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## Alternative Daily Cover (ADC) Requests

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### PURPOSE

This document is an internal operating procedure for processing requests to use alternative materials for and/or alternative thicknesses of daily cover at municipal, industrial, and residual solid waste landfill facilities; and to provide basic criteria to be used when reviewing those requests.

This document does not address alternative frequencies.

### APPLICABLE RULES

MSW: OAC 3745-27-19(F)(3)  
ISW: OAC 3745-29-19(F)(3)  
RSW: OAC 3745-30-14(F)(4)  
Tires: NA

#### Cross-References:

DSIWM guidance #0630 *Exempting IAWMP Projects from the State Disposal Fee and Solid Waste Management District Surcharges*

### APPLICABILITY

This document applies to municipal (MSW), industrial (ISW), and residual solid waste (RSW) landfills.

### BACKGROUND

The rules addressing daily cover state that daily cover shall be applied to all exposed waste by the end of the working day to control fire hazards, blowing litter, odors, insects, vectors, and rodents. In no event shall waste be exposed for more than twenty-four hours after unloading. Daily cover material shall be nonputrescible, shall not contain large objects in such quantities as may interfere with its application and intended purpose, and shall not be solid waste, unless the

owner or operator has received prior, written authorization.

For alternative daily cover, the director may approve solid waste to be used as alternative material for daily cover if, for industrial and residual landfills the industrial/residual solid waste is nonputrescible, and the owner or operator can demonstrate to the satisfaction of the director that the proposed solid/industrial/residual solid waste provides protection that is comparable to six inches of soil and is protective of human health and the environment. The owner or operator must obtain written approval to use solid waste for daily cover prior to utilizing the solid waste.

Examples of wastes used as ADC are contaminated soil, foundry sand, coal combustion bottom ash, slag, and certain industrial residuals such as filter cakes.

The director may also approve of other/alternative materials and/or thicknesses for daily cover if the owner or operator can demonstrate to the satisfaction of the director/Ohio EPA that the proposed alternative material and/or thickness provides protection that is comparable to six inches of soil and is protective of human health and the environment. The owner or operator must obtain written approval to use an alternative material and/or thickness for daily cover prior to utilizing the alternative material and/or thickness.

### DETAILED DISCUSSION

Requests to use ADC are reviewed on a case by case basis, and approval or a decline to act on a request is based on the specifics of the material and of the facility (design and operations). The reviewer is encouraged to benchmark with other DSIWM staff where the ADC has been used, for

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input on its effectiveness and ease of use.

In order for an ADC to be deemed to provide protection comparable to six inches of soil and to be protective of human health and the environment at the facility, the ADC request will need to address the following:

### ADC is Comparable to six inches of Soil

Daily cover is required to control fire hazards, blowing litter, odors, insects, vectors, and rodents. In determining whether the ADC can be approved, its use must provide protection comparable to six inches of soil and be protective of human health and the environment. ADC often does not resemble soil, yet it can be comparable to six inches of soil when overall performance is assessed.

The owner or operator may provide information in accordance with ASTM<sup>1</sup> D 6826 *Standard Specification for Sprayed Slurries, Foams and Indigenous Materials Used As Alternative Daily Cover for Municipal Solid Waste Landfills* and ASTM D 7008 *Standard Specification for Geosynthetic Alternative Daily Covers*. These standards provide criteria for determining adequate control of fires (cites ASTM D 4982 *Standard Test Methods for Flammability Potential Screening Analysis of Waste* and NFPA<sup>2</sup> 701, Method 1 *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*) and control of odors (cites ASTM E 96 *Test Methods for Water Vapor Transmission of Materials*). Control of insects, vectors and rodents can be evaluated by observation and knowledge of the material's physical characteristics.

The owner or operator may also provide other justification to show that the ADC will meet daily cover requirements. In order to determine whether to recommend approval and to maintain statewide consistency, the reviewer should contact PEU, or place the issue on the Inspector Group meeting agenda to develop a group recommendation to send to PEU.

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<sup>1</sup>ASTM documents are available through ASTM International at <http://www.astm.org>.

<sup>2</sup>NFPA documents are available through the National Fire Protection Agency at <http://www.nfpa.org>

Each request will be reviewed on a case by case basis; however, if the landfill has a history of receiving especially noisome wastes or hot loads, then using an ADC that does not meet the ASTM standard for controlling odors or fires may not be appropriate. Some examples of an appropriate use of ADC where ASTM standards are not met are:

- C The ADC does not meet the ASTM standard for extinguishing surface fires, so the use of a special condition to require maintaining a stockpile of soil nearby can be considered (enough to cover the total area under ADC).
- C The ADC does not pass the water vapor permeability standard for odor control, but there were no neighbors that would be affected by odors.
- C The laboratory test specified in the ASTM is inappropriate for the material and variables affecting ultimate fire control performance at a landfill. However, under no circumstances should ADC promote fire by increasing its spread or making it more difficult to extinguish.

### ADC is Protective of Human Health and the Environment

To be protective of human health and the environment, the ADC cannot present other potential environmental problems, including, but not limited to, fugitive dust emissions, odors, contamination of surface waters, and interference with leachate flow in the landfill.

Dusty materials are not suitable. Materials which may become an odor source, such as some contaminated soils or industrial residuals may not be suitable, or its use or longevity may be restricted. Materials which may generate contaminated run-off should be restricted to those areas where the run-off is collected and managed as leachate and is not introduced to the surface water management system, unless the NPDES discharge permit accounts for associated pollutants in the run-off. A condition may be added to restrict the areas where the ADC can be placed. If the landfill has a leachate collection system, the ADC cannot impede the flow of leachate, and must otherwise be removed or prepared as necessary prior to the placement of

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the next layer of waste. If the landfill does not have a leachate collection system, the ADC will need to be comparable to well-compacted soil (i.e. impede leachate flow) and it cannot introduce significant quantities of water to the landfill due to a high moisture content.

Listed below are waste materials that Ohio EPA has considered and determined to be unsuitable for use as ADC.

- C Tires - due to significant potential as fire hazard
- C Fly Ash - due to significant potential for dust
- C Automobile Recycling Fluff - due to concerns regarding fire hazards, wind-driven scattering, dispersal outside the working face by landfill equipment, and the potential for contamination by asbestos, polychlorinated biphenyls (PCBs), and mercury (from switches).
- C C&DD fines - due to significant potential for dust and asbestos fibers

Wastes as daily cover also cannot be putrescible or contain large objects in such quantities as may interfere with its application and intended purpose.

### Special Characteristics of the ADC

There are various materials of available ADC, such as, foam, spray-on slurry, reusable geosynthetic, nonreusable geosynthetic, and indigenous materials (e.g. soil, dredgings, wastes). The characteristics of these materials have a bearing on how the operator should use the material.

Criteria should be established to determine the conditions under which the ADC can be used. For example, some ADCs have restricted uses under certain weather conditions, such as wind, rain, and freezing temperatures. A condition may be necessary to restrict the use of the ADC. The request will need to address what other cover materials will be available if the ADC cannot be applied on any given day.

Steps should be taken to ensure the ADC will be applied correctly. This can include following step by step application procedures from the

manufacturer, inspection of the applied ADC for complete coverage, and inspection of the condition of reusable geosynthetics for tears and holes.

The life expectancy of the ADC should be established. Some types of ADC (certain foams) last only hours, others (geosynthetics) can last months. A condition may be added to limit the area or length of time the ADC is exposed before placing waste, six inches of soil, or intermediate cover. The time limit should not exceed 30 days which is when intermediate cover is required.

For waste materials, a description of the waste, how it is generated, appropriate testing results and how the waste will be stored should be known. This information is helpful for confirming the waste is not hazardous, and whether the waste is exempt from being a solid waste. If concentrations are borderline (or variable), it may be necessary to add a condition to establish a regular testing frequency. Note: Solid waste disposal fees apply to solid waste used as ADC since it is going to a landfill for disposal. See DSIWM guidance #0630 *Exempting IAWMP Projects from the State Disposal Fee and Solid Waste Management District Surcharges*.

### Operator's Operating History

The reviewer should evaluate the compliance history of the operator related to the placement of ADC. If the operator has had difficulty with one type of ADC, it may be possible to try another type.

If the operator is unfamiliar with the particular type of ADC, approval may be issued for a trial period (typically 180 days) to determine whether its use at the facility is comparable to six inches of soil and is protective of human health and the environment. The ADC should be in use for a time period adequate for this determination (e.g. at least 90 days). At the end of the trial period, if the owner or operator wants to continue to use the ADC, either for another trial period or for an unlimited time, a demonstration project report detailing the success in the use of the ADC is submitted. Suggested documentation includes photos of the applied ADC, and copies or summaries of daily log notations. If use of the ADC was not successful, another trial period may

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be appropriate depending on the reason for the failure.

If the operator has successfully used the ADC type before and the request is for the same type, for example using different brands of tarp, a trial period and demonstration project report may not be necessary.

### Processing the ADC Request

If the reviewer recommends that the ADC material be approved for use at the facility, then the district office should prepare a Director's Letter. The reviewer should also include any terms and conditions deemed necessary or appropriate by Ohio EPA for successful utilization of the material at the particular facility (e.g. requiring a demonstration project report or restricting areas/conditions when the ADC can be used).

If the review of the information submitted in the ADC request leads the reviewer to recommend that the material not be approved for use at the facility, then the district office should prepare a Director's Letter declining to grant the request. The letter should contain an explanation of the reasons why the material is not suitable for use as ADC at that facility.

The following should be listed as "ccs" on the letter to ensure that they receive copies of the signed and dated letter:

- C the local health department, if approved.
- C the supervisor of the Processing and Engineering Unit in DSIWM at Ohio EPA, central office.
- C one representative (either the unit supervisor or the reviewer) of DSIWM at the district office that generated the Director's Letter.

The reviewer should route the Director's Letter through the sign-off chain to obtain the necessary district office signatures. The necessary signatures generally consist of the district office engineer or inspector preparing the package, district office supervisor and manager (as appropriate) and the district office chief.

Once the package is received by DSIWM at the central office, the Director's Letter will be processed by the Processing and Engineering Unit, routed through the central office sign-off chain, journalized (except that decline to issue letters are not journalized), dated, and mailed to the requestor and all appropriate parties. The appropriate public noticing will also be performed (director's weekly review and in one of the 12 major newspapers).

### **POINT OF CONTACT**

Central Office Processing and Engineering Unit  
(614) 644-2621

### **DISCLAIMER**

The procedures set out in this document are intended solely for guidance of government personnel. The procedures are not intended and cannot be relied upon to create rights, substantive or procedural, enforceable by any party against Ohio EPA. While this guidance document is not legally binding, all statutes and rules referenced herein are binding and enforceable. Ohio EPA reserves the right to vary this guidance or to change it at any time without public notice and also reserves the right to deviate from this guidance on a case-by-case basis.