



Bendix Commercial Vehicle Systems LLC Elyria, Ohio		
GUIDELINE TITLE: Waste Audit & Dumpster Dive Guideline	DEPARTMENT:	HSE
	PLM Team:	EAX4
Guideline Owner: Maria Gutierrez	Guideline Number:	Y238158
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	PAGE:	1 of 7
KE TEX Next Level Process: Secure Health, Safety & Environment		
	KE CVS next level #	TLE-50-10

Cover Sheet

DISTRIBUTION / PLM Scope: _____

(LIST THE APPROPRIATE DEPARTMENTS/PLANT LOCATIONS THAT WILL BE RECEIVING THIS POLICY.
PLM Scope:

- Group BCVS All Locations
- Group BCVS (excludes distribution centers)
- CoC (applies to all functions within a CoC): _____ (list which CoC)
- Local (applies to a specific location): _____ (list which location)
- Multi-Local (applies to more than 1 location, but not all)

Please select the functional area(s) to which this instruction is applicable:

<input checked="" type="checkbox"/> All Departments				
<input type="checkbox"/> AME.	<input type="checkbox"/> Business Dev	<input type="checkbox"/> Customer Service	<input type="checkbox"/> <i>Global Change</i>	<input type="checkbox"/> Sales / Marketing
<input type="checkbox"/> HS&E	<input type="checkbox"/> HR	<input type="checkbox"/> IT	<input type="checkbox"/> Materials	<input type="checkbox"/> Engineering
<input type="checkbox"/> Purchasing	<input type="checkbox"/> Quality	<input type="checkbox"/> Finance	<input type="checkbox"/> Transportation	<input type="checkbox"/> Warranty
<input type="checkbox"/> Other (List): _____				

Revision History Table					
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WRITTEN BY	B. Schubert				
APPROVED BY	M. Gutierrez				
ISSUE DATE	1/20/2016				
APPROVAL SIGNATURE	Electronic				

Please note: Revised text is in italics and underline.

Itemize Revision Summary by section here.

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1.0 Introduction

A waste audit involves the physical collection, sorting and weighing of a representative sample of an organization's waste.

The waste audit, often referred to as a “dumpster dive,” can be a valuable tool to help understand the materials that are being thrown away so that an appropriate waste reduction program can be designed or where a program already exists, the effectiveness of that program can be assessed, and corrective or improvement actions implemented.

The waste audit process supports Bendix's strategy to move waste disposal from “least preferred” options such as landfill, and incineration to “most preferred” options like source reduction and reuse (Reference *Figure 1* below).

Figure 1: Waste Disposal Hierarchy Pyramid



Additionally, Bendix recognizes the ability of an optimized waste management program to impact “Triple-Bottom-Line” objectives:

- **Profits/Economic:**
 - Enables improved efficiencies
 - Ability to reduce regulatory compliance costs/penalties
 - Ability to create revenue enhancement opportunities
- **Planet/Environmental:**
 - Reduces demand for resources and energy from nature
 - Reduces wastes to nature
- **People/Social:**
 - More resources and energy become available for others
 - Cradle to grave management has the ability to create jobs



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2.0 Scope

This guideline covers the basic principles and methodologies for conducting an effective waste audit and applies to all Bendix sites/operations. This document is intended to serve as a guideline to assist sites in achieving their sustainability and waste minimization targets. As such, the precise methodology of the waste audit as well as the opportunities identified from the audits will be tailored to the facility, their needs, their budget, and their resource and commitment capabilities.

3.0 Definitions

- 3.1 **Cradle to Grave** – Concept in waste management of managing the entire lifecycle of a wastestream from its design/conception all the way through ultimate disposal.
- 3.2 **Lightweighting** – Waste reduction initiative aimed at eliminating and/or reducing material used upstream of a waste generating process (e.g. – eliminating an unnecessary packaging insert).

4.0 List of Related Documents

- 4.1 Waste Audit Workbook Form ([Y238160](#))

5.0 Procedure

- 5.1 **Determine the area to be audited.** The first step in conducting a waste site audit is for the organizer to determine the building, department, or area that will be audited. This step will help the leader determine how large of an area they will need to conduct the waste sorting exercise as well as how many resources will be necessary to complete in a reasonable amount of time.
- 5.2 **Decide how long to collect trash before the dive.** Choose to collect waste generated in a single day or select an otherwise representative sample. The focus should be to collect a reasonable sample size that will provide an accurate sample of most of the things a building, department, or area throws away. Be sure to consider whether waste generation varies significantly enough from one day to the next to distort the results. Future dives should replicate the same time period for meaningful comparisons and data collection. Coordinate the collection of trash for the audit with the area or department leader and/or custodial staff.
- 5.3 **Determine the size and location of the area in which you will sort the waste.** For large quantities of wastes, seek out a large flat area (weather permitting, parking lots work well). It may be possible to utilize large indoor rooms for smaller waste sorts. Obtain building or area management approval and coordinate with operations to schedule the audit when it will cause the least amount of disruption.



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- 5.4 **Collect the necessary waste audit supplies.** A list of supplies necessary for a successful waste audit includes but is not limited to the following:

	A tarp or drop cloth large enough to provide adequate space to dump and sort trash
	Safety Cones (designate and provide visibility to the sorting area)
	Waste Audit Workbook Form (Y238160)
	Clipboard
	First aid kit
	Broom
	Dustpan
	Shovel
	Camera
	Pens/markers
	Trashbags
	Containers for holding/weighing/measuring sorted wastestreams
	Rubber/nitrile gloves
	Safety glasses
	Aprons
	Scale for weighing trash collected/sorted (floor scale or handheld "fishing" scale may be used - depending on size of sort)

- 5.5 **Assemble a team of waste audit participants.** It is important to have local site/department participation in order to accurately recognize and identify the sources of wastes found as well as tie the findings back to the changes that may need to be implemented. Representatives of site management, local "green team" members, custodial and/or maintenance staff, and associates of the department being audited should all be considered when forming the waste audit team.

- 5.6 **Assign waste audit roles to the team participants.** Dividing the work up into various roles may be guided by how large or small the sort team is. In general, the following roles are needed:

5.6.1 **Sorters:** Dump out trash receptacles/bags and sort into the designated categories/bins

5.6.2 **Scale operator(s):** Ensures accurate and consistent measurements of segregated waste are taken and clearly communicates this information back to the scribe.

5.6.3 **Scribe(s):** Record weight information from scale operator on the Waste Audit Worksheet. Calculate waste percentages. Collect notes from the audit team.

- 5.7 **Conduct a pre audit safety briefing with the team participants.** If possible, attempt to pre-screen the collected waste materials to try to identify some of the unique hazards that may be present. In general plan on discussing typical hazards



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that may be present in trash (e.g. – sharp edges, rusty nails, splinters, etc...). Review any first aid /response procedures in place at the site to prepare the participants in the event an injury occurs.

- 5.8 **Establish the waste audit sorting work area.** Mark the area to be used for the waste audit clearly with cones. Spread out the tarp or drop cloth and establish collection areas on the tarp for material to be sorted into. An example layout of waste audit work area can be found in Appendix 1. Recommended standard sort (bin) categories include:
- Fiber (Office Paper, cardboard, newspapers, magazines)
 - Plastics
 - Metals
 - Food Waste / Compostable Organics
 - Other
 - Additional categories to consider adding based upon unique site characteristics include but not limited to: glass, electronic scrap, special/universal waste, mixed residue
- 5.9 **Record the tare weights of the collection bins.** If utilizing empty plastic/cardboard containers for measuring and weighing sorted materials, be sure clearly label each bin with the sorted waste category name and weigh and record the "empty" weight of each of these containers. If not utilizing bins to weigh sorted materials, items may simply be transferred to empty trash bags and weighed. Label collection areas clearly.
- 5.10 **Conduct the trash sorting activity.** Separate materials into the appropriate categories. It is recommended to take photographs of the materials collected. Identify and note any oddities, anomalies, and surprises.
- 5.11 **Weigh each bin/bag of sorted material:** Utilize a scale to get accurate weight measurements of each sorted wastestream.
- 5.12 **Document findings using the Waste Audit Workbook Form ([Y238160](#)).** Documentation is instrumental in driving awareness and continuous improvement efforts. During the first dive for a building, department or area, it is important to measure how much garbage is generated during a defined time period, measured by weight. Establishing the baseline will help track improvements in reducing wastes at future waste audit events.
- 5.13 **Summarize the Waste Audit Results.** Add the totals of each category weighed to calculate the total amount of waste sorted. Utilize this total number to calculate the percentage of each category collected. The team may also consider using the weights collected to project the annual amount of these wastestreams generated using the worksheet
- 5.14 **Begin Analyzing the waste audit results.** Once all the waste is sorted, weighed and accounted for, communicate the results back to all the team participants.



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5.14.1 Consider leveraging the knowledge and experience of the team members while assembled in the area to drill down into areas of opportunity by asking questions such as the following:

- **Who:** put the waste into the dumpster
- **What:** process(es) produce the waste
- **When:** is there more/less waste generated
- **Where:** Does it get generated
- **Why:** Do you have the waste in the first place
- **How:** Does it get generated

5.14.2 Consider applying corrective actions to the waste audit results by focusing on 4-R methodologies for waste management:

- **Refuse** (don't use). Devise a plan to stop waste before it starts.
- **Reduce** (lightweighting, errorproofing)
- **Reuse** (packaging reuse, waste exchange)
- **Recycle** (waste collection, separation)

5.14.3 Example waste reduction/elimination ideas for consideration include:

- Design the product and its processing and packaging to minimize or eliminate waste (including techniques like lightweighting).
- Reduce scrap, trash or product defects through reduction in set-ups and improved equipment maintenance.
- Decrease the amount of materials used during the manufacturing, distribution and packaging of products.
- Internal re-use of materials (e.g. - waste boxes to repackage another product).
- Waste exchanges with other companies (i.e. – waste product of one business, may be a product/raw material for another business)
- Opportunities for re-useable packaging
- Take-back programs of suppliers

5.15 **Create a list of corrective actions.** The site should maintain a running list of corrective actions from each waste audit conducted in order to monitor/maintain progress on the identified opportunities. Review of the corrective actions can also help assess the effectiveness of the overall waste management plan.

5.16 **Conduct post-audit clean-up.** Post-waste audit clean-up should include properly disposing of the now segregated wastestreams in the proper manner. Don't undo the work completed.

5.17 **Communicate the results.** Results should be communicated regularly to site associates, used as training opportunities where appropriate, and be included at



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minimum in the annual Environmental Management System review with site leadership.

6.0 Appendixes

6.1 Example Waste Audit Layout:

