

Georgia Department of Natural Resources

Environmental Protection Division
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GUIDANCE DOCUMENT

Exclusion of Recovered Materials and Recovered Materials Processing Facilities From Regulation as Solid Wastes

Reference: Georgia's Rules for Solid Waste Management 391-3-4-.04-(7)

Need to include Hazardous Waste Rules reference?

Date #####

INTRODUCTION

Georgia's Rules for Solid Waste Management (Rules), Section **391-3-4-.04(7)**, *Recovered Materials*, provides for exclusion of recovered materials and recovered materials processing facilities as solid wastes and solid waste handling facilities, if the materials and facilities meet specific criteria:

“(7) Recovered Materials:

(a) Recovered materials and recovered materials processing facilities are excluded from regulation as solid wastes and solid waste handling facilities. To be considered exempt from regulation, the material must have a known use, reuse, or recycling potential; must be feasibly used, reused, or recycled; and must have been diverted or removed from the solid waste stream for sale, use, reuse, or recycling, whether or not requiring subsequent separation and processing.

(b) Materials accumulated speculatively are solid waste and must comply with all applicable provisions of these regulations.

(c) A recovered material is not accumulated speculatively if the person accumulating it can show that there is a known use, reuse, or recycling potential for the material, that the material can be feasibly sold, used, reused, or recycled and that during the preceding 90 days the amount of material that is recycled, sold, used, or reused equals at least 60 percent by weight or volume of the material received during that 90 day period and 60 percent by weight or volume of all material previously received and not recycled, sold, used, or reused and carried forward into that 90 day period.

(d) Proof of recycling, sale, use, or reuse shall be provided in the form of bills of sale, or other records showing adequate proof of movement of the material in question to a recognized recycling facility or for proper use or reuse from the accumulation point. In addition, proof must be provided that there is a known market or disposition for the recovered material. Persons claiming that they are owners or operators of recovered materials processing facilities must show that they have the necessary equipment to do so.

(e) A recovered material is "sold" if the generator of the recovered material or the person who recovered the material from the solid waste stream received consideration or compensation for the material because of its inherent value.

1. Employed as an ingredient (including use as an intermediate) in a process to make a product (for example, utilizing old news-paper to make new paper products) or

2. Employed in the same or different fashion as its original intended purpose without physically changing its composition (for example, use of old automobiles for spare parts or donation of clothing or furniture to charitable organizations) or

3. Employed in a particular function or application as an effective substitute for a commercial product (for example, utilizing shredded tires in asphalt or utilizing refuse derived fuel as a substitute for fuel oil, natural gas, coal, or wood in a boiler or industrial furnace) as long as such substitution does not pose a threat to human health or the environment and so long as the facility is not a solid waste thermal treatment facility.

4. A material is not "used, reused or recycled" when it is applied to or placed on or in the land in a manner that constitutes disposal which, in the opinion of the Director, may pose a threat to human health and the environment (for example, utilizing soil containing levels of hazardous constituents, as listed in Chapter 391-3-11, 40 CFR Part 261, Appendix VIII for fill material when those levels are greater than the background levels in the area to be filled, land applying sludge in excess of generally accepted agricultural practices or use of inherently waste-like materials as fill material)."

This document has been constructed as a user guide to help you distinguish between a solid waste or hazardous waste versus a recovered material, followed by a strong emphasis on ensuring that the material does not pose a threat to human health or the environment. Demonstrating that the material is not a threat to human health or the environment is achieved partially through thorough laboratory analysis of the solid waste, and depending on the results, a risk analysis based on the proposed use of the solid waste.

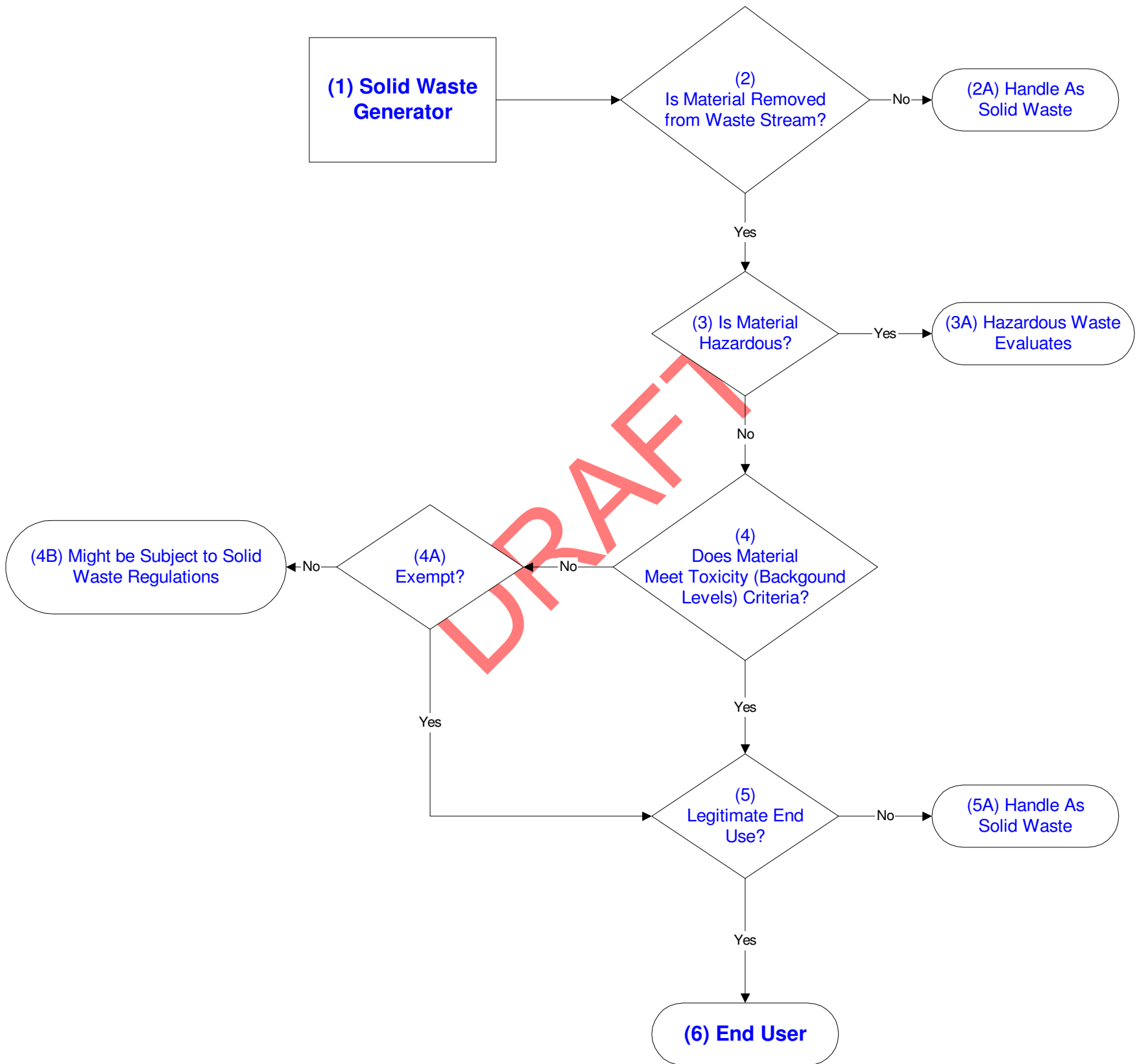
Following this introduction is a "Decision Tree" flowchart that visually presents the steps of the determination process, and is followed by corresponding narratives that discuss each step. The electronic version of this document also provides hyperlinks between Decision Tree sections and corresponding narratives that are intended to help clarify what is a solid waste, what considerations there are in utilizing a solid waste as a recovered material, and some of the more technical considerations you may need to consider, including generator knowledge, laboratory analysis, and risk assessments.

DECISION TREE

For

GUIDANCE DOCUMENT

Exemption of Recovered Materials and Recovered Materials Processing Facilities From Regulation as Solid Wastes



(1) SOLID WASTE GENERATOR

From Rule [391-3-4-.01](#):

(65) "**Solid Waste**" means any garbage or refuse; sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility; and other discarded material including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities, but does not include recovered materials; solid or dissolved materials in domestic sewage; solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. Section 1342; or source, special nuclear, or by-product material as defined by the federal Atomic Energy Act of 1954, as amended (68 Stat. 923).

(20) "**Generator**" means any person in Georgia or in any other state who creates solid waste.

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(2) IS MATERIAL REMOVED FROM WASTE STREAM?

To be considered for exclusion under Rule .04(7), a material must have a **known** use, reuse, or recycling potential and be diverted or removed from the waste stream for sale, use, reuse, or recycling, whether or not requiring subsequent separation and processing. “Separation” of materials should be limited to processes whereby different recovered materials are separated for distribution to appropriate end-users (e.g., the sorting of glass, plastics, paper, etc. in a single-stream recycling system). “Processing” of recovered materials should be limited to the actions that are needed to transform the materials are made into a usable product (e.g., melting of aluminum cans and glass, the grinding and breaking down of recovered paper to cellosic fibers to make new paper, etc.).

EPD recognizes that incidental waste material will be present in recovered material streams and will need to be removed and disposed of in accordance with the Rules. However, ***the separation or processing of solid waste after it has entered the waste stream (after it has been transferred from the generator) in order to obtain recoverable materials is not allowed under Rule .04-(7).*** Such operations are classified as Materials Recovery Facilities, and the owners/operators of these facilities must obtain a Solid Waste Handling Permit for such separation/processing operations.

(2A) HANDLE AS SOLID WASTE

To “**Handle as Solid Waste**” means to properly handle, transport, and dispose of solid waste. A solid waste that cannot be utilized as a recovered material, and is not a hazardous waste, must be properly managed from the point of generation to the point of disposal in accordance with *Georgia’s Rules for Solid Waste Management*, 391-3-4.

3) IS PROPOSED RECOVERED MATERIAL HAZARDOUS?

A solid waste can be a hazardous waste if it has the characteristics in **40 CFR §261** or is a specifically listed hazardous waste also in 40 CFR §261. If a material is a hazardous waste, it does not qualify for exclusion under *Georgia's Rules for Solid Waste Management*, **391-3-4-.04-(7)**.

The following guidance questions are for general guidance only. Call the Hazardous Waste Program of EPD's Land Protection Branch if you have questions about whether your waste is a regulated hazardous waste.

1. Is the waste easily ignited, with a flashpoint of less than 140 degrees [40 CFR §261.21]?
2. Is the waste corrosive and have a pH of 2 or less OR does it have a pH of 12.5 or greater [40 CFR §261.22]?
3. Is the waste unstable or water-reactive or require special handling measures to prevent fire and/or explosion and/or toxic gas [40 CFR §261.23]?
4. Is the waste toxic due to levels of the chemical constituents listed at this table [40 CFR §261.24]?
5. Is the waste listed on any of these tables [40 CFR §261.31, §261.32, and §261.33]?

If the answer is **YES** to any of these questions, then the recovered material is considered to be hazardous for the purposes of this document. Please proceed to **(3A)**.

(3A) HAZARDOUS WASTE PROGRAM EVALUATES

Please contact the EPD's **Hazardous Waste Compliance Program** at (404) 657-8831, or consult EPD's Website at <http://gaepd.org>, for more information regarding the beneficial use, re-use, recycling, or reclaiming of a hazardous waste.

4) TOXICITY SCREENING

If the recovered material does contain hazardous constituents, then this Toxicity Screening is required.

Step 1. Check 40 CFR 261 Appendix VIII. Does the recovered material contain any of these listed constituents?

Lab analysis will not be required if sufficient knowledge is available. If generator knowledge is available, keep the data used in the evaluation of the toxicity of the recovered material in records available for inspection if the need arises. A Material Safety Data Sheet (MSDS) which is available from hazardous material distributors, gives an idea of hazardous constituents but may not be accurate enough for this purpose because it does not report ingredients that might comprise <1% of the total product.

Example: if only clean natural state woody vegetation is chipped and burned in a boiler, resulting in wood ash, then published guidance from UGA may be used to pass this screen, keep a copy of the publication. Proceed to **Legitimate Use**.

If there is insufficient knowledge of the toxicity of the recovered material, a representative sampling for laboratory analysis is advised. Analyzing the samples for full Appendix VIII will not be required, as long as the hazardous constituents of concern are properly identified. Identification of hazardous constituents likely to be present in the recovered material may be done through consultation with knowledgeable personnel.

Step 2. Fully understand the toxicity of the recovered material as well as the intended product or end use. As compared to a product that does not use the recovered material as an ingredient, is the product to be produced using the recovered material likely to increase the risk of release of the recovered material's hazardous constituents to pose a risk to human health or the environment?

The generator may choose to pass the toxicity screen using data about the recovered material itself, and/or data about the intended resulting product.

Example: a hazardous constituent in sandblasting sand to be an ingredient in a concrete block is less likely to be dissolved and carried by rainwater to a stream than sandblasting sand used to fill a playground would be.

Step 3. Decide whether to compare the recovered material and/or product to background levels or Toxicity Screening Tables. Is the recovered material proposed for land application purposes, such as industrial wastewater sludge to be composted for use as a soil amendment, or industrial ash to be used as top

dressings for dirt roads, or sandblasting sand to be used as structural fill? If so, it will be costly to develop background levels for each customer's land, so use of the Toxicity Tables is advised.

Choose either to (1) develop background data for the intended application area to compare to the Tables; or (2) use the actual hazardous constituent content of the recovered material to compare to the Tables.

Step 4. See the [August 17, 2010 EPD LPB memorandum](#) regarding the Toxicity Tables to be used and the process to be followed. **See the attached example.** If the recovered material hazardous constituents are below the lowest value of the four tables, keep records of this evaluation and proceed to **Legitimate Use**.

Step 5. Some recovered materials will have constituents of concern above the toxicity screening, but still have a legitimate recycling potential. Some reuses are specifically allowed by Rule or allowed under a permit. Some may be approved on a case-by-case basis by the EPD LPB. **Proceed to Exempt?**

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(5) LEGITIMATE END USE?

The following factors should be considered in making a determination as to the overall legitimacy of a specific recycling/reuse activity. In making a determination that a recovered material is legitimately recycled, persons must evaluate all factors and consider legitimacy as a whole. If, after careful evaluation of these other considerations, one or more of the factors are not met, then this fact may be an indication that the material is not legitimately recycled. In that event, a case-by-case determination by EPD may be sought.

Factor 1: Does the Recovered Material provide a useful contribution to a process or Product?

Factor 2: Does the Recovered Material activity produce a valuable Product or intermediate ingredient?

Factor 3: Is the resulting Product managed as a valuable commodity?

Factor 4: Is the Product produced with recovered material more toxic than a Product produced with analogous raw materials?

Factor 1

A recovered 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.

Factor 2

The product or intermediate is valuable if it is:

- (i) Sold to a third party or demonstrated that it has intrinsic value to a recycler or end user; and
- (ii) Used by the recycler or the generator or the consumer (end user) as an effective substitute for a commercial product or as an ingredient or intermediate in an industrial process.

Factor 3

The Recovered Materials and Products or Intermediates should be managed as a valuable commodity:

- (i) Where there is an analogous raw material, the recovered material should be managed, at a minimum, in a manner consistent with the management of the raw material, or
- (ii) Where there is no analogous raw material, the recovered material should be contained. Recovered materials that are released to the environment and remain in the environment outside the containment are considered to be improperly disposed.
- (iii) The turnover of the Recovered Material complies with the appropriate 60/90 Rule or 75/90 Rule. Refer to [391-3-4-.04\(7\)](#) and ****insert the 75/90 Rules reference****. If the market does not support a reasonable turnover from storage of the Recovered Material, then it reverts to being regulated as a solid waste and must be managed as such.

Factor 4

At the point of End Use, the Product of the recycling process should not:

- (i) Contain significant concentrations of any hazardous constituents found in [391-3-11-.07\(1\)](#) [40 CFR 261] Appendix VIII that are not found in analogous products; or
- (ii) Contain concentrations of any hazardous constituents found in [391-3-11-.07\(1\)](#) [40 CFR 261] Appendix VIII at levels that are significantly elevated from those found in analogous products; or
- (iii) Exhibit a hazardous characteristic (as defined in [391-3-11-.07\(1\)](#) [40 CFR 261] Subpart C that analogous products do not exhibit.

Georgia Department of Natural Resources

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August 17, 2010

Memorandum

To: Mark Smith

Through: Jim Brown
Shannon Lund

From: Jim McNamara

Subject: Background for compliance with Rule 391-3-4-.04(7)(f)(4)

The Georgia Rules for Solid Waste Management establish requirements for “Recovered Materials” which are diverted from the solid waste stream. The general provisions section of the rule states that:

“A material is not ‘used, reused or recycled’ when it is applied to or placed on or in the land in a manner that constitutes disposal which, in the opinion of the Director, may pose a threat to human health and the environment (for example, utilizing soil containing levels of hazardous constituents, as listed in Chapter 391-3-11, 40 CFR 261 Appendix VIII for fill material when those levels are greater than the background levels in the area to be filled...)”

However, in many cases, establishment of site-specific background levels impede marketing of a recovered material. Consistent with our methodology for screening COPCs in risk assessments, and for consistency with other EPD rules, I propose that the following methodology may be used as a surrogate for site-specific background determinations for purposes of compliance with the referenced rule.

In lieu of developing site specific background concentrations for the constituents found in 40 CFR 261 Appendix VIII, the *lesser* of the following may be used:

- Cancer screening levels for Residential Soil in the most recent version of the EPA Regional Screening Levels, found at http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm
- 10% of the Non-cancer screening level (RSL x 0.1) for Residential Soil in the most recent version of the EPA Regional Screening Levels, found at http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm

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- Notification Concentrations established under the Georgia Rules for Hazardous Site response, 391-3-19 Appendix I, found at <http://rules.sos.state.ga.us/docs/391/3/19/AP.pdf>
- Guidelines for Beneficial Use of Sewage Sludge through Land Application, 391-3-6-.17(5)(a) Table 1, found at <http://rules.sos.state.ga.us/docs/391/3/6/17.pdf>

This proposal would ensure that no recovered material would fail EPD risk screening methodology, would not trigger notification pursuant to the Hazardous Site Response Act, and would include current beneficial use under the water rules.

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