

# State of Colorado's Odor Management Plan Instructions and Template for Existing Housed Commercial Swine Feeding Operations

## General Instructions

**General Information:** Housed commercial swine feeding operations are required to submit an odor management plan with an application for a Permit to Operate. The APCD will not issue a permit to operate for a new or existing operation until an acceptable odor management plan has been submitted in accordance with Regulation No. 2, Part B. The Division will use the information submitted in the plan to determine whether the operation has employed technology to minimize to the greatest extent practicable off-site odor emissions. Any equipment used for emission control, or any other purpose, such as incinerators and combustion devices, require separate permit applications, Air Pollutant Emission Notices, and filing fees pursuant to Regulation No. 3, Parts A and B.

The odor management plan must be developed as specified in Regulation No. 2, Part B, Section VII. The odor management plan must include all of the necessary technologies and work practices required to minimize to the greatest extent practicable off-site odor emissions from all aspects of the operation, including at a minimum the mandatory requirements in Regulation No. 2, Part B, IX. Other work practices and technologies may be required at these operations in order to minimize odor emissions and meet the odor concentration standards of 7:1 at the property boundary and 2:1 at any receptor.

**Odor Management Plan Completeness:** Odor management plans are considered part of the Permit to Operate. The APCD requires that adequate information be submitted concerning the operation such that compliance with the applicable regulation(s) can be thoroughly evaluated. If the odor management plan is incomplete, the APCD will make an additional information request which will delay the process. When the APCD receives the additional information, the processing time schedule starts over. The applicant should try to include all necessary information, complete and sign the odor management plan, and address all potential emission sources at the facility to ensure completeness. A pre-application meeting with representatives of the operation and the APCD is recommended for complicated operations to review the requirements for a complete permit application and odor management plan. Failure of an owner to submit requested additional information for the permit application or odor management plan can result in permit denial.

**Odor Management Plan Modifications:** If the owner or operator wishes to modify the odor management plan, the permit must be modified. Proposed changes in equipment may also require a modification of the odor management plan even if there is no associated change in odor emissions. To modify an odor management plan, the owner must:

- file an application to modify the permit;
- specify in a letter all of the changes to the plan and that the modification is to the odor management plan; and
- submit an entire revised odor management plan with the date of the revisions to the odor management plan indicated.

Once the application has been received, the Division will review the application and modified odor management plan. If the Division approves the modifications, it will send a letter confirming that the odor management plan (and thus the permit) has been modified and the permit will be issued upon payment of processing fees.

The Division may require an operation to modify the odor management plan if the operation cannot meet the odor concentration standards of 7:1 at the property boundary and 2:1 at any receptor with the existing odor management plan.

**Odor Management Plan Template:** The attachment is an odor management plan template. This is not a complete odor management plan for any operation, due to the variety of the operations in Colorado. Use this only as a guide concerning the type of information that the Division needs to approve an odor management plan. Additional information and documentation will be necessary if an operation is requesting that the Division consider any exceptions to the mandatory work practice requirements.

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Permit No. \_\_\_\_\_

**\*\*\* Template \*\*\* Odor Management Plan  
for Existing Housed Commercial Swine Feeding Operations**

**1. General Information**

**a. Name and Address of Permit Applicant:**

Company Name: Hogs are Us, Inc.

Mailing Address: 222 County Road

City: City of Washington State: Colorado Zip Code: 80000

Phone Number: (719) 555-5555 Fax Number: (719) 555-5557

Local Contact (familiar with facility): De Smith

Title: Site Manager Phone Number: (719) 555-5552 Fax Number: (719) 555-5558

**b. Facility Location:**

Street Address: Section 1, Township 2N, Range 3W

City: City of Washington State: Colorado Zip Code: 80000

County: Kowlawey Name of facility: Unit Number 10

**c. Estimated Startup Date of Operation:** June 2, 1993

**2. General Requirements for the Odor Management Plans (Regulation No. 2, Part B, Section VII.)**

All of the plans and specifications for odor control equipment and management practices included in the odor management plan must conform to common and accepted professional practices. (Regulation No. 2, Part B, Section VII.D.)

**a. Description and Map (Regulation No. 2, Part B, Section VII.B.)**

The operation includes six (6) swine confinement structures. The first structure (Building #1) houses \_\_\_\_ breeding sows and pigs. The second structure (Building #2) is a farrowing unit and houses \_\_\_\_ sows and \_\_\_\_ farrowing pigs. The third structure (Building #3) houses \_\_\_\_ weaned piglets. Finally, the last three structures (Buildings #4, 5, and 6) each house \_\_\_\_ feeders. There are no open animal feeding operations at this facility.

Each building includes underfloor storage of waste that utilize flush systems. The manure and wastewater is transferred into multi-stage treatment impoundments via underground pipeline systems. Buildings #1, 2, and 3 are attached to Impoundment #1. Buildings #4, 5, and 6 are attached to Impoundment #2. The first stage of the treatment process are covered anaerobic impoundments. After the wastewater is treated, it is transferred to the second stage which are aerobic impoundments. The operation also has composting sites for the treated solids when the impoundments are dredged every two (2) years.

The process wastewater is land applied using several methods: irrigation of treated process wastewater, injection of untreated process wastewater, injection of solids, and surface application of solids that are incorporated within three (3) hours.

The carcasses are usually buried, but the operation also has the capability of having the carcasses transferred off-site by a rendering company and composting. The operation will be installing an incinerator and will submit to the Division under separate cover a construction permit application for this incinerator.

A description of and a map which demonstrates the location of each of the operations and processes at the housed commercial swine feeding operation is attached. The map includes the following:

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- i. Swine confinement structures, including open animal feeding operations;
- ii. Manure collection, storage, and treatment systems, including anaerobic process wastewater vessels and impoundments and aerobic impoundments;
- iii. Composting storage sites; and
- iv. Land application equipment and sites.

**b. Construction and Design Plans (Regulation No. 2, Part B, Section VII.C.1.)**

Construction and design plans for odor controls and management practices, are attached for the following technologies:

- i. Biofilters attached to the underfloor ventilation exhaust vents;
- ii. Flush tank cover, fill lines extension, and anti-siphon vent;
- iii. Sump tank covers;
- iv. Extension of waste feeder pipe below surface water level;
- v. Mechanical aerators to maintain secondary impoundments aerobic; and
- vi. Compost system for animal carcasses.

Each construction and design plan includes the manufacturer, serial number (if applicable), and control efficiency (if applicable).

**c. Operation Plans (Regulation No. 2, Part B, Section VII.C.2.)**

Operation plans for odor controls and management practices are included in or attached to this plan to ensure: 1) proper operation and maintenance of the necessary technology; 2) operation of the required equipment in compliance with manufacturer's specifications and recommendations; 3) proper operation and maintenance of covers and the necessary technology employed for anaerobic process wastewater vessels and impoundments to capture, recover, incinerate, or otherwise manage odorous gases; and 4) proper operation and maintenance of the necessary technology employed for aerobic impoundments to ensure maintenance of aerobic conditions or otherwise to minimize the emission of odorous gases. Operation plans have been included for the following technologies:

- i. Ventilation systems, including the biofilters attached to the underfloor ventilation exhaust vents;
- ii. Feed delivery systems;
- iii. Flush system (including fill lines and cover), pit recharge systems, and sump tanks (including covers);
- iv. Solids separation system (including pipeline system);
- v. Loading of impoundments;
- vi. Anaerobic impoundments to ensure proper loading rates, otherwise minimize the emission of odorous gases to the atmosphere, and to ensure proper maintenance of the cover;
- vii. Flare system which is the add-on control equipment to the covered anaerobic impoundment;
- viii. Pretreatment digester, including loading rate, retention time, and temperature;
- ix. Aerobic impoundment to ensure maintenance of aerobic conditions, including operation of the mechanical aeration systems;

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- x. Manure composting sites;
- xi. Land application systems, including injection, irrigation, and incorporation systems;
- xii. Carcass disposal systems, including refrigeration unit, incinerator, burial sites, and composter.

**d. Animal Waste Management Plan (Regulation No. 2, Part B, Section VII.C.3.)**

An animal waste management plan for odor control and management practices necessary to comply with Section VII.C.3. is included in section 3 of this odor management plan. The operation has an adequate animal waste management plan that ensures that off-site odor emissions are minimized to the greatest extent practicable. The waste management plan includes manure management within the confinement structure and storage, treatment, and disposal of process wastewater, solids wastes, and sludges.

The operation has adequate capacity to store and/or treat the process wastewater, solid wastes, and sludges generated by the number of animals the operation is permitted to house. The operation has the following amount of manure storage available on site: \_\_\_\_\_ months, including storage under the confinement structures.

The operation has the necessary land application sites to dispose of all of the process wastewater and a portion of the solids and sludges generated at the operation. The solids are disposed of by composting as well as land application if necessary. The process wastewater generated from the operation and land applied is estimated to be \_\_\_\_\_. The operation has contracts with neighboring farmers to land apply process wastewater and occasionally solids or sludges over \_\_\_\_\_ acres. The operation has adequate capacity in the manure composting system to dispose of any solids or sludges not land applied.

**e. Testing, Sampling, and Analysis (Regulation No. 2, Part B, Section VII.E.)**

Testing, sampling, and analysis requirements appropriate for the operation are included throughout section 3 of this odor management plan.

**3. Specific Requirements of the Odor Management Plan (Regulation No. 2, Part B, Section IX.)**

**a. Swine Confinement Structures**

The operation employs the following technologies and work practices to minimize to the greatest extent practicable off-site odor emissions from the swine confinement structures in compliance with Regulation No. 2, Part B, Section IX.

- i. Adequate Ventilation (Regulation No. 2, Part B, Section IX.A.1.a.)

The following are the necessary technologies and work practices employed by the operation to ensure adequate ventilation and efficient air movement to reduce gases and odors, remove moisture, control temperature, and keep the animals clean:

- (1) Add-on control equipment will be installed by July 1, 1999 for the underfloor ventilation exhaust vents. The add-on control equipment consists of biofilters placed inside of each vent. The biofilters are designed and manufactured by BioCompany. See Attachment A for the design and operation specifications for the biofilters. The biofilter material will be replaced as necessary, but at least every \_\_\_\_\_ months. This is not a mandatory requirement, but the operation is employing it to meet the property boundary and receptor standards. (Regulation No. 2, Part B, Section IX.B.1.a.(1))
- (2) Negative air pressure shall be maintained at all times inside each of the confinement structures.
- (3) Temperature inside the structures shall be maintained at the appropriate temperature to maintain the animal's body temperature to be cool.

The operation shall be in compliance with Section IX.A.1.a. by July 1, 1999.

- ii. Dust Management (Regulation No. 2, Part B, Section IX.A.1.b.)

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The following are the necessary technologies and work practices employed by the operation to ensure dust is managed at the confinement structure so as to minimize the amount of dust in the confinement structure:

- (1) The inside of the confinement structure shall be maintained so as to keep the animals reasonably clean. (Regulation No. 2, Part B, Section IX.A.1.b.(1)) The following steps will be taken to so ensure that the animals remain clean:
  - (a)
  - (b)
  - (c)
- (2) No bedding is used at the facility, so the bedding does not apply. [If bedding was used, then a schedule for replacement of bedding would be included.] (Regulation No. 2, Part B, Section IX.A.1.b.(2))
- (3) The feed delivery downspouts are sized to minimize the generation of dust and each are of \_\_\_\_\_ diameter. (Regulation No. 2, Part B, Section IX.A.1.b.(3))
- (4) The feed storage tanks and containers are maintained so as to minimize spills, by keeping the mechanical equipment in good repair and removing any spilled feed promptly at least on a \_\_\_\_\_ basis. (Regulation No. 2, Part B, Section IX.A.1.b.(4))
- (5) Exhaust fans and shutters are cleaned of dust as necessary, but at least \_\_\_\_\_ per month. (Regulation No. 2, Part B, Section IX.A.1.b.(5))
- (6) Building sidewall screens are cleaned of debris such as dust, cobwebs, and weeds as frequently as necessary, but at least \_\_\_\_\_ per month. (Regulation No. 2, Part B, Section IX.A.1.b.(6))
- (7) The operation will use feed additives and enclosed feeder mechanisms and feed delivery systems in order to minimize dusts. This is a recommended technology in Regulation No. 2, Part B. (Regulation No. 2, Part B, Section IX.B.1.b.(1))

The operation shall be in compliance with all of the requirements of Section IX.A.1.b. by July 1, 1999.

iii. Manure Management (Regulation No. 2, Part B, Section IX.A.1.c.)

The following are the necessary technologies and work practices employed by the operation to ensure that manure is managed so as to minimize odor emissions from the confinement structure:

- (1) All surfaces (including slotted and slatted floors) on which manure may collect and on which animals are maintained, including floors and walls, shall be maintained as clean and dry as possible and with a minimum of cracks and crevices. Floors are manually scraped cleaned every \_\_\_\_\_ days. Floors and walls are cleaned at least \_\_\_\_\_ per week. (Regulation No. 2, Part B, Section IX.A.1.c.(1))
- (2) Manure shall be removed from all surfaces on which manure may collect on which animals are maintained, as frequently as necessary, by flushing or pit recharge using fresh, recycled, or well treated water, or scraping, but at least \_\_\_\_\_ per week. (Regulation No. 2, Part B, Section IX.A.1.c.(2))
- (3) All surfaces (floors, walls, etc.) in the confinement structure are completely cleaned and washed down between groups of animals. (Regulation No. 2, Part B, Section IX.A.1.c.(3))
- (4) Flushing systems are flushed as frequently as necessary, but at least \_\_\_\_\_ per week. (Regulation No. 2, Part B, Section IX.A.1.c.(4))

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- (5) Pit recharge systems are partially drained and refilled as frequently as necessary, but at least \_\_\_\_\_ per week. (Regulation No. 2, Part B, Section IX.A.1.c.(5))
- (6) The floor surface area on which manure can accumulate is minimized by design, because a slatted floor system was installed in all of the confinement structures at the operation. (Regulation No. 2, Part B, Section IX.A.1.c.(6))
- (7) Flush tanks are covered and the fill lines are extended to near the bottom of the tank with an anti-siphon vent. (Regulation No. 2, Part B, Section IX.A.1.c.(8))
- (8) Sump tanks are covered. (Regulation No. 2, Part B, Section IX.A.1.c.(9))

The operation shall be in compliance with all of the requirements of Section IX.A.1.c. by July 1, 1999.

**b. Solid Waste and Process Wastewater Collection, Storage, and Treatment Systems**

The following technologies and work practices are being employed by the operation to minimize to the greatest extent practicable off-site odor emissions from the solid waste and process wastewater collection, storage, and treatment systems in compliance with Regulation No. 2, Part B, Section IX. These requirements are in addition to the permit terms and conditions concerning Regulation No. 2, Part B, Section IV.

i. Solids Separation (Regulation No. 2, Part B, Section IX.A.2.c.)

Separated solids are removed promptly and within \_\_\_ hours to a storage vessel after solid/liquid separation occurs. The solids are managed to minimize to the greatest extent practicable off-site odor emissions by complying with the following work practices and employing the following technologies:

- (1) The solids are transported via a pipeline system from the separator to a composting system.
- (2) The composting system is operated in accordance with Section IX.A.3. as is described below in this plan.

The operation shall be in compliance with all of the requirements of Section IX.A.2.c. by July 1, 1999.

ii. Operation of Process Wastewater Vessels and Waste Impoundments (Regulation No. 2, Part B, Section IX.A.2.d.)

- (1) Treatment and storage vessels and impoundments are loaded at the following rate in order to minimize the emission of odorous gases to the greatest extent practicable: \_\_\_\_\_. (Regulation No. 2, Part B, Section IX.A.2.d.(1))
- (2) Loading occurs on a daily or more frequent basis to avoid “shock” loading and upset conditions. (Regulation No. 2, Part B, Section IX.A.2.d.(2))
- (3) Loading of vessels and impoundments occurs through a feeder pipe that discharges below the surface water level. (Regulation No. 2, Part B, Section IX.A.2.d.(3))
- (4) Aerobic impoundments have sufficient oxygen in the impoundment to ensure maintenance of aerobic conditions and utilize air or oxygen as defined in this Part B of Regulation No. 2 by employing the following technologies and work practices (Regulation No. 2, Part B, Section IX.A.2.d.(4)):
  - (a) Mechanical aerators (draft tubes) installed near the bottom of the impoundment and will be used as necessary to maintain aerobic conditions;
  - (b) Mechanical aerators will be used at the surface of the impoundment as necessary to maintain aerobic conditions.
  - (c) Waste is pretreated to remove \_\_\_% of the volatile solids prior to loading into aerobic impoundment which will result in the subsequent impoundment maintaining an aerobic state.

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- (d) The operation will test for aerobic conditions on a continual basis to ensure the necessary level of oxygen using a dissolved oxygen test. The equipment is certified and calibrated on an semi-annual basis.

**The operation will not be in compliance with the requirements of Section IX.A.2.d. by July 1, 1999. A separate Compliance Plan is enclosed with this permit application.**

iii. Minimize Release of Odorous Gases from Liquids

The operation minimizes the release of odorous gases to the atmosphere from the liquids in the process wastewater vessels and waste impoundments to the greatest extent practicable, by employing the following technologies and work practices (Regulation No. 2, Part B, Section IX.A.2.e.):

- (1) By complying with the cover requirement;
- (2) Minimizing agitation of any impoundment so as to prevent any entrapped odorous gases from being emitted to the atmosphere;
- (3) Post-treatment wastewater from an anaerobic impoundment to attain an aerobic state in order to ensure minimal release of odorous gases to the atmosphere; and
- (4) Aerobic impoundments are maintained to ensure a minimal liquid depth of one (1) foot in a loaded cell.

iv. Pretreatment Digester

The pretreatment digester is operated to ensure stabilization of the waste and odor control, by employing the following technologies and work practices (Regulation No. 2, Part B, Section IX.A.2.f.):

- (1) The loading rate of the digester is: \_\_\_\_\_;
- (2) The retention time of the waste in the digester is at least \_\_\_\_ days;
- (3) The temperature in the digester is maintained at: \_\_\_\_\_; and
- (4) Uniform mixing within the digester is maintained to the industry standards (see attached standards).

**The operation will not be in compliance with the requirements of Section IX.A.2.e. and f. by July 1, 1999. A separate Compliance Plan is enclosed with this permit application.**

**c. Manure Composting Sites**

The operation has a manure composting site for treatment and disposal of the solids and sludges that are separated from the process wastewater for the waste from one confinement structure. The operation employs the following work practices and technologies to ensure that off-site odor emissions are minimized to the greatest extent practicable from this process.

i. Storage and Aerobic Conditions (Regulation No. 2, Part B, Section IX.A.3.a.)

The compost piles are fully contained in a vessel or a covered building to minimize to the greatest extent practicable off-site odor emissions. The vessel consists of a metal structure with a layered compost pile above ground. The manure is fed into the structure from an opening near the top of the structure. Except for loading, the opening remains closed at all times. Proper aerobic conditions are ensured by monitoring the compost piles and using a mechanical aeration system.

The operation shall be in compliance with all of the requirements of Section IX.A.3.a. by July 1, 1999.

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ii. Mechanical System (Regulation No. 2, Part B, Section IX.A.3.b.)

The compost piles are aerated using a mechanical system. The operation has established and follows the following operating parameters:

- (1) Compost piles will be turned as necessary to maintain aerobic conditions; and
- (2) The compost piles are aerated using a low pressure aeration system that imparts oxygen into the compost material.

The operation shall be in compliance with all of the requirements of Section IX.A.3.b. by July 1, 1999.

**d. Land Application**

The operation uses a combination of irrigation, injection, and incorporation of its process wastewater, solid waste, and sludges. Usually, the process wastewater is pretreated and applied using spray irrigation. Under certain circumstances it is necessary to land apply untreated process wastewater and then the waste is immediately injected into the soil. When solids are applied, they are usually injected or knifed into the ground. If surface application of the solids is necessary, the operation has requested that the Division approve incorporation within three (3) hours of land application. The necessary demonstration that incorporation of solids can be done to minimize to the greatest extent practicable off-site odor emissions is attached to this odor management plan. The following work practices and technologies are followed for land application of process wastewater, solid waste, and sludges.

i. Timing of Application

- (1) The operation does not land apply process wastewater, solid waste, or sludge on lands which are saturated, on land where ponding is occurring, or on land with a snow depth of greater than one (1) inch. During this period, wastewater is impounded or otherwise treated pursuant to this Part B of Regulation No. 2. (Regulation No. 2, Part B, Section IX.A.4.a.)
- (2) The operation does not land apply process wastewater, solid waste, or sludge on lands which are frozen. During this period, wastewater is impounded or otherwise treated pursuant to this Part B of Regulation No. 2. The operation has not requested the Water Quality Control Division to consider or approve any site-specific analysis demonstrating that run-off will not occur. (Regulation No. 2, Part B, Section IX.A.4.b.)
- (3) The operation only applies process wastewater when the wind conditions are such to minimize off-site transport of the process wastewater and odor emissions. If the winds are greater than 15 miles per hour and blowing in a northeastern direction, the operation will not land apply process wastewater. The nearest neighbors at this time are 1.5 miles northeast of the operation and land application site. (Regulation No. 2, Part B, Section IX.A.4.c.)
- (4) The operation does not land apply any process wastewater, solids waste, or sludge on weekends and holidays unless the Division approves of a waiver or under dire circumstances or an emergency. (Regulation No. 2, Part B, Section IX.A.4.d.)
- (5) Land application of wastewater at the operation does not occur outside of the period of March 1 through October 31. (Regulation No. 2, Part B, Section IX.A.4.h.)

The operation shall be in compliance with all of the requirements of Section IX.A.4.a., b., c. and h. technologies by July 1, 1999.

ii. All Process Wastewater

- (1) The operation pretreats most (about 80%) of its process wastewater prior to land application. The pretreated process wastewater is pretreated so as to remove at least sixty five percent (65%) of the total solids and remove over ninety percent (90%) of the volatile fatty acids or achieve at least sixty percent (60%) removal of total volatile solids. Pretreatment consists of treatment in a covered anaerobic impoundment. The treated process wastewater is transferred to an aerobic impoundment after anaerobic treatment is completed. The process wastewater is stored in the aerobic impoundment until land application occurs. (Regulation No. 2, Part B, Section IX.A.4.e.(1))

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- (2) The operation does not pretreat a portion (about 20%) of the process wastewater and that wastewater is injected at the land application sites. The operation uses a \_\_\_\_\_ machine to inject the materials. (Regulation No. 2, Part B, Section IX.A.4.e.(2))
- (3) The operation's process wastewater disposal operation uses a pressure spray system to land apply the pretreated process wastewater. The pressure spray system is operated with the following technologies and work practices (Regulation No. 2, Part B, Section IX.A.4.f.):
  - (a) Spraying occurs using minimum recommended operating pressure with a low pressure system that is eighteen (18) psi (Regulation No. 2, Part B, Section IX.A.4.f.(1));
  - (b) The pump intake is located near the waste impoundment liquid surface (Regulation No. 2, Part B, Section IX.A.4.f.(2));
  - (c) A low trajectory system is used for spraying that occurs three (3) feet off of the ground (Regulation No. 2, Part B, Section IX.A.4.f.(3)); and
  - (d) Liquids for land application are taken from the last stage waste impoundment of the operation's multi-stage waste impoundment system (Regulation No. 2, Part B, Section IX.A.4.f.(4)).

The operation shall be in compliance with all of the requirements of Section IX.A.4.f. by July 1, 1999.

iii. Solids

Solids separated from process wastewater by screening, settling, or other means, and the land application of any sludge from any process wastewater vessel or impoundment are land applied consistent with the following (Regulation No. 2, Part B, Section IX.A.4.g.):

- (1) All solids or sludges being land applied are injected or knifed into the soil immediately upon application. If injection is not possible, the operation requests the Division to consider and approve solids or sludges being incorporated into the soil within three (3) hours after application is completed. The operation has land applied by incorporating the solids and had a consultant take odor concentration measurements at the property boundary during the land application and the subsequent three (3) hours. The odor measurements indicated that an odor concentration of less than seven to one (7:1) occurred during this process. (Regulation No. 2, Part B, Section IX.A.4.g.(1))
- (2) If the solids or sludges are land applied using subsurface injection methods, there are not significant amounts of the solids or sludges being present on the surface within one (1) hour after the solids or sludges are injected. (Regulation No. 2, Part B, Section IX.A.4.g.(2))

The operation shall be in compliance with all of the requirements of Section IX.A.4.g. by July 1, 1999.

**e. Carcass Disposal**

This operation disposes of carcasses in a manner that minimizes to the greatest extent practicable off-site odor emissions and uses several of the Division-approved carcass disposal methods described in Sections IX.A.5.a. through IX.A.5.d., Part B, of this Regulation No. 2. The operation has an on-site incinerator, a burial site, a tentative contract for off-site disposal with a rendering plant, and may in the future develop a carcass composting system for carcass disposal. The carcasses are refrigerated or kept naturally cooled (< 40°F) in a covered enclosure if the operation is unable to properly dispose of the carcasses in accordance with Sections IX.A.5.a. through IX.A.5.d., Part B, of this Regulation No. 2 within twenty four (24) hours. (Regulation No. 2, Part B, Section IX.A.5.)

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i. Incineration

The on-site incinerator was manufactured by \_\_\_\_\_ in 1985 and has a capacity of \_\_\_\_\_. The incinerator is used if there is an unusually high death rate among the animals. If the operation utilizes the incinerator, the carcasses are stored in an enclosure (shed) until the carcasses can be incinerated. The carcasses are incinerated so as to avoid incomplete combustion. If the incinerator is unable to consistently achieve complete combustion, the operation shall either cease using the incinerator or shall install a secondary stack burner. The operation operates the incinerator in compliance with Commission Regulation No. 6 (5 C.C.R. 1001-8), Part B Sections VII. concerning the operation of incinerators. The operation has submitted an application and Air Pollutant Emission Notice for an individual construction permit for this unit. (Regulation No. 2, Part B, Section IX.A.5.a.)

ii. Burial

The operation typically buries the carcasses. Burial occurs after one (1) day of storage. The carcasses are completely covered with four (4) feet of wet, compacted soil immediately after placing in the pit so as to minimize to the greatest extent practicable odor emissions. The carcasses are buried so as not to negatively impact water quality of the waters of Colorado and in compliance with the Colorado Solid Waste Act and its implementing regulations. (Regulation No. 2, Part B, Section IX.A.5.b.)

iii. Transport Off-site

The operation has a contract with a rendering plant for off-site transport of the carcasses. The rendering plant will contact the operation if it is in need of carcasses. The carcasses are store in the refrigerated unit or stored in the naturally cooled shed until the rendering plant is able to pick up the carcasses. The carcasses are never left uncovered by the roadside. (Regulation No. 2, Part B, Section IX.A.5.c.)

iv. Composting

The operation may construct and begin to operate a composter for carcasses. The carcasses will be placed in the composter within one (1) day of the death of the animal. The composter will be a covered and enclosed system so that the carcasses will be immediately covered so as to maintain the carcasses in a manner to minimize to the greatest extent practicable off-site odor emissions. (Regulation No. 2, Part B, Section IX.A.5.d.)

The operation shall be in compliance with all of the requirements of Section IX.A.5. by July 1, 1999.