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SUBJECT: Procedural and Technical Considerations for the Airport Safety Location Restriction Demonstration

REFERENCES: Municipal Solid Waste Industrial Solid Waste Residual Solid Waste  
OAC 3745-27-20(C)(1) N/A N/A

CROSS REFERENCES: DSIWM Guidance 0138, Location Restriction Demonstrations - Implementation Instructions

DATE: August 27, 1996  
Supersedes DSIWM Guidance Document 0132 of same title, dated May 31, 1994

TOTAL NUMBER OF PAGES: 5

**THIS POLICY DOES NOT  
HAVE THE FORCE OF LAW**

**I. PURPOSE**

The owner or operator of a municipal solid waste landfill facility shall provide a demonstration that all their units (existing and new) are designed and operated so as not to pose a bird hazard to aircraft.

OAC 3745-27-20(C)(1) states, "The limits of solid waste placement of the sanitary landfill facility are not located within ten thousand feet (3,048 meters) of any airport runway end used by turbojet aircraft or within five thousand feet (1,524 meters) of any airport runway end used by only piston-type aircraft, unless the owner or operator can demonstrate that the sanitary landfill facility will be so designed and operated that the sanitary landfill facility will not pose a "bird hazard" to aircraft as that term is defined in rule 3745-27-01 of the Administrative Code."

This document provides information regarding and interpretation of the airport safety location restriction criteria as required by OAC Rule 3745-27-20(C)(1) and the demonstration compliance requirements [see OAC 3745-27-20(A)(3)(a), 3745-27-06(C)(1), 3745-27-06(C)(9)(f), and 3745-27-20(B)(1)(a)]. (See also DSIWM Guidance# 0138, Location Restriction Demonstrations - Implementation Instructions).

**II. APPLICABILITY**

This guidance document is applicable to owners and operators of existing units on June 1, 1994, new units in authorized fill areas, or proposed new units after June 1, 1994.

The location restriction demonstration must represent the conditions as of June 1, 1994, for existing units; at the time the demonstration is inserted into the operating record for new units in authorized fill areas; and at the time the permit was submitted for proposed new units.

### III. DEFINITIONS

- A. Ohio Administrative Code (OAC) Rule 3745-27-01(E)(1) specifies:

**Airport** means any airport certified by the Federal Aviation Administration and open to the public without prior permission and without restrictions within the physical capabilities of the available facilities.

- B. OAC Rule 3745-27-01(E)(2) specifies:

**Bird hazard** means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to the occupants of the aircraft.

### IV. BACKGROUND

- A. Federal Aviation Administration

Although a potential for random bird strike in flight will always exist, high-risk conditions occur in the approach and departure patterns and landing areas of airports. According to Federal Aviation Administration (FAA) Order 5200.5A "Waste Disposal Sites on or Near Airports" (FAA, 1990), waste disposal sites located in the vicinity of an airport are potentially incompatible with safe flight. The Order states that disposal sites will be considered incompatible if located within 10,000 feet of any runway end used or planned to be used by turbine aircraft, within 5,000 feet of any runway end used by only piston powered aircraft, and within a 5 mile radius of a runway end if the site attracts or sustains hazardous bird movements from feeding, water or roosting areas into, or across the runways and/or approach and departure patterns of aircraft.

The Order also states that if at any time the disposal site, by virtue of its location or operation, presents a potential hazard to aircraft operations, steps should be taken to correct the situation or terminate the operation of the facility. If the facility is not closed, then inspections are necessary to assure that bird populations are not increasing and that appropriate control techniques are being established and followed.

- B. Factors Attracting Birds

Birds may be attracted to landfills to satisfy a need for water, food, nesting, or roosting. Landfills provide a unique habitat for roosting due to elevated ground temperatures and freedom from predators. Starlings, crows, and gulls are commonly associated with operating landfills and are commonly involved with aircraft collisions. Inactive landfills provide the additional attractant of freedom from disturbance.

### C. Control Techniques

Various control techniques and deterrents can be incorporated as operational procedures. The goal is to first make the unit(s) unattractive to birds and secondly to discourage the birds that may be attracted to the unit. In other words, even if the birds are not attracted to the unit(s) for food, roosting, etc., they will still exist in the area and may still need to be discouraged from being near the facility.

Birds can be attracted to a landfill to satisfy the need for water. Any unnecessary ponding of water should be eliminated, and any sedimentation ponds should be closely monitored. If birds are attracted to the sedimentation pond(s), various deterrents are available (see below). Sedimentation ponds can also be designed to drain within 25 to 72 hours, or if water storage is necessary (i.e. for dust control) then the storage pond can be designed so that it is deep with steep sides.

To discourage birds from nesting and roosting, nesting patterns and requirements of the undesirable birds should be understood. Depending on the bird species to be controlled, mowing tall grass and the elimination or pruning (<15 feet) of screening material may be necessary.

To reduce the supply and availability of food for birds, the food can be eliminated or hidden using the following procedures:

1. Using alternative waste management techniques such as source separation and composting or waste minimization.
2. Shredding or milling the waste containing food will break up the food waste into smaller particle sizes and distribute the particles throughout the nonfood wastes. This dilutes the food wastes to a level that frequently makes the mixture no longer attractive as a food supply for birds.
3. Controlling insects and rodents that are fed upon by birds.
4. Keeping the working face small, thus disrupting scavenging.
5. Frequent and sufficient covering of the working face. Adequate soil cover thickness is six inches. Alternative daily covers may be used if they are strong enough to provide a barrier to searching birds.

Birds can further be discouraged from using a landfill for water, food and nesting or roosting purposes by using various available deterrents. These include visual deterrents such as realistic models of the bird's natural predators; sounds such as cannon, distress calls and sounds of its natural predators; physical barriers such as fine wires strung above

the working face; and labor intensive efforts such as falconry and firearms. All of these methods have limited long-term effect on controlling bird populations because the birds adapt to the environment in which they find food. These techniques should therefore be used in a varying manner.

## V. PROCEDURE

The airport safety demonstration should include the following:

- A. Airport type. [Contact the airport administration or regional FAA office to determine type of airport.]
- B. Distance to airport. [Use the United States Geological Survey (USGS) 15-minute topographic map (or other map providing similar or better accuracy) to measure the distance from the end of the runway to the nearest limit of solid waste placement.]

The airport safety demonstration is not necessary if:

- The airport does not meet the definition found in OAC 3745-27-01(E)(1); or
- The limits of solid waste placement do not meet the distance criteria set in OAC 3745-27-20(C)(1).

If the airport definition and distance criteria are met, then the following should also be included in the airport safety demonstration.

[Note that the content of this portion of the airport safety demonstration, may not satisfy the concerns the FAA may have regarding the facility. Other bird hazard studies may be required by the FAA.]

- C. Qualifications of the bird expert conducting the study.
- D. Identification of bird species at the unit(s) and their behaviors (roosting, breeding/nesting, feeding, migrating, flocking/flying).
- E. An estimation of the bird population, by species, residing at or near the landfill or using the landfill as a food source.
- F. Identification and evaluation of bird attractants associated with the unit(s) and other potential attractants near the landfill.
- G. Evaluation of the likelihood of the unit(s) creating a bird hazard to aircraft.

- H. Identification and evaluation of the design and operation of the unit(s) to minimize the threat of a bird hazard.
- I. Control techniques to be implemented to minimize the threat of a bird hazard given the bird species and attractants present. **[Note: OAC 3745-27-19(F) requires that daily cover be applied to all exposed solid waste by the end of the working day. Daily cover is required to consist of a soil layer a minimum of six inches thick, unless an alternative material and/or thickness for daily cover is approved by the Director of the Ohio EPA.]** Additional possible control techniques are discussed above in CONTROL TECHNIQUES.

The owner/operator is then required by OAC 3745-27-19(C) and OAC 3745-27-09(F)(1)(b) to enact the recommendations to comply with bird control measures that may be specified in the airport safety location restriction demonstration.

## VI. POINT OF CONTACT

Engineering - Policy Unit, Supervisor, (614) 728-5373

## VII. REFERENCES

Federal Aviation Administration. 1990. Order 5200.5A, Waste Disposal Sites On Or Near Airports. U. S. Department of Transportation, Washington, DC.

