

Industrial Solid Waste Management Plan: Generic conditions for the acceptance of carcasses or carcass ash waste

The Minnesota Pollution Control Agency (MPCA) is providing this document with information related to landfilling mass livestock animal carcasses. The primary authority regulating carcass disposal from an emergency in Minnesota lies with the Board of Animal Health (BAH) (Minn. Stat. § 35.815 and Minn. R. ch. 1721). However as a part of the disposal management process, the MPCA developed a fact sheet titled Emergency Livestock Carcass Disposal (<https://www.pca.state.mn.us/sites/default/files/wq-f6-07b.pdf>). This fact sheet outlines the disposal options approved by the BAH, one of which is landfilling at permitted solid waste facilities which falls under MPCA purview.

Carcasses and carcass ash waste is considered an industrial solid waste if it is generated by any agricultural producer. All industrial solid waste delivered to a solid waste management facility must be managed by the owner or operator to protect human health and the environment. Minnesota Rule 7001.3300 and Minnesota Rule 7035.2535, subp. 5 outlines the Industrial Solid Waste Management Plan (ISWMP) requirements. The following ISWMP recommendations for carcass disposal are designed for implementation at permitted landfills in the State of Minnesota that have both a liner/leachate collection system and a gas management system. This plan does not supersede any previously approved ISWMPs for each facility, but may be added as an addendum to the existing ISWMP. The following recommendations address the acceptance and disposal procedures for animal carcasses and for carcass ash waste in the event of a disaster caused by natural or other causes outside of a producer's control. Facilities may modify the recommendations for site specific operational aspects not included in the list.

Approval of an ISWMP is considered granted if a permitted landfill chooses to add the following recommended language into its approved ISWMP. The landfill must notify the MPCA in writing of the modification to the ISWMP upon making the decision to accept carcass wastes, and must also submit a minor modification application form with the revised ISWMP.

Pre-acceptance procedures

- The facility must follow the usual procedures contained in its approved ISWMP for acceptance of any industrial solid waste, including any necessary notification and basic pre-acceptance procedures.

Acceptance and handling procedures

- The landfill operator must designate a specific area high in the fill for disposal of carcasses and carcass ash waste loads. Deposit animal carcasses only in portions of the landfill underlain by a minimum thickness of 40 feet of other waste accepted at the facility for disposal.
- Formation of potential slip planes should be avoided by maintaining a minimum separation of 40 vertical feet from drainage layers, 60 horizontal feet from side slopes, and 10 vertical feet from final contours.
- Lifts should not exceed 10 feet of thickness, with a maximum of two layers of animal carcasses per lift.
- If the landfill is composite-lined, deposit no more than two layers of carcasses in any given area; if the landfill is not composite-lined, deposit no more than one layer of carcasses in any given area.

- Carcasses should be covered with at least four feet of solid waste or four feet of soil per lift.
- The landfill operator must minimize any unnecessary manual handling of the waste and must follow any appropriate safety precautions or plans. At a minimum, operators should consider use of protective gloves and safety glasses if some manual handling of carcasses is needed.
- Offensive odors may require more cover soil and/or improved gas collection in that area.
- Subsidence during the first six months may be significant. Cover may have to be replaced as the area settles.
- Seeps or leachate breakouts must be fixed immediately with qualified protocols.
- As areas become filled with carcasses, it will be necessary for landfill operators to avoid them and to construct new working areas instead.
- A layer of absorbent material may be placed in advance of disposal of the animal carcasses to absorb any free liquids. Some examples of absorbents include saw dust or wood shavings. Any voids between the carcasses may be covered with additional kiln dust or lime, which impedes fermentation and absorbs generated liquids.
- Landfill operators should take precautions to minimize fugitive dust when disposing of carcass ash waste.
- Records of the type, volume, and source of animal carcasses are maintained in the facility operating record.
- Records of the horizontal and vertical coordinates of the disposal location of the animal carcasses are maintained in the facility operating record. Records of burial locations are used to avoid penetration of gas and leachate extraction wells through the carcasses.