

567—120.9(455B) Landfarm operating requirements. All landfarms shall comply with the following operating requirements:

120.9(1) Standard PCS. Only standard PCS may be land applied or stored at a landfarm without a permit amendment from the department. A permit amendment from the department, pursuant to subrule 120.4(10), shall be obtained for each particular source and type of nonstandard PCS before that PCS may be land applied or stored at a landfarm. The permit amendment application shall include a justification of how the PCS can be safely and effectively remediated by landfarming.

120.9(2) Saturated or slurry PCS. PCS in a saturated or slurry condition shall not be applied to the land or stored at a landfarm. PCS in such a condition shall be bulked with other biodegradable materials (e.g., compost, mulch) until it is no longer saturated or in a slurry before it is applied to the land or stored at a landfarm.

120.9(3) PCS delivery and storage. Only PCS that is from an emergency cleanup may be delivered during the non-landfarm season. PCS delivered during non-landfarm season may be stored as follows until the conditions of subrule 120.9(4) are satisfied or within the first seven days of landfarm season, whichever is shorter. PCS that cannot immediately be applied to the land at the landfarm during landfarm season may be stored at the landfarm as follows.

a. Seven days or less. PCS may be stored up to seven days in compliance with the following requirements:

- (1) Over an impervious surface (e.g., tarp, concrete pad, plastic sheeting).
- (2) Under a roof or tarp to minimize the infiltration of precipitation.
- (3) In an area with minimal potential for stormwater run-on.

b. Extended storage time. No PCS shall be stored longer than seven days during landfarm season without written permission from the department field office that has jurisdiction over the landfarm.

120.9(4) PCS application weather and landfarm season.

a. PCS shall only be applied to the land during non-landfarm season if the PCS must be applied to the land as part of an emergency cleanup supervised by the department pursuant to subrule 120.6(1), or all of the following conditions exist:

- (1) The landfarm plot is free of snow.
- (2) The slope of the landfarm plot is less than 3 percent.
- (3) The PCS is incorporated into the soil as soon as site conditions allow.

b. PCS shall not be applied to the land during precipitation.

120.9(5) One application, source and type of PCS per plot. One application of a particular source and type of PCS may be applied to a landfarm plot. A landfarm may only apply a subsequent application of PCS to a previously utilized landfarm plot if such application is in compliance with the following:

a. The plot has been tested pursuant to subparagraphs 120.6(2)“c”(1), (2), and (3), and the results demonstrate that petroleum constituent concentrations are less than 0.54 mg/kg for benzene, 42 mg/kg for toluene, 15 mg/kg for ethylbenzene, 3800 mg/kg for TEH-diesel, and 0.02 mg/kg for MTBE.

b. A subsequent application of a particular source and type of PCS may not be applied within 15 feet of an area used as a single-use landfarm until the single-use landfarm is closed pursuant to subrule 120.12(2).

120.9(6) PCS application rates. PCS shall be land applied at a rate that is as uniform as practical over an area sufficient to satisfy the greater of the following area requirements. However, PCS from an emergency cleanup supervised by the department pursuant to subrule 120.6(1) may instead be land applied at a rate of 162 ft² of landfarm area per cubic yard (yd³) of PCS, that is as uniform as practical, and in which no layer of unincorporated PCS is thicker than 2 inches.

a. Petroleum constituents. PCS shall be land applied over the largest area required by the following:

(1) Benzene. PCS contaminated with benzene shall be land applied in accordance with Table 1. The average concentration of benzene in the PCS shall be used to determine the landfarm area (ft²) required per cubic yard (yd³) of PCS to be land applied. The average concentration of benzene shall be calculated from all soil boring test results that are within the PCS excavation area. The application shall be as uniform as practical over the area required.

Average concentration of benzene (mg/kg)	Ft ² of landfarm area per yd ³ of PCS applied	Maximum thickness of unincorporated PCS	Yd ³ of PCS per acre of landfarm
0 < mg/kg ≤ 10	81 ft ²	4 inches	537 yd ³
10 < mg/kg ≤ 20	162 ft ²	2 inches	268 yd ³
20 < mg/kg	324 ft ²	1 inch	134 yd ³

(2) Toluene, ethylbenzene, xylene, and TEH-diesel. PCS that is not contaminated with benzene or MTBE, but is contaminated with toluene, ethylbenzene, xylene, TEH-diesel, or some combination thereof, shall be land applied at a rate of 81 ft² of landfarm area per cubic yard (yd³) of PCS. The application shall be as uniform as practical, and no layer of unincorporated PCS shall be thicker than 4 inches.

b. Total heavy metals. PCS that has been tested for heavy metals pursuant to subparagraph 120.6(2) “c”(4) shall be applied at a rate that is as uniform as practical, that results in no layer of PCS thicker than 4 inches, and that upon incorporation produces a landfarm soil that satisfies the following requirements. This analysis requires prior testing of background levels of heavy metals at the proposed landfarm site.

(1) Total heavy metals are less than 2,500 milligrams per kilogram (mg/kg).

(2) Any particular concentration of a heavy metal is less than the appropriate statewide standard for soil developed pursuant to 567—Chapter 137.

120.9(7) *Flagging.* The landfarm plot(s) upon which PCS is land applied shall be flagged for one year after land application or until the landfarm is closed pursuant to rule 567—120.12(455B), whichever is shorter.

120.9(8) *Removal of solid waste and rubble.* All solid waste that is not PCS (e.g., pipe) shall be removed and properly disposed of. All rubble, stones, and debris larger than 4 inches in diameter, or that interfere with incorporating and turning the PCS, shall be removed and properly disposed of.

120.9(9) *PCS incorporation.* PCS shall be incorporated into the soil by tilling, disking, or other suitable means within 48 hours of being land applied or before the next precipitation event, whichever is sooner. PCS shall not be incorporated deeper than 12 inches.

120.9(10) *Turning the PCS.* After incorporation, the PCS shall be turned by tilling, disking, or other suitable means at least once per month for the first three months during landfarm season.

120.9(11) *No crops for consumption.* Landfarms shall not grow crops within 15 feet of a landfarm plot that is flagged pursuant to subrule 120.9(7). Crops for human and livestock consumption may be grown at a single-use landfarm after the landfarm plot is no longer required to be flagged pursuant to subrule 120.9(7).

120.9(12) *Removal of PCS from a landfarm.* PCS shall not be removed from a landfarm until the landfarm is closed pursuant to rule 567—120.12(455B) or the following conditions are met:

a. One sample from each 2,500 ft² (e.g., 50-foot × 50-foot area) of landfarm plot is analyzed pursuant to subparagraphs 120.6(2) “c”(1), (2), and (3). A minimum of one sample per landfarm plot shall be obtained. All samples shall be obtained from between the top 2 to 6 inches of soil.

b. The results of the tests in paragraph 120.12(2) “a” demonstrate that petroleum constituent concentrations for benzene, toluene, ethylbenzene, TEH-diesel, and MTBE are below the detection limits required by 567—Chapter 135.

c. Records of the lab results, amount of PCS removed, and the exact final location of the PCS shall be maintained by the landfarm.

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