



Bendix Commercial Vehicle Systems LLC		
Elyria, Ohio		
POLICY TITLE: Managing Spent Material – A Roadmap to Zero Waste Guideline Owner: Maria Gutierrez KE CVS Next Level Process: Secure Health, Safety & Environment	DEPARTMENT:	HSE
	PLM Team:	EAX4
	Guideline Number:	Y259969
	REVISION:	Original
	ISSUE DATE:	2/6/2017
	PAGE:	1 of 5
	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)

If "multi-local" is checked, double click the box and check the additional locations as is applicable below. Otherwise, delete the section.

<input type="checkbox"/> Acuña	<input type="checkbox"/> Bowling Green	<input type="checkbox"/> Elyria	<input type="checkbox"/> Huntington	<input type="checkbox"/> Kalamazoo
<input type="checkbox"/> N. Aurora	<input type="checkbox"/> Richmond, BC	<input type="checkbox"/> Mexico City	<input type="checkbox"/> Montreal	<input type="checkbox"/> Sparks

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

<input type="checkbox"/> All Departments				
<input type="checkbox"/> AME	<input type="checkbox"/> Business Development.	<input type="checkbox"/> Customer Service	<input type="checkbox"/> Product Change	<input type="checkbox"/> Sales / Marketing
<input checked="" 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

REVISION #	Org.	1	2	3	4
WRITTEN BY	W. Schubert				
APPROVED BY	M. Gutierrez				
ISSUE DATE	2/6/2017				
APPROVAL SIGNATURE	Team Center				

Please note: Revised text is in italics and underline.

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PO	TLE-50-10, Y259969	Managing Spent Material – A Roadmap to Zero Waste	GRP BCVS ALL LOC	All Locations	Maria Gutierrez	0	US

1.0 PURPOSE

As part of our overall commitment to environmental sustainability, Bendix is embracing the concept of “Zero Waste” in our operations and business practices, with the goal of reducing the waste generated to the lowest possible levels. The quest for Zero Waste is part of a fundamental shift in the overall philosophy regarding “waste management”. Historical efforts were focused on the disposal of spent materials at the end of the production process, and the recycling of a limited number of potentially valuable and easily recycled materials but did little to address the actual root causes of waste generation.

Zero Waste refers to a holistic approach to waste management which emphasizes waste prevention as opposed to end-of-pipe waste management. The zero waste approach brings attention to reducing total waste production by reevaluating product designs and material selection (redesign), and by restructuring production processes and distribution systems (reengineering). Aside from reducing or eliminating certain waste streams, these efforts also contribute to the more efficient use of limited material resources and operating capacities. Zero waste initiatives can also identify innovative ways to reuse or repurpose waste products.

The purpose of this guidance is to provide a roadmap to follow towards the larger zero-waste aspiration. In addition to helping the organization achieve our sustainability targets, Zero Waste has a number of other business benefits including:

- Improved resource economy and efficiency
- Synergy with continuous improvement initiatives (Lean, KPS, QK)
- Improved financial performance
- Reduced legal exposure

2.0 APPLICABILITY

Applies to all Bendix owned and operated facilities.

3.0 DEFINITIONS

- 3.1 [Y144687](#) Waste Definitions & Reporting Guideline

4.0 RELATED DOCUMENTATION

- 4.1 [Y082501](#) Waste Management
4.2 [Y084358](#) Managing Waste Disposal
4.3 [Y259682](#) Zero Waste to Landfill Policy
4.4 [Y238158](#) Spent Material Audit Process Instruction

5.0 POLICY

All spent materials (including wastes) are to be managed in a manner that is most protective of human health, safety and the environment and reduces future liability for the company. The spent material disposal hierarchy pyramid (see Figure 1) and environmental soundness of the disposal method plays a critical role in this process. This policy establishes a process to analyze and select the most adequate disposal option that moves the company closer to a Zero Waste philosophy.

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The strategy to accomplish Zero Waste involves focusing on the disposal hierarchy pyramid to pursue whenever feasible the 4R's options for spent material: Refuse (avoid generating waste), Reduce, Reuse and Recycle, while eliminating or reducing the higher-risk waste disposal activities: resource recovery (Waste to energy, reclamation), incineration and Landfill.

Figure 1: Spent Material Disposal Hierarchy Pyramid



- 5.1 An accurate and complete data collection system shall be established so that all spent streams are being captured and tracked.
 - 5.1.1 Measurement Data is the backbone of a zero-waste initiative. Waste data tracking allows a company to comprehend all materials generated, reused and recycled. Doing so reveals opportunities to improve and climb the waste-reduction hierarchy.
 - 5.1.2 Rigorous data collection and reporting practices are vital for establishing baseline performance rates and for measuring improvements over time. Data is used to create specific plant goals and metrics
 - 5.1.3 Timely reporting also helps identify unanticipated problems while they can still be effectively addressed.
- 5.2 Site HSE shall review existing spent material / waste inventory to carefully evaluate disposal method that is in line with the Zero Waste philosophy.
 - 5.2.1 Research should be conducted to identify the existing best technology to manage the spent material, according to its hazards and regulatory status.
 - 5.2.2 Financial analysis shall be documented to determine feasibility of disposal method.
 - 5.2.3 Site shall prioritize Waste-Reduction activities in line with the disposal hierarchy pyramid.

Refuse	Waste Reduction
Reduce	
Reuse	
Recycle	
Resource Recovery/Reclamation	Waste Management
Incineration without energy recovery	
Landfill Disposal	



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- 5.3 REFUSE: Activities aimed at eliminating the generation of the spent materials
- 5.4 REDUCE: Activities aimed at reducing the amount of spent materials generated
- 5.5 REUSE: Activities aimed at reusing the spent materials onsite or externally - can be for its original intent or an alternate use. Reuse spent material is put to use in its original form with minimal or no processing.
 - 5.5.1 Internal/onsite: look for reuse for opportunities in packaging material such as cardboard (boxes, dividers) and wood (pallets, boxes).
 - 5.5.2 External – evaluate the financials – costs of transportation
 - 5.5.3 Document reuse activities (log by weight if possible, then by appropriate unit of measure) – count only first beneficial reuse.
- 5.6 RECYCLE: activities aimed at recycling the spent materials onsite or offsite. This hierarchy level also includes composting of organic material, either on or off site recycling options. Recycled spent material is re-processed.
 - 5.6.1 All sites shall strive to institute basic minimum recycling programs for:
 - Metals – including aluminum cans
 - Cardboard
 - Wood/pallets
 - Plastic
 - Paper
 - Electronic Waste
 - Composting
 - 5.6.2 Research vendors and commodities – bid for market price
 - 5.6.3 Recycling program shall include tracking of material recycled, any costs as well as income/revenue generated.
 - 5.6.4 Regularly evaluate recycling financials – some programs may have a cost
 - 5.6.5 Recycling shall be maximized through audit or surveillance programs (Ref: Y238158 Spent Material Audit Process Instruction).
- 5.7 If no reuse OR recycle alternatives are identified, spent materials shall be considered a waste and managed as such.
 - 5.7.1 Per [Y082501](#) Waste Management, all waste streams shall be documented for final destination. [Y084358](#) Managing Waste Disposal.
 - 5.7.2 Assess Resource Recovery: Activities aimed at beneficial resource recovering from the spent materials either onsite or offsite, and includes metals reclamation, fuel blending and incineration with energy recovery.
 - 5.7.3 Incineration without energy recovery.
 - 5.7.4 Landfill Disposal: If landfill is the only option available, a disposal position shall be justified and documented, including alternatives that were evaluated.
 - 5.7.5 Each year, a re-evaluation will be conducted to determine if new technologies or markets have become available to divert the stream away from landfill.
- 5.8 Set targets: set long-range goals and mid-term ones. This approach provides a roadmap that helps sustain momentum and track progress Goal setting fosters improvements and helps encourage employees to maintain momentum.



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- 5.9 Build a Sustainability Culture: A key element of a Zero Waste Culture is the ability for employees to envision other uses for material.
 - 5.8.1 Create rewards for new waste-reduction ideas and encourage employees to develop job functions with the environment in mind. (QK, CI)
 - 5.8.2 Developing global practices from subject matter experts, peer reviews and lessons learned. Communicate the solutions and best practice system.
 - 5.8.3 Participate in formal and informal external networking opportunities to openly discuss best practices and work together to brainstorm uses for challenging byproducts. Benchmarking/mentoring other companies from all manufacturing sectors is an important aspect (tours)
 - 5.8.4 Engage the community through programs such as litter clean-ups and household waste recycling.
 - 5.8.5 Strengthen Supplier Partnerships: build a strong [network of suppliers](#) committed to keeping materials in their use phase. This type of “closed-loop” effort offers the highest form of recycling. Resource management is a strategic alternative to contemporary waste management.