

CHAPTER 108
BENEFICIAL USE DETERMINATIONS:
SOLID BY-PRODUCTS AS RESOURCES AND
ALTERNATIVE COVER MATERIAL

[Prior to 7/1/83, DEQ Ch 39]

[Prior to 12/3/86, Water, Air and Waste Management[900]]

567—108.1(455B,455D) Purpose. The purpose of this chapter is to establish rules for determining when a solid by-product is a resource and not a solid waste. Solid by-products determined by the department not to be a solid waste through a beneficial use determination may not be subject to all sanitary disposal project (SDP) permitting requirements. The department encourages the beneficial use of solid by-products in order to preserve resources, conserve energy, and reduce or eliminate the need to dispose of solid by-products in sanitary landfills. Furthermore, the purpose of this chapter is to encourage the utilization of solid by-products as resources when such utilization improves, or at a minimum does not adversely affect, human health, safety and the environment

567—108.2(455B,455D) Applicability and compliance.

108.2(1) These rules apply to industrial, commercial, and institutional generators and users or proposed users of solid by-products and to sanitary landfills utilizing or desiring to utilize alternative cover material. These rules apply to solid by-products that before receiving a beneficial use determination by the department were being disposed of as solid waste. These rules do not apply to solid by-products that have already been disposed of as solid waste by the generator. Solid by-products from a sanitary landfill may be reclaimed for a beneficial use in accordance with these rules, but the reclamation operations, activities and plans shall be regulated by the applicable sanitary landfill rules.

108.2(2) These rules do not pertain to the land application of solid waste. ~~For rules pertaining to the land application of solid waste, see 567—Chapter 121. However, for solid by-products that are landapplied pursuant to 567—Chapter 121, a variance from some or all of the requirements of 567—Chapter 121 may be gained through receipt of a beneficial use determination from the department.~~ The land application of solid waste is considered disposal and not a beneficial use.

108.2(3) These rules do not pertain to solid waste processing operations pursuant to 567—Chapter 104. However, for solid by-products that are processed pursuant to 567—Chapter 104, a variance from some or all of the requirements of 567—Chapter 104 may be gained through receipt of a beneficial use determination from the department.

108.2(4) These rules do not pertain to solid waste composting pursuant to 567—Chapter 105. However, for solid by-products that are composted pursuant to 567—Chapter 105, a variance from some or all of the requirements of 567—Chapter 105 may be gained through receipt of a beneficial use determination from the department.

108.2(5) ~~Beneficial use determinations granted by the department before April 23, 2003, shall remain in effect unless specifically addressed by these rules or by written notification pursuant to 567—108.11(455B,455D).~~ These rules do not pertain to waste tires, other than those used as alternative cover material pursuant to 567—108.7(455B,455D). Refer to 567—Chapter 117 for rules regarding the beneficial use of waste tires.

108.2(6) The issuance of a beneficial use determination by the department relieves the generator and user(s) of all Iowa solid waste requirements specifically noted in the written determination. Requirements that may be relieved by a beneficial use determination may include rules, SDP permits, and permit conditions and variances. Solid by-products that have not received a beneficial use determination by the department are subject to all of Iowa's regulations pertaining to solid waste. The issuance of a beneficial use determination by the department in no way relieves the generator or user of the responsibility of complying with all other local, state, and federal statutes, ordinances, and rules or other applicable requirements.

567—108.3(455B,455D) Definitions. For the purposes of this chapter, the following terms shall have the meaning indicated in this chapter. The definitions set out in Iowa Code section 455B.301 shall be considered to be incorporated verbatim in these rules.

“Alternative cover material” means a substitute material or mix of materials that can be utilized in lieu of soil as cover material at a sanitary landfill.

“Beneficial use” means a specific utilization of a solid by-product as a resource, that constitutes reuse rather than disposal, does not adversely affect human health or the environment, and is approved by the department.

“Beneficial use determination” means a written formal decision or rule issued by the department to an applicant after review and approval of an application, to allow the beneficial use of ~~as approval for a solid by-product to be utilized in a specific manner as a beneficial use~~ as a resource.

“Coal combustion by-product” means any solid by-product produced by the ~~burning~~ combustion of coal, by itself or in conjunction with natural gas or other fossil fuel, ~~which is~~ and the treatment of combustion gases that are suitable for disposal as solid waste in a sanitary landfill. Examples include, but are not limited to, boiler slag, bottom ash, fly ash, coal gasification ash, fluidized bed combustion ash, and flue gas desulfurization by-products from flue gas pollution control equipment (e.g. lime, activated carbon). Coal combustion by-products that are disposed of ~~are also~~ referred to as coal combustion residue.

“Cover material” means soil placed as daily, intermediate, or final cover at a sanitary landfill.

~~*“Fill material”* means material that is used to raise the elevation of, take up space in, or build up the level of the land. For the purposes of this chapter, fill material is not considered subbase for hardsurface road construction.~~

“Foundry sand” means a solid by-product from the foundry industry that is derived from molding, core-making, and casting cleaning processes that primarily contain sand, olivine, or clay and that is suitable for disposal as solid waste in a sanitary landfill.

“Generator” means a person, organization, business, industry, agency or institution whose daily activities or business results in the production of a solid by-product.

“High water table” is the position of the water table which occurs in the spring in years of normal or above-normal precipitation.

“Resource” means a solid by-product that can provide greater benefit to the environment or human welfare in its beneficial use as a safe and effective substitute for a raw material, fuel or energy source, or natural resource, rather than being disposed of as a solid waste in a sanitary landfill.

“*Solid by-product*” means a secondary material or residual, produced or created by an industrial, commercial or institutional process or activity, that has been source separated by the generating entity and that would otherwise be disposed of as solid waste. Solid by-products are composed of materials suitable for disposal as solid waste in a sanitary landfill.

“*Soil Stabilization*” means the treatment or coating of soil to increase or maintain the stability of a mass of soil, to protect soil areas at risk of erosion, or to improve the engineering properties of the soil.

“*Subbase for hard-surface road construction*” means material that is used in subsurface applications for the construction of roads, including their shoulders, and parking lots that have hard surfaces such as concrete or asphalt. ~~For the purposes of this chapter, subbase for hard-surface road construction is not considered fill material.~~

“*Suitable for disposal as solid waste in a sanitary landfill*” means that the material is in compliance with all state and federal rules and regulations pertaining to what may be disposed of in an Iowa sanitary landfill. Such materials are at a minimum nonhazardous and nonradioactive, are solid or semisolid, and do not contain free liquids pursuant to the Paint Filter Liquids Test (Reference: 40 CFR 258.28).

“*Vector*” means a carrier organism that is capable of transmitting a pathogen from one organism to another. Vectors include, but are not limited to, birds, rats and other rodents, and insects.

“*Water table*” means the water surface below the ground at which the unsaturated zone ends and the saturated zone begins.

567—108.4(455B,455D) Universally approved beneficial use determinations. The following solid by-products may be utilized as resources in the specific manners listed provided that such utilization is in compliance with ~~567—108.6(455B,455D) and 567—108.7~~5(455B,455D). Unless a user is otherwise notified by the department pursuant to ~~567—108.11~~9(455B,455D), such utilization does not require further approval from the department.

108.4(1) Alumina. Alumina may be used as a raw material in the manufacture of cement or concrete products. Alumina includes refractory brick for the purpose of this subrule.

108.4(2) Asphalt shingles. Asphalt shingles that are certified, consistent with federal regulations (Reference: Appendix E, Subpart E, 40 CFR Part 763, Section 1, Polarized Light Microscopy), as not containing more than 1 percent asbestos may be used as follows:

- a. Raw material in the manufacture of asphalt products.
- b. Subbase for hard-surface road construction.
- c. Road surfacing granular material.

~~d. Alternative cover material at a sanitary landfill pursuant to 567—108.8(455B,455D).~~

108.4(3) Cement kiln dust. Cement kiln dust may be used as follows:

- a. Raw material in the manufacture of absorbents.
- b. Raw material in the manufacture of cement or concrete products.
- c. Subbase for hard-surface road construction.

~~d. A soil amendment pursuant to 567—Chapter 121 and the rules of the Iowa department of agriculture and land stewardship or a compost amendment pursuant to 567—Chapter 105.~~

~~e. A stabilizer for manure and waste sludge.~~

~~f. A soil stabilizer for construction purposes.~~ For soil stabilization purposes.

~~g. Fill material pursuant to 108.6(1).~~

108.4(4) Coal combustion by-products.

a. Coal combustion fly ash and flue gas desulfurization and flue gas pollution control by-products, including, but not limited to, lime, activated carbon and synthetic gypsum, may be used as follows:

(1) Raw material in manufactured gypsum, wallboard, plaster, stucco, grout or similar product.

(2) Raw material in manufactured calcium chloride.

(3) Raw material in the manufacture of absorbents.

~~(4) Fill material pursuant to 108.6(1).~~

~~(5) Alternative cover material at a sanitary landfill pursuant to 567—108.8(455B,455D).~~

(4) Raw material in the manufacture of cement or concrete products.

(5) Raw material to be used in mineral recovery.

(6) Raw material in the manufacture of asphalt products.

(7) Raw material in plastic products.

(8) Subbase for hard-surface road construction.

(9) For soil stabilization purposes.

(10) Raw material in the manufacture of aggregate.

(11) Subbase for coal stockpile and storage areas.

(12) Aggregate or mineral filler for road seal-coats.

(13) A compost amendment pursuant to 567—Chapter 105.

(14) Subbase material for livestock feedlots and confinement areas.

(15) A stabilizer for manure and waste sludge.

b. Coal combustion bottom ash, boiler slag, coal gasification ash and fluidized bed combustion ash ~~fly ash or bottom ash or boiler slag~~ may be used as follows:

(1) Raw material in the manufacture of cement or concrete products.

(2) Raw material to be used in mineral recovery.

(3) Raw material in the manufacture of asphalt products.

(4) Raw material in plastic products.

(5) Subbase for hard-surface road construction.

~~(6) Soil stabilization for construction purposes.~~

~~(7) Fill material pursuant to 108.6(1).~~

~~(8) Alternative cover material at a sanitary landfill pursuant to 567—108.8(455B,455D).~~

(6) Raw material in the manufacture of aggregate.

(7) Subbase for coal stockpile and storage areas.

(8) Aggregate or mineral filler for road-seal coats.

(9) Granules for roofing shingles.

(10) A compost amendment pursuant to 567—Chapter 105.

(11) Subbase material for livestock feedlots and confinement areas.

(12) Traction agent for surfaces used by vehicles, if the use is consistent with department of transportation specifications or other applicable specifications.

(13) Sandblasting or a raw material in the manufacture of abrasive products.

(14) Emergency flood control use.

(15) Leachate drainage and construction media pursuant to 567—Chapter 103.

(16) Backfill for concrete foundations.

~~e. Coal combustion bottom ash may also be used as follows:~~

~~(1) Traction agent for surfaces used by vehicles.~~

~~(2) Sandblasting abrasive.~~

108.4(5) Compost. Cured or finished compost, as defined in 567—Chapter 105, is not solid waste and may be used for any purpose recognized by the U.S. Composting Council or the department.

108.4(6) Foundry sand. Foundry sand may be used as follows:

a. Raw material in the manufacture of asphalt products.

b. Raw material in the manufacture of cement or concrete products.

c. Leachate control drainage material at a sanitary landfill.

d. Subbase for hard-surface road construction.

~~e. Fill material pursuant to 108.6(1).~~

~~f.e.~~ Emergency flood control use for sandbags.

~~g. Alternative cover material at a sanitary landfill pursuant to 567—108.8(455B,455D).~~

108.4(7) Glass. Uncontaminated, unleaded glass may be used as follows:

a. Raw material in the manufacture of asphalt products.

~~b. Fill material pursuant to 108.6(1).~~

~~e.b.~~ Sandblasting or other abrasive.

~~d.c.~~ Leachate control drainage material at a sanitary landfill.

~~e.d.~~ Filter media.

~~f.e.~~ Subbase for hard-surface road construction.

~~g. Alternative cover material at a sanitary landfill pursuant to 567—108.8(455B,455D).~~

108.4(8) Gypsum and gypsum wallboard.

a. All gypsum and gypsum wallboard may be used as follows:

(1) Raw material in the manufacture of absorbents.

(2) Raw material in the manufacture of other gypsum products, wallboard, plaster, or similar products.

~~(3) Alternative cover material at a sanitary landfill pursuant to 567—108.8(455B,455D).~~

b. Gypsum and gypsum wallboard that have not been treated to be water-resistant or flame-retardant may be used as a calcium additive for agricultural use or soil amendment pursuant to 567—Chapter 121 or a compost amendment pursuant to 567—Chapter 105.

108.4(9) Lime. Lime produced as a by-product of public water supplies may be used as follows:

a. A soil amendment pursuant to 567—Chapter 121 and the rules of the Iowa department of agriculture and land stewardship or a compost amendment pursuant to 567—Chapter 105.

b. Raw material in the manufacture of calcium carbonate or similar substance.

108.4(10) Lime kiln dust. Lime kiln dust may be used as follows:

- a. Raw material in the manufacture of absorbents.
- b. Raw material in the manufacture of cement or concrete products.
- c. Subbase for hard-surface road construction.
- d. ~~A soil amendment pursuant to 567—Chapter 121 and the rules of the Iowa department of agriculture and land stewardship or a compost amendment pursuant to 567—Chapter 105.~~
- e. A stabilizer for manure and waste sludge.
- f. ~~A soil stabilizer for construction purposes.~~ For soil stabilization purposes.
- g. ~~Fill material pursuant to 108.6(1).~~

108.4(11) Paper mill sludge. Uncontaminated, dewatered paper mill sludge may be used as follows:

- a. A fuel or energy source.
- b. Bulking agent or carbon source for composting.
- c. Animal bedding.
- d. Raw material in the manufacture of absorbents.
- e. ~~Alternative cover material at a sanitary landfill pursuant to 567—~~

~~108.8(455B,455D).~~

108.4(12) Rubble. ~~Uncontaminated rubble such as concrete, brick, asphalt pavement, soil and rock may be used for fill, landscaping, excavation or grading or as a substitute for conventional aggregate.~~ Dirt, stone, brick, or similar inorganic materials may be used for beneficial fill, landscaping, excavation, grading or as a substitute for conventional aggregate at places other than a sanitary landfill, pursuant to Iowa Code 455B.301. Asphalt, however, shall not be used approved for any of the aforementioned uses if the use will cause the asphalt to be placed in a waterway or wetland or any waters of the state or within the high water table

108.4(13) Sandblasting abrasives. Sandblasting abrasives that do not contain lead-based paint may be used as follows:

- a. Raw material in the manufacture of cement or concrete products.
- b. Raw material in the manufacture of asphalt products.
- c. Subbase for hard-surface road construction.
- d. Raw material in the manufacture of abrasive products.
- e. ~~Fill material pursuant to 108.6(1).~~
- f. ~~Alternative cover material at a sanitary landfill pursuant to 567—~~

~~108.8(455B,455D).~~

108.4(14) Soil, including petroleum contaminated soil.

~~a.~~ Uncontaminated soil (soil which contains low levels of contamination which can be demonstrated that risks to human health, safety and the environment are acceptable - that is not mixed or commingled with other solid waste at the point of generation, processing or disposal, and that is not contaminated with spills of a petroleum product, hazardous waste or industrial waste) may be used for ~~fill~~, landscaping, excavation or grading, or other suitable purpose.

~~b.~~ Petroleum contaminated soils that have been decontaminated to the satisfaction of the department pursuant to 567—Chapter 120 may be used as follows:

- (1) ~~Fill material at the original excavation site pursuant to 108.6(1).~~

~~(2) Alternative cover material at a sanitary landfill pursuant to 567—108.8(455B,455D).~~

~~108.4(15) Tires.~~ This chapter does not pertain to tires other than those used as alternative cover material pursuant to 567—108.8(455B,455D). Refer to 567—Chapter 117 for rules regarding the beneficial use of tires.

~~108.4(16) Wastewater filter sand.~~ Wastewater filter sand may be used as follows:

- ~~a. Fill material pursuant to 108.6(1).~~
- ~~b. Subbase for hard surface road construction.~~

~~108.4(17) Wood.~~ Uncontaminated, untreated or raw wood may be used as follows:

- a. A fuel or energy source.
- b. Bulking agent or carbon source for composting.
- c. Mulch.
- d. Animal bedding.
- e. Raw material in the manufacture of paper products, particle board, or similar materials.

~~108.4(18) Wood ash.~~ Ash from the combustion of uncontaminated, untreated or raw wood may be used as follows:

- ~~a. A soil amendment pursuant to 567—Chapter 121 compost amendment pursuant to 567—Chapter 105.~~
- ~~b. A Bulking agent or carbon source for composting.~~
- c. Raw material in the manufacture of cement or concrete products.
- ~~d. Fill material pursuant to 108.6(1).~~

~~108.4(17) Electric arc furnace slag.~~ Slag from electric arc furnaces may be used as follows:

- a. Aggregate in bituminous mixes such as: pavement surfaces, bases, surface treatments, seal coats, slurry coats, and cold patch.
- b. Raw material in the manufacture of cement and concrete products.
- c. Raw material in the manufacture of asphalt products.
- d. Traction agent for surfaces used by vehicles, if the use is consistent with department of transportation specifications or other applicable specifications.
- e. Subbase for hard-surface road construction.
- f. Sandblasting or other abrasive.
- g. Granules on roofing shingles.
- h. Surfacing granular material that is free of fines for unpaved surface roads, driveways, walkways, trails and golf cart paths.
- i. Stabilization of road shoulders and banks, and use as erosion control aggregate when such use shall not cause the slag to be placed in a waterway of the state.
- j. A compost amendment pursuant to 567—Chapter 105.
- k. Railroad ballast.
- l. Landscape aggregate.
- m. Trench aggregate/drain fields.
- n. Neutralization of acid mine drainage, wastewater remediation and filter media.
- o. Granular structural material engineered to provide strength, stability, and improved drainage characteristics (e.g. for unpaved parking and storage areas, pipe and tank backfill, berm construction and other industrial construction activity).

567—108.5(455B,455D) Application requirements for beneficial use determinations other than alternative cover material. Upon submittal of an application pursuant to this rule, the department may make a determination that a solid by-product that has received approval to be used beneficially, ceases to be a solid waste if it is used in accordance with the terms and conditions of the beneficial use determination. Beneficial use determinations shall be issued for a period of one year, unless otherwise specified by conditions set forth in the approved determination.

108.5(1) Unless the beneficial use is universally approved pursuant to 567—108.4 (455B,455D), the applicant shall submit the following application information to the department. The department may request that additional information be submitted in order to make a beneficial use determination. The department may also require specific conditions ~~on a beneficial use determination and issue a temporary beneficial use determination on a trial basis.~~ as part of the beneficial use determination, including but not limited to, testing, reporting and storage requirements. The department shall have the sole authority to deny a beneficial use determination application if the proposed beneficial use is determined to have the primary purpose as a means of disposal, and any beneficial use would be incidental in nature. ~~The generator of a solid by product may apply to the department in writing for a beneficial use determination. If the department finds the application information to be incomplete, then it shall notify the applicant in writing of that fact and of the specific deficiencies and return the application materials to the applicant within 30 days of such notification. The applicant may reapply without prejudice.~~

a. Name, address and telephone number of:

(1) Solid by-product generator,

(2) Owner of the site where the project will be located,

(3) Official responsible for the operation of the project,

(4) Professional engineer (P.E.) licensed by the state of Iowa and retained for the project, if any. The department may require the applicant to retain a professional engineer for the project or specific parts thereof when evaluating the physical or chemical properties suitable for a proposed construction or civil engineering use.

b. Applications for a beneficial use determination submitted by persons other than the generator must be accompanied by written consent for the proposed use from the generator.

c. A description of each solid by-product intended for beneficial use that clearly identifies the process that generated it and an estimate of the volume that could be made available for beneficial use on an annual basis. This description shall outline the process that will be utilized to transport, handle and store the solid by-product, including any equipment. Any storage shall be temporary in nature.

d. If storage of the solid by-product is proposed, a management plan shall be included, which addresses all storage locations, anticipated storage duration, quantities, run-on and run-off controls, and management practices to minimize uncontrolled dispersion of the material.

e. Written notice shall be provided to the owner(s) of property on which a solid by-product will be utilized that provides a description of where the solid by-product will be placed, including but not limited to, a sketch or drawing that shows the boundaries of the areas where the solid by-product will be used

f. Authorization from the generator and owner(s) of property on which a solid by-product will be utilized, for department staff to conduct inspections of the process used to generate the solid by-product, as well as the beneficial use project site, to collect samples to verify compliance with this chapter.

g. A person who receives a solid by-product determination shall provide documentation supporting the determination to persons selling, transferring, possessing or using the material.

h. The characterization of each solid by-product to be beneficially used in accordance with 567—108.5(2). Documentation, including test results supporting the solid by-product characterization, shall be included.

108.5(2) Solid by-product characterization. Solid by-products proposed for beneficial use must be characterized to confirm that the proposed use is adequately protective of human health, safety and the environment, and that the solid by-product possesses physical characteristics and chemical properties which make the material suitable for the proposed use. The department may establish additional constituent standards from those outlined in this rule, for a solid by-product. A solid by-product characterization shall include, at a minimum:

a. The use of the solid by-product as an ingredient in an industrial process or as a substitute for a commercial product may not present a greater harm or threat of harm than the use of the product or ingredient for which the solid by-product is replacing. A greater threat of harm is presented if one of the following is met:

(1) For comparison of the proposed solid by-product with a product or produced raw material, hazardous or toxic constituents are present at elevated levels, unless an assessment of hazardous and toxic constituents demonstrates that the constituents are not biologically available.

(2) For a proposed solid by-product where no product or produced raw material will be replaced, an assessment of hazardous and toxic constituents demonstrates that the constituents are not biologically available,

b. A solid by-product determination shall demonstrate that the use of the proposed solid by-product does not present a greater threat of harm to human health, safety and the environment by performing the following:

(1) An evaluation to determine which, if any, hazardous or toxic constituents are present in the proposed solid by-product at levels exceeding those found in the material it is replacing.

(2) An evaluation of levels of leaching of hazardous or toxic constituents, including the constituents in 40 CFR Part 261, Appendix VIII, to determine whether the levels of leaching from the proposed solid by-product exceed the levels of leaching from manufactured product or produced raw material it is replacing. The toxicity characteristic leaching procedure (TCLP, EPA Method 1311) shall be performed.

(3) An evaluation of level of leaching of the solid by-product shall be measured by the synthetic precipitation leaching procedure (SPLP, EPA Method 1312) and shall be less than or equal to ten times the maximum contaminant levels (MCL) for drinking water. Foundry sand and coal combustion by-products may limit the SPLP analytes to total metals for drinking water.

(4) The use of a 95% upper confidence interval, using the “Test Methods for Evaluating Solid Waste” (EPA SW-846), may be applied to the comparisons of

constituent levels between the proposed solid by-product and the intentionally manufactured product or produced raw material it is replacing, or to the analytical results of the constituents evaluated when a solid by-product is not being compared to an intentionally manufactured product or produced raw material. At a minimum, the solid by-product shall be analyzed for Total Metals (EPA Method 6010). The analysis shall include: Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc. The department may require additional constituents be analyzed given the proposed beneficial use and solid by-product being evaluated. Results are to be compared to statewide standard levels for soil pursuant to 567—Chapter 137 for a risk analysis for possible human exposure.

(5) The routes of exposure to humans and ecological receptors shall be identified and evaluated. These routes of exposure shall include ingestion, inhalation, dermal contact, leaching to groundwater, plant uptake and surface runoff potential. Mitigating circumstances, such as protective gear worn by workers to reduce exposure during processing or application of the proposed solid by-product, shall be identified.

c. A demonstration that there is a known market for the intended use of the solid by-product under review or the product into which the solid by-product under review is proposed to be incorporated. Viable markets can be documented by providing a contract to purchase or utilize the solid by-product for the use proposed. A solid by-product shall not be stored in anticipation of speculative future markets.

108.5(3) Solid by-product assessment. Each generator of a solid by-product that has been beneficially used and that seeks approval to continue use of the solid by-product beneficially, shall submit a solid by-product assessment for department review. The solid by-product assessment shall include, at a minimum, the following:

a. An updated beneficial use application that addresses the items in paragraphs 567—108.5(1)“a” through “g”.

b. The volume of each solid by-product that was beneficially used or distributed during the prior approved beneficial use period.

c. The characterization of each solid by-product in accordance with 567—108.5(2) and documentation of any re-characterization test results (e.g. change in process or inputs) shall be included. If the process generating the solid by-product has not changed, a signed certification from the generator or other party approved by the department stating that the physical and chemical characteristics of the solid by-product are consistent with the initial solid by-product characterization submitted in the approved application, may be submitted in lieu of additional testing.

d. A summary of any problems or obstacles encountered in the beneficial use of the solid by-product and the actions taken in response to these concerns.

e. A summary of the performance, problems and maintenance associated with any solid by-product storage.

f. Any additional information that may be specified by the department under the approved beneficial use determination to make an evaluation on the continued use of the solid by-product.

g. Generators that have been issued multiple beneficial use determinations for a solid by-product may submit one composite assessment report for the information required in

this subrule. The composite report must distinguish the information for each determined use.

~~108.5(1) The name, address, and telephone number of:~~

~~a. Owner of the site where the project will be located.~~

~~b. Applicant for the beneficial use determination~~

~~c. Official responsible for the operation of the project.~~

~~d. Professional engineer (P.E.) licensed by the state of Iowa and retained for the project, if any. The department may, at its sole discretion, require the applicant to retain a professional engineer for the project or specific parts thereof.~~

~~e. Agency to be served by the project, if any.~~

~~f. Responsible official of agency to be served.~~

~~108.5(2) A description of the solid by product under review and its proposed use.~~

~~108.5(3) The chemical and physical characteristics of the solid by product under review and of each type of proposed product.~~

~~108.5(4) A demonstration that there is a known or reasonably probable market for the intended use of the solid by product under review by providing one or more of the following:~~

~~a. A contract to purchase or utilize the solid by product for the use proposed~~

~~b. A description of how the solid by product will be used.~~

~~c. A demonstration that the solid by product complies with industry standards and specifications for that product.~~

~~d. Other documentation that a market for the solid by product exists.~~

~~108.5(5) A demonstration that the proposed use of the solid by product will not adversely affect human health or the environment. The demonstration may include, but is not limited to, a toxicity characteristics leaching procedure (TCLP, EPA Method 1311) analysis and total metals testing of a representative sample of the solid by product.~~

~~108.5(6) A solid by product management plan pursuant to 108.6(2).~~

567—108.6(455B,455D) Requirements for ~~beneficial uses other than alternative cover material.~~ solid by-products beneficially used as fill material.

~~108.6(1) Solid by products beneficially used as fill material. All beneficial uses, including those listed in 567—108.4(455B,455D) other than rubble and soil, shall meet the following requirements, unless a variance is granted in writing by the department for a specific location, if the beneficial use entails the solid by product's being used as fill material:~~ While the use of solid by-products for fill can provide benefits, such fill projects are not beneficial use projects. Such fill projects include, but are not limited to, quarry and sand and gravel reclamation projects, and ravine filling activities. Such fill projects shall be permitted and operated in accordance with their respective sanitary landfill rules. For example, fill projects involving coal combustion residue shall be regulated pursuant to 567—Chapter 103.

Existing projects having received a beneficial use determination from the department authorizing the use of a solid by-product as a fill material prior to [the effective date of this rule] shall be brought into compliance in accordance with the applicable sanitary landfill rules within three years of [the effective date of this rule]. Such projects that fail to achieve compliance within three years of [the effective date of this rule] shall cease filling operations immediately and complete final reclamation activities within 180 days

from the date that filling operations ceased by placing two feet of clean topsoil over the existing fill material. This requirement shall not prohibit the ongoing use of rubble as fill.

~~a. Leachate characteristics of the solid by product shall be measured by the synthetic precipitation leaching procedure (SPLP, EPA Method 1312) and shall be less than or equal to ten times the maximum contaminant levels (MCL) for drinking water. Foundry sand and coal combustion by products may limit the SPLP analytes to total metals for drinking water.~~

~~b. Total metals testing results, which shall include thallium, shall be consistent with the department's statewide standards for soil pursuant to 567—Chapter 137. Arsenic levels shall be consistent with the statewide standards for soil or the naturally occurring (i.e., background) arsenic levels of the soil, whichever are greater.~~

~~c. The solid by product shall produce a fill that has a pH:~~

~~(1) Greater than or equal to 5 and less than or equal to 8 if the fill may be used as growing media either now or in the future.~~

~~(2) Greater than or equal to 5 and less than 12 if the fill is specifically intended not to be used as growing media either now or in the future. In this category of fill, materials with a pH equal to or greater than 10 but less than 12 shall be used only in areas where direct physical contact by humans for long periods of time is not expected to occur.~~

~~(3) For deep fills where only the surface may serve as growing media either now or in the future, then at a minimum the top three feet shall have a pH greater than or equal to 5 and less than or equal to 8. Fill material below the top three feet shall have a pH greater than or equal to 5 and less than or equal to 12.~~

~~d. The by product shall not be placed in a waterway or wetland or any waters of the state or extend below or within five feet of the high water table.~~

~~e. The by product shall not be placed within the 100-year flood plain unless in accordance with all local and department regulations including rule 567—71.5(455B).~~

~~f. The by product shall not be placed closer than 200 feet to a sinkhole or to a well that is being used or could be used for human or livestock water consumption.~~

~~g. The by product shall not be putrescible.~~

~~**108.6(2) Solid by product management plans.** All recipients of beneficial use determinations granted pursuant to 567—108.5(455B,455D) and coal combustion by-product and foundry sand beneficial uses listed in 567—108.4(455B,455D) shall develop and maintain a solid by product management plan that satisfies the following requirements:~~

~~a. Lists the source(s) of the solid by product.~~

~~b. Lists procedures for periodic testing of the solid by product to ensure that the chemical and physical composition has not changed significantly.~~

~~c. Provides a description of storage procedures including:~~

~~(1) Storage location(s).~~

~~(2) Maximum anticipated inventory, including dimensions of any stockpiles.~~

~~(3) Run-on and run-off controls, which may include a storm water National Pollutant Discharge Elimination System (NPDES) permit.~~

~~(4) Management practices to minimize uncontrolled dispersion of the solid by-product.~~

~~(5) Maximum storage time, not to exceed six months unless authorized in writing by the department.~~

~~567—108.7(455B,455D) Record-keeping and reporting requirements for beneficial use projects other than alternative cover material.~~

~~108.7(1) Any entity that engages in the beneficial use of a solid by product, other than for alternative cover material, and that satisfies at least one of the following criteria shall comply with recordkeeping and reporting requirements set forth in this rule:~~

~~a. The entity has been granted a beneficial use determination pursuant to 567—108.5(455B,455D).~~

~~b. The solid by product is not rubble or soil and is being beneficially used as fill material.~~

~~c. The solid by product is a coal combustion by product or foundry sand.~~

~~108.7(2) Record keeping. Generators shall maintain all records related to the solid by-product management plan for a minimum duration of five years.~~

~~108.7(3) Reporting. Reports shall be filed with the department's central office and the field office with jurisdiction over the generator as follows:~~

~~a. Unless otherwise directed by the department, generators shall submit to the department a copy of the solid by product management plan whenever that plan is revised~~

~~b. Generators whose solid by products are being beneficially used as fill material shall submit to the department within 60 days of the end of the calendar year the following information for each beneficial use project or activity:~~

~~(1) The location of the project.~~

~~(2) The tons of solid by product utilized for the project.~~

~~567—108.8(455B,455D) Universally approved beneficial use determinations for alternative cover material. Unless the landfill is otherwise notified pursuant to 567—108.11(455B,455D), the following alternative cover materials may be beneficially used as daily cover material at sanitary landfills in the manner and volume specified by sanitary landfill rules. However, sanitary landfills shall amend their sanitary landfill permits by notifying the department, and the department field office with jurisdiction over the facility, of their intent to utilize solid by products pursuant to this rule at least 30 days prior to actual utilization of the by products as alternative cover material.~~

~~108.8(1) Asphalt shingles. Asphalt shingles that are certified, consistent with federal regulations (Reference: Appendix E, Subpart E, 40 CFR Part 763, Section 1, Polarized Light Microscopy), as not containing more than 1 percent asbestos and are ground to an average size of 3 inches or less in any dimension may be mixed with soil in a 50/50 volume.~~

~~108.8(2) Coal combustion by products. Coal combustion by products may be mixed with soil in a 50/50 volume.~~

~~108.8(3) Compost. One hundred percent cured or finished compost, and compost rejects, may be used.~~

~~108.8(4) Diatomaceous earth. Diatomaceous earth may be mixed with soil in a 50/50 volume.~~

~~108.8(5) Foundry sand. Foundry sand may be mixed with soil in a 50/50 volume.~~

~~108.8(6) Glass.~~ Glass that has been ground to an average size of ½ inch or less in any dimension may be mixed with soil in a 10 percent glass and 90 percent soil by volume mixture.

~~108.8(7) Gypsum and gypsum wallboard.~~ Gypsum and gypsum wallboard that have been ground to an average size of 3 inches or less in any dimension may be mixed with soil in a 50/50 volume.

~~108.8(8) Paper mill sludge.~~ Uncontaminated, dewatered paper mill sludge may be mixed with soil in a 50/50 volume.

~~108.8(9) Sandblasting abrasive.~~ Sandblasting abrasive and residuals may be mixed with soil in a 50/50 volume.

~~108.8(10) Soil, including petroleum contaminated soil.~~ Petroleum contaminated soils that have been decontaminated to the satisfaction of the department pursuant to 567—Chapter 120 may be utilized.

~~108.8(11) Tire chips.~~ Tire chips that are an average size of 3 inches or less in any dimension may be mixed with soil in a 50/50 volume.

567—108.97(455B,455D) Beneficial use determination application requirements for alternative cover material. The applicant shall submit the following application information to the department for review and approval of alternative cover material other than uncontaminated soil. The department may request that additional information be submitted in order to make a final determination. The department may also require specific conditions and issue a temporary approval on a trial basis.

108.7(1) A written application submitted by the owner or operator must include the information listed below. Written approval amending the sanitary landfill permit must be received from the department prior to use of the proposed material.

a. The material type and name and material safety data sheet (MSDS) for the material, if available.

b. A detailed operations plan which demonstrates that the performance of the waste material or cover product will meet the following criteria:

(1) Control disease vectors by preventing access to the waste and minimizing the potential for the waste to serve as a food source for birds, insects, or rodents.

(2) Control fires by limiting the exposure of combustible materials to ignition sources and hindering the spread of fire if the disposed waste combusts.

(3) Reduce odors and prevent blowing litter by minimizing exposure of the waste to the air and eliminating direct contact of the wind with compacted waste.

(4) Discourage scavenging by removing the waste from observation.

(5) Assure an aesthetic appearance by the covered waste being less obtrusive than uncovered waste to anyone off site of the facility.

(6) Physical and chemical characteristics of the material, procedures for placement, the thickness of the application of the material, typical amount to be used daily, and weather conditions during which the material cannot be used.

(7) Contingency plan for the use of earthen daily cover in the event that the alternative cover material cannot be used or is not performing adequately.

(8) Any available documentation of the material's use at other landfills that addresses the material's performance.

108.7(2) A field demonstration of an alternative daily cover material may be required by the department or requested by the owner or operator. The demonstration must provide meaningful and comparable results that allow the owner or operator to make an informed decision regarding the effectiveness of the material. The owner or operator shall submit the following information for review and approval prior to initiating the demonstration:

a. A map depicting the proposed location and areal extent of the field demonstration.

b. Proposed timeframe and anticipated amount of material for the field demonstration, not to exceed six months. Department approval of the use of the material shall be limited to the period of time specified for completion of the field demonstration. A demonstration may consist of:

(1) A side by side (six inches of soil and alternative cover) test pad;

(2) A short-term full-scale demonstration.

c. A plan to address the operational practices to be followed when using the material and a detailed description of how the proposed material shall be evaluated to address the items in subparagraphs 108.8(1)“b”(1) through (7).

d. During the course of the demonstration, a monthly report must be submitted to the department. The monthly report shall summarize the performance of the material and evaluate its effectiveness. The monthly report shall also include copies of completed daily logs documenting information such as weather conditions, special operational practices used, as well as problems encountered using the material.

e. Photographs may be used to further document the material's performance.

108.7(3) Upon completion of the demonstration period, the department shall evaluate the information submitted and either approve or deny the continued use of the proposed material as alternative cover material. The department may also perform on-site inspections during the demonstration period in order to gather additional information on the material's performance.

108.7(4) If on-site storage of the alternative cover material at the sanitary landfill is proposed, a management plan shall be included indicating all storage locations, run-on and run-off controls, and management practices to minimize uncontrolled dispersion of the material.

108.7(5) Approval for use of the alternative cover material may be withdrawn by the department if the department determines that when in use, the performance of the material does not meet the performance criteria listed in 567—108.7(455B,455D). All such approvals are subject to periodic review by the department.

108.7(6) Approvals to utilize alternative cover materials under a beneficial use determination shall be reviewed in conjunction with each sanitary landfill permit renewal. ~~Unless the alternative cover material beneficial use is approved pursuant to 567—108.8(455B,455D), the applicant shall submit the following application information to the department to amend the sanitary landfill permit. The department may request that additional information be submitted in order to make a beneficial use determination. The department may also require specific beneficial use determination conditions and issue a temporary beneficial use determination on a trial basis.~~

~~If the department finds the application information to be incomplete, then it shall notify the applicant in writing of that fact and of the specific deficiencies and return the~~

application materials to the applicant within 30 days of such notification. The applicant may reapply without prejudice.

~~108.9(1)~~ The name, address, and telephone number of:

~~a.~~ Owner of the site where the project will be located.

~~b.~~ Applicant for the beneficial use determination.

~~c.~~ Official responsible for the operation of the project.

~~d.~~ Professional engineer (P.E.) licensed by the state of Iowa and retained for the project, if any. The department may, at its sole discretion, require the applicant to retain a professional engineer for the project or specific parts thereof.

~~e.~~ Agency to be served by the project, if any.

~~f.~~ Responsible official of agency to be served.

~~108.9(2)~~ A description of the proposed alternative cover material and whether it is to be used as daily, intermediate, or final cover.

~~108.9(3)~~ The chemical and physical characteristics of the alternative cover material.

~~108.9(4)~~ The proposed volume ratio of the alternative cover material(s) to soil or other alternative cover material(s).

~~108.9(5)~~ A demonstration that there is a known or reasonably probable suitability of the alternative cover material as cover material by providing previous case studies of the alternative cover material being utilized as cover material's or the following information:

~~a.~~ Information on the ability of the alternative cover material to reduce or maintain current odor levels.

~~b.~~ Information on the ability of the alternative cover material to reduce or deter vectors.

~~c.~~ Information on the ability of the alternative cover material to reduce or maintain the current risk of fire.

~~d.~~ Information on the ability of the alternative cover material to control litter and dust.

~~e.~~ Information on the ability of the alternative cover material to impede the infiltration of liquids and precipitation.

~~f.~~ Information on the ability of the alternative cover material to control landfill gas migration.

~~g.~~ Information on the ability of the alternative cover material to provide a safe and effective working surface.

~~h.~~ Information on the ability of the alternative cover material to provide effective growing media.

~~i.~~ Other documentation that the alternative cover material is suitable for cover material.

~~108.9(6)~~ A demonstration that the proposed use of the alternative cover material will not adversely affect human health or the environment. The demonstration may include, but is not limited to, a toxicity characteristics leaching procedure (TCLP, EPA Method 1311) analysis of a representative sample of the alternative cover material.

567—108.108(455B,455D) Beneficial use of alternative cover material and state goal progress. Solid waste that is approved as Aalternative cover material pursuant to 567—108.7(455B,455D) placed at no more than the thickness required by sanitary landfill rules and that is accepted by a sanitary landfill at no cost to the generator or hauler, does not constitute the receipt and disposal of solid waste and shall be exempt from the tonnage

fee imposed by Iowa Code section 455B.310 and the sanitary landfill tonnage measurements used for state goal progress and waste diversion calculations.

567—108.119(455B,455D) Revocation of beneficial use determinations. The department may revoke any beneficial use determination given pursuant to this chapter if it finds one or more of the following:

1. The matters serving as the basis for the department's determination were incomplete or incorrect or are no longer valid.

2. The department finds that there has been a violation of any law, rule, permit or other authorization in its jurisdiction.

3. The department has reasonable cause to suspect, based upon information not previously considered or available as part of the application, demonstrating that management of the solid by-product under the approved beneficial use determination may present a significant risk to or adverse affect on human health, safety or the environment.

4. The solid by-product is used in a manner inconsistent with the terms under which it was determined to be a resource and no longer a solid waste.

These rules are intended to implement Iowa Code sections 455B.304 and 455D.4.

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