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Guidance for Alternative Daily Cover Demonstrations

This guidance document has been produced by the Nebraska Department of Environment and Energy (NDEE) to provide guidance for facilities interested in using an alternative daily cover (ADC) for their landfill.

Nebraska [Title 132 – Integrated Solid Waste Management Regulations](#), Chapter 3 states that an owner or operator of a solid waste disposal area that accepts municipal solid waste must cover waste with 6 inches of soil at the end of each operating day, or at more frequent interval to control disease vectors, fires, odors, blowing litter, or scavenging, if necessary. Title 132, Chapter 3 also allows the use of a different material as daily cover if the owner or operator can demonstrate that the alternative material and thickness can control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health or the environment. The proposed ADC must be approved by NDEE. The demonstration period typically lasts 180 days to allow for the evaluation of the proposed ADC under various climate conditions.

A plan for the ADC demonstration must be submitted to NDEE for review and approval before starting the demonstration. There are no specific requirements on how to conduct a demonstration, but it must provide meaningful and comparable results that allow the owner/operator to make an informed decision on the effectiveness of the ADC.

The Environmental Protection Agency's (EPA) Solid Waste Disposal Facility Criteria, Technical Manual (EPA530-R-93-017) suggests that a demonstration may be:

- A side-by-side test pad – One side with 6 inches of soil and the other with the alternative cover
- A full-scale demonstration – A fully functional demonstration where the alternative cover is tested at its full-scale size with all its intended features
- A short-term full-scale test – A comprehensive test where the alternative cover is tested at its full-scale size but for a limited duration

ADC Plan

The plan for an ADC should include how the ADC will be used in operations (how the ADC will be deployed and removed, wet and cold weather operations, high wind operations, run-off control, special filling methods) and a detailed description of how the ADC will be evaluated for effectiveness.

The plan for an ADC demonstration should address the following criteria:

1. Disease vectors and scavenging – Evaluation of the ADC's effectiveness against disease vectors and scavenging will likely rely on visual observations made by the owner/operator. These observations should note the ADC's effectiveness against rodents, flies, mosquitoes, and other animals and insects looking for food and shelter.
2. Fires – The ADC should be non-flammable and minimize potential fire hazards by impeding the spread of fire and limiting the movement of atmospheric oxygen into the waste. The plan should also include a description of actions that will be taken if a fire does occur.
3. Odors – The ADC should be capable of preventing the escape of odors to the atmosphere.
4. Blowing litter and dust – The ADC should be capable of controlling blowing litter by keeping it in place and protecting it from the wind. Evaluation of the ADC's ability to do this will likely rely on visual observations made by the owner/operator. To be effective, the ADC should be capable of staying in place under anticipated wind conditions. High winds may cause the use of the ADC to be stopped temporarily. If plastic or other geosynthetic products are to be used, the plan should detail how the ADC will be held in place to prevent blowup. The ADC itself must not create a dust problem.
5. Consideration should be given to the ADC's impact on moisture infiltration, the ADC's potential to improve site aesthetics, the potential of the ADC to react with waste and/or water, the effect of the ADC on leachate quality and quantity, and how the movement of leachate and methane gas will be controlled.

Data Collection

Manufacturers of commercially available products can generally provide information on their product's flammability, reactivity with waste and water, effect on leachate, and ability to control odors and prevent moisture infiltration.

Owner/operators who want to use waste-like materials such as ash-based material, compost-based material, automobile recycling fluff, and contaminated soils and foundry sand should be prepared to provide analytical data on the points listed above. Other information is not likely to be readily available so the demonstration plan should focus on collecting this information.

A form should be used to record the ADC's performance. The form should be completed daily and may also include additional information such as weather conditions, special operational practices used, and problems encountered while using the ADC.

During the demonstration period a monthly report should be submitted to NDEE. The report should summarize the performance of the ADC and evaluate its effectiveness. It should also include copies of the completed forms used to make daily evaluations. Photographs may be used in the documentation of the ADC's performance.

Conclusion of Demonstration Period

When the demonstration period is complete, the NDEE will evaluate the information submitted and will either approve or deny the continued use of the proposed ADC. NDEE may also perform on-site inspections during the demonstration to gather additional information on the ADC's performance.

There are times when a proposed ADC is physically, but not chemically, similar to the kinds of earthen materials used as cover at a landfill. In these situations, it may not be necessary to require a full 180-day field demonstration or there may not be enough material to perform a field demonstration. A chemical analysis will be required to show that the material is not a regulated hazardous waste and that the material will not be a threat to human health or the environment. These types of ADCs will often be for temporary use, only apply to an individual project or site, and have conditions on the use of that material such as limited storage, dust suppression, and the application of clean soils within a certain number of days.

RESOURCES:

- NDEE Home Page <https://dee.nebraska.gov/>

Contacts:

- NDEE Main Number (402) 471-2186
- NDEE Toll Free Number (877) 253-2603
- NDEE Waste Compliance Assistant (402) 471-8308
- Email questions to: NDEE.moreinfo@nebraska.gov

NDEE Publications:

- Environmental Guidance Document – “Waste Determinations & Hazardous Waste Testing”
Guidance documents are available on the NDEE Home Page under “Forms”, “Publications, Grants & Forms”.
- [Title 132 – Integrated Solid Waste Management Regulations](#)
Titles are available on the NDEE Home Page under “Resources and Services”, “Laws & Regulations”, “Rules & Regulations”.

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