs for recycling, facilities must notify EPA 60 days prior to shipment. CRT's exported for reuse require a one-time notification to EPA. CRT glass that is processed does not require EPA notification. Contact Xiangyu Chu at EPA Region 10 for more information. (206) 553-2859. Source- 40 CFR 261.39(a)(5).

WORKER SAFETY AND PERSONNEL TRAINING

17. Worker Safety

Yes No Are safety procedures in place for entering & leaving waste handling areas?

Yes No Are adequate levels of safety protection established for employees and contractors?

Yes No Are there easily accessible and well-signed areas for the storage of safety equipment?

Yes No Is there a plan in place for isolating, packaging and cleaning unintentionally broken CRTs?

Yes No Do personnel receive e-waste specific safety training?

Yes No Has the facility undergone an OSHA compliance inspection or consultation?

Notes:

References: Workers should be provided adequate safety and personal protective equipment. E-waste contains many substances which are hazardous. The more processing that occurs, the higher the human health and environmental risk. DEQ strongly recommends that facilities processing E-waste ask for an OSHA consultation to assist them with health concerns, choosing proper PPE, and with ergonomic concerns. Contact 1-800-922-2689 to set up a consultation.

Questions 18-21 are for collection facilities participating in Oregon E-cycles:

18. Yes No (Collectors) Are covered electronic devices (CED) being shipped whole to recyclers?

19. Yes No Is there a sign posted informing customers that CEDs are screened for reuse or refurbishment;?

20. Yes No Is the facility collecting data for Material Recovery Surveys, and E-cycles Reporting?

a) Tracks CEDs, by weight or number of units;

b) Tracks CEDs from covered entities separately from non-covered entities;

c) Tracks and maintains documentation where outgoing CEDs are sold, shipped or transferred;

d) Maintains records of the weight or number of CEDs collected separately for each E-cycles Plan.

21. Yes No Does the facility have of adequate comprehensive or commercial general liability insurance?

Notes:

Oregon DEQ Electronics Waste Facility Site Visit Checklist

References: E-cycles collectors must not be recovering parts from covered electronics devices prior to sending to an E-cycles recycler.

DEQ Representative Signature:

Date

Photos:

Picture 1: .	Picture 2: .
Picture 3:	Picture 4:

Oregon DEQ Electronics Waste Facility Site Visit Checklist

Picture 5:	Picture 6:
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