



Environmental Claim Validation Procedure (ECVP)

Environmental Claim Validation Procedure (ECVP) for Zero Waste to Landfill

UL ECVP 2799

Summary of Topics

This is the Fourth Edition of the Environmental Claim Validation Procedure (ECVP) for Zero Waste to Landfill, UL ECVP 2799, dated July 9, 2024.

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Content

INTRODUCTION

1.0	SCOPE	6
2.0	GENERAL	6
3.0	UNITS OF MEASUREMENT	6
4.0	UNDATED REFERENCES	6
5.0	GLOSSARY	7
6.0	GENERAL REQUIREMENTS	10

ENTITIES

7.0	REQUIREMENTS FOR ALL ENTITIES	10
7.1	General	10
7.2	Additional considerations for major construction and demolition (C&D) projects	10
8.0	SPECIFIC REQUIREMENTS FOR ENTITIES CONSISTING OF ONE OR MORE FACILITIES	10
9.0	SPECIFIC REQUIREMENTS FOR TIME BOUND EVENTS	11
9.1	General	11
9.2	Specific Requirements for Recurring Events	11
10.0	SPECIFIC REQUIREMENTS FOR FLEET OPERATIONS	11
11.0	SPECIFIC REQUIREMENTS FOR FIELD SERVICE OPERATIONS	11
12.0	DIVERSION RATE CALCULATION	12
12.1	Single site consolidated calculation	12
12.2	Consolidation of data from multiple sites	12
12.3	Result Reporting	12
13.0	DIVERSION METHODS	13
13.1	General	13
13.2	Contamination in Materials Sent to Processing	13
13.3	Residues of Processing	13
13.4	On-Site vs Off-Site Disposition of Discarded Materials	14
13.5	Liquid Containing Waste	14
13.6	Regulated Material Flow	15
13.6.1	Mandated Waste	15
14.0	ESTIMATION AND CONVERSION FACTORS	16
15.0	REDESIGN TO ELIMINATE OR REDUCE WASTE (M_{REDUCE})	16
15.1	General	16
15.2	Project Basis - Calculation steps	16
15.3	Process Basis	17
15.4	Reuse diversions (m_{reuse})	18
15.5	Thermal Technologies (m_{TWER})	18
16.0	REPORTING	20

REPORTING, DOCUMENTATION, AND PROCEDURE

17.0 DOCUMENTATION..... 20

18.0 PROCEDURE..... 20

CLASSIFICATION AND EXAMPLE CLAIMS

19.0 CLASSIFICATION 22

19.1 General Classification 22

19.2 Minimum Diversion Rate for Program 23

20.0 EXAMPLE CLAIMS 23

- Appendix A – External Reference
- Appendix B – Threshold Concentration of Hazardous Metals in Sludges
- Appendix C – Procedures and Requirements for Risk-Based Auditing



INTRODUCTION

1.0 SCOPE

1.1 This procedure provides a framework for the evaluation and verification of entities that send little to no discarded materials to landfills or incineration by reducing the amount of discarded materials generated and diverting remaining materials from landfill and incineration. This procedure addresses all materials leaving the entity under review except for finished goods and personnel. Liquid materials (e.g., oils, lubricants, paints, etc.) which could be disposed of in a landfill are within the scope of this procedure. Not included in the scope of the procedure is wastewater (black and grey water) and its associated contents.

1.2 Entities are commonly facilities or campuses with a specific address and clearly defined boundaries but may also be mobile vessels or businesses (such as cruise ships, delivery trucks, cleaning services, landscaping services, etc.), with or without a fixed base address. An entity may also incorporate a time-based element (e.g., specific start and end dates), such as conventions, concerts, sporting events, or building construction or demolition projects.

1.3 Out of scope of this validation procedure are the following types of facilities and operations, as those are considered as contradictory with respect to the aim of this procedure. These operations, independent whether they are occurring on-site or off-site will not count as waste diversion but contribute to a linear material flow and is a disposal route.

- Landfilling facilities and operations
- Incinerating facilities and operations
- Waste to Energy (WtE) facilities and operations

1.4 If the general operation of a company is to eliminate materials from a circular material flow by burning or landfilling, that company will not be appropriate to be validated for this program. Therefore, companies primarily burning discarded materials or fossil fuel (with or without energy recovery) or have as a primary operation landfilling of discarded materials, are out of scope of this program.

Note: A company that is generating and/ or burning natural gas is in scope, as that has some circularity aspects, when the gas comes from natural sources.

2.0 GENERAL

2.1 Achieving Zero Waste will eliminate disposal of useful materials and will encourage the establishment of synergies between organizations where the discarded materials from one operation become the source materials for another. As in natural systems the ideal state is no material goes unused in some form. This procedure addresses but a small portion of the total spectrum of waste diversion routes and waste synergy activities. The focus is only on numerically measuring success at diverting discarded materials. Reduction is included as a waste diversion route and should be given priority over other diversion methods like recycling and energy recovery. Other aspects that should be considered when diverting discarded materials include the best use for the discarded material, the impacts of diversion and how a diversion route improves waste diversion activities as a whole.

3.0 UNITS OF MEASUREMENT

3.1 For the purposes of this procedure, values shall be reported in accordance with the requirements of the individual criterion. If the entity's choice of units' deviates, that change shall be documented and justified as to the reason and relevance for that change. Careful attention should be made during calculation of the diversion rate to assure all the units of measure used during the calculation are the same.

4.0 UNDATED REFERENCES

4.1 Any undated reference to a code or standard appearing in the requirements of this procedure shall be interpreted as referring to the latest edition of that code or standard.

5.0 GLOSSARY

5.1 For the purpose of this procedure, the following definitions apply.

5.2 **ALTERNATIVE DAILY COVER (ADC)** – Regulations often require landfill operators to cover landfills with earthen materials on a daily basis to control landfill impacts such as vermin, blowing waste and odor. Alternate daily cover is the use of materials other than earthen materials to perform that function. Discarded materials such as ash, shredder fluff, compost, green waste, contaminated soil and sludge have been used. Manufactured materials such as spray-on materials, manufactured geo-stabilization materials and tarps are also used.

5.3 **ANAEROBIC DIGESTION WITH ENERGY RECOVERY ($m_{\text{anaerobic}}$)** – Mass of materials sent for biodegradation in the absence of oxygen, producing methane, which is combusted, capturing useful energy such as steam and electricity.

Note: Discarded material sent for anaerobic digestions need to prove to be biodegradable and the landfill shall be a managed landfill designed for capturing the methane. The methane does not count as recycled, in certain cases it may be considered as WtE.

5.4 **BIOFUELS (m_{biofuel})** – Mass of materials produced from biomass being sent for manufacture of or for use directly as fuel. Biofuels are limited to liquid fuels used for energy generation or transportation, e. g. bio-diesel or corn ethanol. Not included are wood products used directly for energy generation or bio-methane from landfills.

Note: Woodchips, e. g. from shredding of wooden pallets are not considered as biofuel, but when burned for energy recovery it is considered as WtE.

5.5 **BY-PRODUCT SYNERGY** – Is the matching of under-valued waste or by-product streams from one facility with potential users at another facility to create new revenues or savings with potential social and environmental benefits (US BCSD).

5.6 **CAMPUS** – An entity consisting of multiple contiguous or nearly contiguous locations with different buildings and different functionalities at or within each building, operated under the same corporate management system. An example is a university campus having administrative buildings, a cafeteria, teaching buildings with lecture halls and laboratories, etc.

5.7 **COMPOSTING (m_{compost})** – Mass of discarded material which has been sent for processing to create decomposed organic material that is produced when bacteria in soil break down garbage and biodegradable trash, making organic fertilizer. Making compost requires turning and mixing and exposing the materials to air. Gardeners and farmers use compost for soil enrichment.

Note: Adapted from US EPA Vocabulary Catalog <http://bit.ly/2msoDGs>

5.8 **CONTAMINANT** – Materials that will not be recycled or sent for recycling by the Diverting Entity to which they are sent. These materials are typically landfilled or thermally processed (with or without energy recovery).

5.9 **DATA CENTER** – An entity comprising of a building or a dedicated space within a building, or a group of buildings designed to operate server systems or/and computer systems and associated components, such as telecommunications and storage systems. Data centers may be owned by one or more companies or may be rented / leased by one or multiple tenants.

5.10 **DISCARDED MATERIAL - Operational byproducts** – any material other than the product being shipped to market that leaves the facility or would leave the facility if it had not been reused or repurposed, including but not limited to discarded materials like domestic waste, sludge, pit cleanouts, metals, and cafeteria waste.

Material discarded from operations or discarded material generated annually, including those materials generated from ongoing construction and demolition activities or facility maintenance. Not included are:

- Waste from natural disaster and disaster recovery such as flood, fire, tornado, hurricane or other natural disasters.

- Major C&D projects are calculated separately from C&D generated during daily operations (see Section 7.2).
- Inadvertent landfill disposal less than or equal to two (2) percent of total discarded material.

Note: Inadvertent landfill disposal may include materials sent to landfill as a result of a traffic accident, a misdirected truck, or other cause for landfill disposal where the intended disposition was not followed, and the materials went to a landfill.

5.11 DISCONTINUOUS SITE - An entity is considered a discontinuous site if several companies are operating at the location, each having its own management system. The different companies may share some services, e.g. waste management.

5.12 DIVERSION ROUTE / METHOD / PATHWAY— A waste handling method to divert discarded material from landfill, e. g. recycling or composting or to prevent discarded material by reduction or reuse.

5.13 DIVERTING ENTITY - An entity providing diversion services through reuse, recycling, thermal processing, composting, anaerobic digestion or other acceptable diversion methods as defined in the procedure.

5.14 Donation – Materials, products and / or goods that are donated to an external party, instead of sending them to landfill, are considered as diverted.

5.15 ENTITY - The operation being evaluated to this procedure based on defining factors such as location (fixed or variable), time (start and stop), and/or identifiable, discreet operating units (e.g., a fleet of delivery trucks). The single site (5.36) is the least complex type for an entity. More complex types are a campus (5.6), a discontinues site (5.11) or a multi-site (5.29).

5.16 EVENT - An entity having clearly determinable start and end dates and/or times. Examples include, but are not limited to, concerts, trade shows, sporting events, building construction projects, and building demolition projects.

5.17 EVENT, RECURRING - A series of events where the individual events are clearly defined. Examples include, but are not limited to, a season of sporting events for a given team, and a concert tour for a given performing company.

5.18 FACILITY - A facility is an entity with a defined boundary and/or address. There may be multiple occupants, or operations within the facility boundary.

5.19 FIELD SERVICE OPERATIONS - An entity that involves time-specific operations at locations that are not owned by the entity, but where the location of the operations may be clearly established. Examples include, but are not limited to, organizations providing contracted cafeteria service, painting services, janitorial services, etc.

5.20 FLEET OPERATIONS - An entity that involves one or more mobile vessels. Examples include, but are not limited to, food trucks, delivery services, airlines, and cruise ships.

5.21 LANDFILL DIVERSION RATE - PERCENT WASTE DIVERSION FROM LANDFILL - The percentage of discarded material diverted from landfill through recycling, composting, anaerobic digestion, reusing, reducing, thermal treatment with energy recover (TWER), and biofuel. (See 12.1 and 12.2, Equation 3). In the following the term “diversion rate” is used as equivalent term.

5.22 LEASED SITE (Renting) – An entity that does not own the facility in which it operates and has a contract allowing it to operate at the location. It is considered the same as renting (5.34).

5.23 LOGISTICS AND DISTRIBUTION CENTER – An entity serving as a distribution hub for goods that need to be transported between locations within a supply chain, e.g. a warehouse, freight forwarder, or a repair depot.

5.24 MAJOR CONSTRUCTION AND DEMOLITION (C&D) PROJECTS - Construction and demolition projects that do not occur every year or are not as a result of regular operations.