

April 6, 2004

**To:** RCRA Division Directors (Regions I-X)  
Superfund Division Directors (Regions I-X)  
OSWER Office Directors

**From:** Robert Springer, Director /s/  
Office of Solid Waste

**Subject:** Recommended Interim Practices for Disposal of Potentially Contaminated  
Chronic Wasting Disease Carcasses and Wastes

We recognize that several States and Regions have had to deal with the disposal of potentially contaminated chronic wasting disease (CWD) carcasses and wastes and that there are several options available for the disposal of these materials, one being disposal in a municipal solid waste landfill. The purpose of this memorandum is to provide States and municipal solid waste landfill facility managers with interim practices for consideration when a determination is made that the wastes are to be disposed of in a municipal solid waste landfill. As a prudent measure, we believe it is appropriate and reasonable for EPA to encourage that the land disposal of this material take place in a manner that minimizes any possibility of releases. I am providing these interim practices now recognizing that many of you must deal with these issues today. However, we will continue to work with you and the States to refine and revise these interim practices.

Several states (CO, KS, MT, MN, NE, NM, OK, SD, UT, WI, WY) and EPA Regions (5, 6, 7, 8) have dealt with the disposal of elk and deer contaminated with CWD. Some States have used high-temperature incineration or alkaline hydrolysis tissue digestion to dispose of contaminated carcasses and other contaminated wastes as these methods are thought to destroy prions, the disease-causing agent. Other States with large numbers of carcasses and heads that need to be handled and a lack of available disposal options (such as alkaline digestion and high-temperature incineration) have used municipal solid waste landfills to dispose of potentially contaminated CWD waste derived from deer or elk herds in areas where CWD is known to occur. Since CWD is transmitted horizontally among deer and elk, it is thought that containing the infectious agent in municipal solid waste landfills would help reduce the spread of the disease. While disposal of potentially contaminated carcasses in municipal solid waste landfills may not be our preferred option, we recognize that exigencies of a particular situation may show this to be the most reasonable option. However, we believe it is prudent to manage the material in a manner that minimizes the potential for releases to the environment. Therefore, the Office of Solid Waste, with input from EPA's Regional Offices, Office of Research and Development and ten States, has developed the attached interim practices that a State or landfill facility manager may consider when disposing of these contaminated wastes in municipal solid waste landfills.

These interim practices capture issues such as: segregation of carcasses, management of leachate, daily cover considerations, and compliance with Part 258. Note that these interim practices do not apply to waste materials that do not contain CWD. The interim practices provide recommendations and do not impose any legally binding requirements nor do they change or substitute for any State, federal, or local statutory or regulatory provision.

Should you have any questions on these interim practices, please contact Thea McManus, Acting Director of the Municipal and Industrial Solid Waste Division at (703) 308-8738, or have your staff contact Paul Cassidy at (703) 308-7281 or Dave Bartenfelder at (703) 308-8629. Thank you for your assistance in promoting the prudent management of these materials.

Attachment

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## **Recommended Interim Practices for Disposal of Potentially Contaminated Chronic Wasting Disease Carcasses and Wastes**

(1) The municipal solid waste landfill should be 40 CFR Part 258 compliant and have no uncontrolled release from the receiving landfill disposal cell. A composite liner system and leachate collection system is preferable as it will allow for potential future leachate monitoring for prions when appropriate tests are developed. Leachate should be recirculated, where practical, within the animal carcass/contaminated waste disposal cell to remove potential issues associated with discharges to POTWs/Wastewater Treatment Facilities (WWTFs).

(2) A 20-foot base of municipal solid waste should be overlain by 12 inches of absorbent material. The absorbent material should be placed immediately prior to the disposal of the animal carcasses or other contaminated wastes.

(3) Carcasses should be splayed and placed on top of the absorbent material, not to exceed a two carcass-layer thickness. After placement of the carcasses or other contaminated wastes, lime, cement kiln dust, or other similar pH caustic should be added to fill the voids and to minimize fermentation. Immediately following placement of a carcass layer(s)/contaminated wastes, a minimum of 3 feet of municipal solid waste should be applied. At the end of the operating day, a minimum of 12 inches of earthen material should be applied for vector control. No alternative daily cover materials should be allowed.

(3a) As an alternative to (3), carcasses might be splayed and placed in a macro-vault. The macro-vault sequencing should begin close to the final waste elevation to minimize failures due to waste overburden forces. A macro-vault may be created by placement of a geomembrane material in a roll-off box. The geomembrane covers the bottom and sides of the roll-off box. Carcasses or other contaminated wastes are placed within the box. Lime, cement kiln dust, or other similar pH caustic material should be added to the box to fill the voids and to minimize fermentation. The top of the roll-off box should be sealed, to prevent releases, by placement of a geomembrane cover material over the box. The macro-vault is then placed in the municipal solid waste landfill. At the end of the operating day, daily cover or alternative daily cover should be applied. Multiple macro-vault layers (where used) should be aligned perpendicular to the underlying layer and the number of layers should be based on the supportive strength of the macro-vault.

(3b) As an alternative to (3) or (3a), carcasses might be splayed and disposed of in a geomembrane-lined trench within the municipal solid waste landfill. These carcasses and other contaminated wastes should be placed in the trench not to exceed a two carcass-layer thickness. After placement of the carcasses or other contaminated wastes, lime, cement kiln dust, or other similar pH caustic material should be added to fill the voids and to minimize fermentation. After filling the voids, the sides of the geomembrane should be overlapped a minimum of three feet to create a secure trench. After sealing the geomembrane or at the end of the operating day, daily cover or alternative daily cover should be applied.

*In addition, the state/local regulatory agency and the owner/operator should consider:*

- Taking into account potential settlement and future surface water ponding when determining the number of carcass layers.
- Segregating animal carcass/other contaminated waste disposal areas to the extent possible and identifying the boundaries of the disposal area using GPS or other methods.
- Advancing special notification when carcasses or other contaminated wastes are being brought to the landfill to allow landfill mobilization and preparation time.
- Any disposable materials derived from disposal operations should be concurrently disposed with animal carcasses/other contaminated wastes.
- Recording a notation on the deed to the facility property that provides official notification of animal carcass/other contaminated wastes acceptance in order to avoid future improper/illegal exhumation of these wastes.