



SWM-SWP-G-138- Clarification for Recovered Materials – 07/31/23
Guidance for Clarification of the Definition of Recovered Materials

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EFFECTIVE DATE: 07/31/23

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[** \(Jul 31, 2023 09:39 CDT\)](#)

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PURPOSE

This guidance has been prepared by the Department of Environment and Conservation (TDEC), Division of Solid Waste Management (DSWM), to provide clarification on the definition of recovered materials.

The Solid Waste Act of 1991, Tennessee Code Annotated Section 68-211-801 to –874, (the “Act”) introduces the concept of recovered materials and recovered materials processing facilities. The purpose of the Act is to reduce the generation of solid waste through recycling efforts and to encourage the creation of a market for recyclable and recovered materials. Tenn. Code Ann. § 68-211-801. The Act gives favored regulatory treatment for facilities that engage solely in the recycling industry: recovered materials processing facilities. Facilities that meet the definition of a recovered materials processing facility fall under the requirements in Rule 0400-11-01-.02(1)(b)(3)(xxii).

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To meet the definition of a recovered materials processing facility, the facility must be engaged “solely in the storage, processing and resale or reuse of recovered materials” per T.C.A. § 68-211-802(a)(13). If the facility is not solely engaged in this activity, then it would be considered a solid waste processing facility and would fall under the regulatory requirements of Rule 0400-11-01-.02(2) specific to solid waste processing facilities. To understand whether a facility is a recovered materials processing facility, it is important to understand what qualifies as a recovered material. This guidance is meant to help in this analysis.

STATUTORY DEFINITIONS

68-211-802(a)(13) states:

"Recovered materials" means those materials which have been diverted or removed from the solid waste stream for sale, use, reuse or recycling, whether or not requiring subsequent separation processing. Such recovered materials are not solid waste;

68-211-802(a)(14) states:

"Recovered materials processing facility" means a facility engaged solely in the storage, processing and resale or reuse of recovered materials. A recovered materials processing facility is not a solid waste processing facility;

68-211-802(a)(15) states:

"Recyclable materials" means those materials which are capable of being reused or returned to use in the form of raw materials or products, whether or not such materials have been diverted or removed from the solid waste stream;

68-211-802(a)(16) states:

"Recycling" means the process by which recovered materials are transformed into new products, including the collection, separation, processing, and reuse of recovered materials either directly or as raw materials for the manufacture of new products;

68-211-802(a)(19) states:

"Solid waste stream" means the system through which solid waste and recoverable materials move from the point of discard to recovery or disposal;

68-211-103(10) states:

"Solid waste processing" means any process that modifies the characteristics or properties of solid waste, including, but not limited to, treatment, incineration, composting, separation, grinding, shredding, and volume reduction; provided, that it does not include the grinding or shredding of landscaping or land clearing wastes or unpainted, unstained, and untreated wood into mulch or other useful products.

RULE DEFINITION

Rule 0400-11-01-.01(2) states in part:

“Facility” means all contiguous land including structures and other appurtenances and improvements on the land used for processing, disposal or land application of solid waste by an owner or operator.

GUIDANCE

A single facility processing both recovered materials and solid wastes is not a “recovered materials processing facility” (RMPF) because the facility is not engaged solely in the storage, processing and resale or reuse of recovered materials. Please note that more than one facility as defined in Rule 0400-11-01-.01(2)(2) may operate on a property.

Example:

“Facility A” may process a solid waste(s) from offsite generators and must obtain a permit by rule for a processing facility under Rule 0400-11-01-.02(2) and, if applicable, the requirements of Rule 0400-11-01-.02(1)(c)3 and 4. “Facility B” on the same property only processes a recovered material(s) and is therefore subject to RMPF notification requirements of Rule 0400-11-01-.02(1)(b)3(xxii).

A solid waste stream can contain both solid wastes and recoverable materials¹. As long as the recoverable materials are traveling with the solid waste stream, they have not been diverted or removed.² At the point of diversion or removal, the recovered material is taken out of the solid waste stream for the purpose of sale, use, reuse, or recycling.³

Two questions must be answered in the affirmative in order for a material to be a “recovered material”:

1. Has recoverable material been diverted or removed from the solid waste stream?⁴
2. Has the diversion or removal been for the purpose of sale, use, reuse, or recycling, whether or not requiring subsequent separation processing?⁵

A material is considered to be diverted from the solid waste stream if it is collected separately from the solid waste at the generating source for the purpose of sale, use, reuse, or recycling. A material is considered to be removed from the solid waste stream if it is separated from the solid waste stream at some point after leaving the generating source, for the purpose of sale, use, reuse, or recycling. If a material is removed from the solid waste stream for the purpose of recycling, and thus is a recovered

¹ “Recoverable materials,” while not defined in the statute, are understood to be materials that are capable of being recovered materials as defined by Tennessee Code Annotated section 68-211-802(a)(13).

² For the purposes of this guidance, the DSWM is treating “removal” and “diversion” as synonyms.

³ DSWM understands that some small, de minimis amount of solid waste may inadvertently or unavoidably be taken with the recovered materials.

⁴ If a recoverable material has been diverted or removed from the solid waste stream but is combined back with other solid waste, then the combined material is no longer a recovered material. See example 1 on page 4.

⁵ To elaborate on the “subsequent separation processing,” if the facility’s process separates the recovered material from other types of recovered material, this is considered recovered materials processing.

material, but is not actually transformed into new products or reused either directly or for the manufacture of new products, it is no longer a recovered material and again becomes a solid waste. There must be a viable market for the sale of, or a beneficial use or reuse of, that can be documented, in order for material to be a recovered material.

Examples of Recovered Materials

1. Plastic and paper are collected separately from solid waste by homeowners or businesses for pick-up and transport to Facility A (e.g., home or business recycling receptacles). Facility A sells the material to Facility B for recycling. (Note: A de minimis amount of non-plastic or non-paper material that is inadvertently received may be landfilled.) The plastic and paper are diverted from the solid waste stream for the purpose of sale, use, reuse, or recycling, whether or not requiring subsequent separation processing. Plastic and paper received at Facility A meets the definition of recovered materials.
2. Metal and other recyclable materials are separated from demolition waste at a site where a building had been demolished, placed into a separate roll off labeled for recyclable material only, and is transported to Facility C. The metal and recyclable materials are diverted from the solid waste stream at the source prior to arriving at Facility C for recycling. The recyclable materials received at Facility C meets the definition of recovered materials.
3. Used tires are transported to Facility D, which shreds 100 percent of the used tires and sells 100 percent of the shredded used tires for use as a fuel in boilers. Since 100 percent of the used tires are shredded and 100 percent of the shredded used tires are used as a fuel in boilers, the used tires received contained only recoverable materials and no solid waste. Therefore, in this specific situation, the used tires received at Facility D meet the definition of recovered materials.⁶
4. Used cooking oil and grease are collected in containers dedicated to these materials at restaurants and transported to Facility E for recycling. Facility E's process generates a material that is sold, used, reused, or recycled and a residual that is disposed of in a landfill. Used cooking oil and grease are diverted at the source from disposal in the wastewater and meet the definition of recovered materials. The residual generated as part of the process, however, is a solid waste.
5. Used cooking oil and grease are collected from onsite wastewater treatment units (i.e., grease traps) and transported to Facility F for recycling. Facility F's process generates a material that is sold, used, reused, or recycled and a residual that is disposed of in a landfill. Used cooking oil and grease are removed from the wastewater treatment unit and meet the definition of recovered materials. The residual generated as part of the process, however, is a solid waste.
6. Oil (with some water incidental to oil removal) from a wastewater treatment unit (WWTU) is transported to Facility G and processed to recover oil to be recycled. The WWTU receives

⁶ If the facility experiences a breakdown or backup, DSWM expectations are that the facility should stop receiving tires prior to exceeding their storage limits in order to maintain their status as a recovered materials processing facility. If the facility instead begins to landfill tires or ceases operation it would become a solid waste processing facility or solid waste disposal facility and be subject to all solid waste regulatory requirements.

wastewater and separately collects oil in the top portion of the unit and solids (sludge) in the bottom portion of the unit, and treated water is discharged from the WWTU. Oil (with some water incidental to oil removal) meets the definition of recovered materials. Please see example 1 below regarding the combined removal of oil and sludge (with some water incidental to oil removal). The oil being discussed is not “used oil” as defined by Tennessee Code Annotated section 68-211-1002(10)⁷ or Rule 0400-12-01-.11.

Examples of Materials that are NOT Recovered Materials when Initially Received

1. Combined oil, water, and sludge from wastewater treatment units (WWTU) are transported to Facility H and processed to recover oil to be recycled. The water is discharged to a publicly owned wastewater treatment system, and the solids are disposed of in a landfill. Oil and sludge are collected separately in the WWTU but, when removed from the WWTU for transport to Facility H, were combined. Since the recovered material (oil) was combined with a solid waste (sludge) when removed, the material Facility H receives does not meet the definition of recovered materials. The oil being discussed is not “used oil” as defined by Tennessee Code Annotated section 68-211-1002(10)⁷ or Rule 0400-12-01-.11.
2. Construction and demolition waste made up of wood, steel, concrete, gypsum, masonry, plaster, metal, asphalt, and similar material is placed into roll offs at a construction site and transported to Facility I. At Facility I, metals (recoverable materials) are removed and sent offsite for recycling, and the remainder of the demolition waste is landfilled. Solid waste and recoverable materials were both in the solid waste stream received at Facility I, and the recoverable materials (metal) had not been removed from the solid waste stream, therefore the demolition waste received at Facility I did not meet the definition of recovered materials. The metal sent offsite from Facility I for recycling meets the definition of recovered materials, since at that point it had been removed from the solid waste stream for recycling.
3. Used tires are transported to Facility J and separated used tires sold for reuse from tires to be cut and landfilled. Solid waste and recoverable materials were both in the solid waste stream (used tires) received at Facility J and the recoverable materials (used tires sold for reuse) had not been removed from the solid waste stream, therefore the used tires received at Facility J did not meet the definition of recovered materials. The used tires sold for reuse met the definition of recovered materials when they left Facility J, since they had been removed from the solid waste stream for reuse at that point.
4. Waste from the sand casting of products is transported to Facility K. Sand (recoverable materials) is removed and sent offsite for reuse, and the remainder is disposed of in a landfill. Solid waste and recoverable materials were both in the solid waste stream received at Facility K and the recoverable materials (sand) had not been removed, therefore the waste received at Facility K did not meet the definition of recovered materials.

⁷ Tennessee Code Annotated section 68-211-1002(10) defines “used oil” as any oil which has been refined from crude or synthetic oil and, as a result of use, becomes unsuitable for its original purpose due to loss of original properties, or presence of impurities, but which may be suitable for further use and may be economically recyclable.

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5. Water contaminated from contact with gasoline or diesel fuel that does not contain free product gasoline or diesel fuel and that does not exhibit a characteristic of hazardous waste is pumped from containment sumps (i.e., spill catchment devices) on petroleum underground storage tanks at gas stations and transported to Facility L for processing to recover fuel. The treated water is discharged to a publicly owned wastewater treatment system, and any solids are disposed of in a landfill under special waste approval. Since the recoverable material (gasoline and diesel) was combined with a solid waste (wastewater and any solids) when removed, the material received did not meet the definition of recovered materials. If the water is contaminated from contact with gasoline or diesel fuel or if the water mixture contains free product gasoline or diesel fuel, then a hazardous waste determination of the contaminated water is required to make an informed decision as to how the material is to be managed. In addition, if the water mixture is determined to be a hazardous waste, the hazardous waste rules will determine if the contaminated water with some recoverable amount of gasoline or diesel fuel is being legitimately recycled. Please refer to the EPA letter dated November 1, 2016, that addresses in detail applicable federal regulation to mixtures of petroleum and water. The Chapter 0400-12-01 analogs to the federal regulations being addressed in the EPA letter are substantially equivalent and the DSWM agrees with EPA’s interpretation. See Attachment One for a copy of the November 1, 2016, EPA letter.

REVISION HISTORY TABLE

Revision Number	Date	Brief Summary of Change
0	07/31/23	Initial

Attachment One



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

NOW THE
OFFICE OF LAND AND
EMERGENCY MANAGEMENT

David Wieties
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NOV 01 2016

Dear Mr. Wieties:

Thank you for your letter to Mathy Stanislaus dated August 29, 2016, regarding whether your company may receive mixtures of fuel and water as a recoverable commercial chemical product, in cases where the mixture consists of water in excess of 0.5 ppm benzene, but there is no free product.

As described in your letter, Illini Environmental receives drums of gasoline-contaminated water (or water-contaminated gasoline) that have been produced from the maintenance of the sumps, spill buckets and interstitial spaces of the gasoline dispensing secondary containment system. In some cases the gasoline/water mixture contains free product that can clearly be reclaimed as a commercial chemical product, sometimes the mixture is dilute enough that it is RCRA non-hazardous, and in some cases the gasoline/water mixture has no free product and no measurable flash point, but has benzene in concentrations above 0.5 ppm, which would cause the mixture to exhibit the RCRA toxicity characteristic for benzene (D018) under 40 CFR 261.24.

Your letter specifically focused on the third case, requesting whether Illini Environmental may receive this mixture (i.e., water with an excess of 0.5 ppm benzene with no free product) as an excluded commercial chemical product, bulk this mixture with contaminated fuel and then deliver the bulked fuel/water mixture to a fuel recovery facility.

As your letter correctly noted, commercial chemical products are not considered a solid waste when used to make a fuel if they themselves are fuels (see 40 CFR 261.2(c)(2)(ii)).¹ While the EPA does not have a "bright line" cut-off for determining at what point a mixture of fuel and water would be considered simply a contaminated wastewater rather than commercial chemical product fuel contaminated with water, the underlying issue is whether the recovery of the fuel product from the mixture would be legitimate recycling under the RCRA regulations.

¹ While the regulatory citation is specific for commercial chemical products listed in 40 CFR 261.33, EPA guidance has made clear that the solid waste exclusion applies not only to commercial chemical products that are specifically listed in 40 CFR 261.33 but also to commercial chemical products that exhibit a hazardous waste characteristic. (50 FR 14219, April 11, 1985).

Under the definition of legitimate recycling found at 40 CFR 260.43, the first factor to consider in determining whether recycling is legitimate is whether the hazardous secondary material (i.e., the fuel-water mixture) provides a “useful contribution.”² The language in 40 CFR 260.43(a)(1) explains that the hazardous secondary material provides a useful contribution if it:

- (i) Contributes valuable ingredients to a product or intermediate; or
- (ii) Replaces a catalyst or carrier in the recycling process; or
- (iii) Is the source of a valuable constituent recovered in the recycling process; or
- (iv) Is recovered or regenerated by the recycling process; or
- (v) Is used as an effective substitute for a commercial product.

In the case of fuel/water mixtures, such mixtures would be considered as providing a useful contribution if the fuel product is recovered by the recycling process (40 CFR 260.43(a)(1)(iv)).

Furthermore, the preamble to the 2015 definition of solid waste final rule makes it clear that the point that this determination is made is before the hazardous secondary material is mixed with another material:

“In a situation where more than one hazardous secondary material is used in a single recycling process and the hazardous secondary materials are mixed or blended as a part of the process, each hazardous secondary material would need to satisfy the useful contribution factor. This requirement prevents situations where a worthless hazardous secondary material could be mixed with valuable and useful hazardous secondary materials in an attempt to disguise and dispose of it.” (80 FR 1723, January 13, 2015).

Therefore, if the fuel/water mixture that exhibits the hazardous characteristic for benzene does not have recoverable fuel product prior to being bulked with other mixtures, it would not be making a “useful contribution” as defined in 40 CFR 260.43(a)(1) and would not be considered a commercial product being legitimately recycled. In that case, it would need to be managed as a hazardous waste.

In addition, it should be noted that authorized states are the primary implementers of the RCRA program, and can be more stringent than the federal program, so it is best to consult with the applicable state regulatory authority on this issue as well. I hope this memo addressed your question. If you have any further questions on this matter, please contact Tracy Atagi of my staff at 703-308-8672.

Sincerely,



Barnes Johnson, Director
Office of Resource Conservation and Recovery

² In addition to meeting the first legitimacy factor discussed in this memo, any hazardous secondary material being recycled would also have to meet the other three factors found in 40 CFR 260.43.